

The Learning Page Oceans Unit is divided into several sections:

Lesson Plans Cutouts

Fact Files Murals

Fun Sheets . . . and Recommended Reading

The **Lesson Plans** provide ten or more comprehensive and detailed lesson ideas for each of two levels: Preschool through Kindergarten, and First and Second Grades. Each Lesson is a structured activity incorporating fine arts, science, reading, and writing activities, and stressing many skills and objectives. Each Lesson Plan gives the teacher suggestions for preparing the lesson, materials lists, an introduction, questioning strategies, procedures, ideas to bring the lesson to a conclusion, and further activities.

Each lesson has direct links to other **Learning Pages** resources, so the teacher can easily locate related books, Fun sheets, Fact Files, and Cutouts.

The Lesson Plans are divided into grade levels. Teachers, knowing the abilities and developmental levels of each of their students, can review all of the Lesson Plans and use the ones best suited to their classroom. For instance, some of the Kindergarten Lesson Plans are linked to second grade Fun Sheets, because the content of that Lesson might fit into the teaching of that Fun Sheet. Many of the Lessons and Fun Sheets can be adapted and used in higher or lower levels. Don't let our classifications fence you in. Use them as you see fit, in the order and time frame that works best for you.

The **Fact Files** give you vital statistics, descriptions, pertinent information, and an illustration of twenty Ocean creatures. Each Fact File is simply presented and readable, with the Order the animal belongs to. The

Fact Files provide students with many pieces of information that can be used in the Lesson Plans to compare, contrast, list, graph, plot, draw, arrange, and talk about.

Fun Sheets

Preschool: fundamental and general skills

Kindergarten: math, language, and science

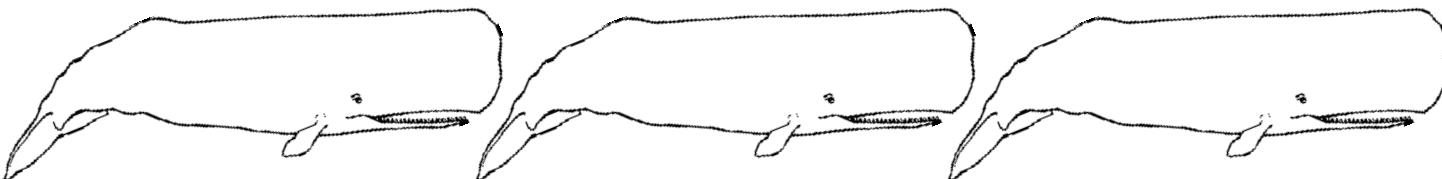
First Grade: math, language, and science

Second Grade: math, language, and science

The **Learning Page Oceans Cutouts** are beautiful and accurately rendered illustrations of ten different Ocean creatures. Drawn in proportion to each other and to the Mural (see below), these ocean animal drawings are set up in a convenient and easy to use format: simply download, print, copy, and distribute to students to cut out and use for a variety of applications: to color and paste onto the mural, or to use as patterns for several of the activities. Cutouts can be copied same-size or enlarged. They can be used to decorate the classroom, and adorn bulletin boards.

The **Learning Page Mural** is a wonderful and creative teaching tool! Putting it together can be a lesson in itself (objectives: following directions and working cooperatively). Follow the directions given with the pages. Work as a group to develop a color scheme if desired, let each student color one sheet, and then working as a group again, fit the pieces together. The mural is used in several of the Lesson Plans, and can be used with the **Learning Page Cutouts**. It can also serve as a background for a diorama or bulletin board display.

Use the mural as background for Grade Preschool-K Lesson 4, sponge printing schools of fish, and for the study of Camouflage, Grade 1-2 Lesson 5.



Teaching Notes: OCEANS

Tips for Using The Learning Page Oceans Lesson Plans

The study of oceans is a fascinating and amazing topic for young children. The world of oceans is a mysterious and wonderful microcosm of new concepts to be taught, and big ideas to be presented. The **Learning Page** provides you with Lesson Plans, Fact Files, Fun Sheets, Cutouts, and Murals to make teaching an Oceans Unit productive and fun for the whole class!

Be prepared with a good background of marine animals and oceans, including some fascinating facts to stimulate students' imaginations as you introduce lessons.

Info about Oceans

There are three main oceans on Earth: the Pacific, Atlantic, and Indian. There are also two smaller ones: the Arctic and the Antarctic. They flow into each other, so you could say that there is really only one ocean. Each ocean contains smaller areas of water called seas, bays, or gulfs which are partly enclosed by land.

The oceans cover nearly 3/4 of the Earth's surface. The United States alone has 88,600 miles of coast. Oceans and seashores are rich in plant and animal life, as well as mineral and geological occurrences. Millions of years ago, all life was in the ocean; animals and plants slowly moved onto the land and adapted to it. Many sea animals alive today resemble their ancient ancestors, and even land animals show traces of their watery origins.

There are many wild and wonderful creatures living in the ocean! The oceans are home to some of the most diverse life on Earth. They have odd-sounding names (many fish are named after other animals) and are brilliantly colored.

Fascinating Fact: The blue whale, largest species in the world, spends winters in the Pacific Ocean near Baja and in the Sea of Cortez, Mexico. It grows to over 100 feet in length and can weigh up to 190 tons. Its tongue alone is larger than a full-grown African elephant!

The Reading Recommendations on the **Learning Page** offer starting points for studying various aspects of oceans. Use picture books generously, as being read to is always a favorite for younger children; the strong visuals can stimulate students' imaginations and prepare them for learning new things. Use books to initiate art projects, creative writing, book arts, math, and science activities. There are books cited for each Lesson Plan to assist you in engaging the students' interests at the beginning of the Lesson. Books are often innovative originators of lessons as there is often a strong subtext under the surface theme.

Book Making and Journal Writing

Handmade children's books are an ideal way to incorporate language arts into every area of the curriculum. Writing and making books capitalize on the rich language opportunities of each of the Learning Page Units. Children easily formulate ideas and are eager to record and share with others the wonderful things they are learning; they also will be able to read the books they write. By making their own books, from designing the cover and pages, to writing down their thoughts, ideas, poems, and responses, children will value both their craftsmanship and their work.

Along with daily reading, have a time set aside for daily journal writing. As a conclusion to each Lesson Plan that follows, give the students the topic and a little stimulation: how does it feel to be that a sea anemone on a coral reef? You have five minutes, starting right now. Write!

Common Themes

You will notice many common, interdisciplinary themes appearing across the Units of the **Learning Page**. These can be used and adapted in many teaching situations to help students make connections between something they are studying now and something they studied in the past. Remind them how they already know this, or did this, to reinforce their learning.



Teaching Notes: OCEANS

Common Themes in The Learning Page Lesson Plans



Making Books: including papermaking and binding; books for creative writing, poetry and journal writing, drawing and painting, scrapbooks, and for project data collecting and record keeping

Camouflage: There will be a Lesson about this survival adaptation used by all animal groups in all Units related to the natural world.

Careers: Each Unit has at least one profession that is profiled, including education needed, duties, etc.

Graphics: Posters, announcements, advertisements: products of art activities help apply knowledge to practical uses.

Families: Teaching awareness of animal groups transfers directly to teaching awareness of home, values and family.

Geography: Refer to maps to point out what is far away, foreign or exotic; pull in historical references when they arise. Drawing maps and diagrams helps students see in a linear way how things work.

Art Connections: Don't forget fine art resources, paintings and sculpture with the Unit theme as its inspiration. Many school districts have libraries of art reproductions and slides catalogued by topic available to check out as teaching aids.

Art concepts such as colors, shapes, line, value, and composition can be taught using Oceans.

Music: another rich resource; use the our links to locate titles, composers, and sources of tapes and CDs.

Literature and Poetry: Aside from picture books cited here, traditional literature, poetry, and folklore are full of wonderful writing that can inspire and teach.

Theme parties: Celebrations are a fun way to conclude the study of a Unit; see Dinosaurs, Grade 1–2, Lesson 12 for ideas universal to all themes: hats, place cards, invitations, costumes, face-painting, decorated cookies and special foods, games, reading, and performances for parents and schoolmates, etc. Keep the party in mind as the Unit progresses; take photos and videotape, and save all students' artwork and projects.

Alphabets, letters, sounds: Each ocean word is an opportunity to introduce a letter and practice spelling. Use the Basics Worksheets for the alphabet or create your own. See Lesson 4 of either level as an example.

Patterns for Art Projects: Use the Fact File and Cutouts as patterns for art projects such as soft sculptures (see Dinosaurs, Grade Preschool–K, Lesson 10), mobiles, and puppets.

Checklists: Each Unit has a list of all the items of the Fact Files in the order they were presented; the list includes the name, a checkbox, and a small illustration. These lists have many possible uses:

1. a. Cut the list into strips and fold, place in a container for students to pick blindly; that animal will be the student's for the duration of the Unit to **research** and become an expert on. They could wear a button that says "Ask me about urchins!"
- b. Students randomly pick an animal; then ask students to name at least one fact about that animal.
- c. Each day, one animal could be chosen at random to be the focus that day or week. Write on the board: "Today (or this week) is shark day," and return to the shark in some aspect throughout that time.
2. Use as a checklist while on a trip to an aquarium; add creatures not on the list.
3. Use the Oceans Checklist as a review and test at the end of the Unit.
4. The Oceans Checklist can be a ballot sheet to vote for the class's favorite; graphs and charts can plot the results.
5. The Oceans Checklist can be used to sort the animals into fish and mammals, or vertebrates or invertebrates.
6. Use the Checklist for alphabetizing, ordering, matching, and practicing letter recognition.

You will probably have many more ideas on how to use the Checklists from the Oceans and the other Units. Please share your ideas with us!
editor@learningpage.com

LESSON PLAN

1

Skills: geography, visual perception and memory

Materials: world globe, writing materials, construction paper

Tips: Have a large, easy-to-read map of the world on display so that you can point out the oceans, as well as the continents and countries that are near them.

It may help students' understanding to note that the Atlantic is shaped like the letter "S;" the Pacific, "O;" the Indian, upside-down "V;" Arctic and Antarctic, "O."

Resources: *Wonders of the Sea*, by Louis Sabin; *Exploring the Oceans: Science Activities for Kids*, by Anthony D. Fredericks

Words with Special Meanings

oceans: the great bodies of salt water that cover 71% of the Earth

Funsheets: Grade 1, Science 3, 9; Grade 2, Science 1, 2, 7

Introduction to Oceans

Grade Preschool-K

Unit Objective: Students will develop an awareness of oceans through activities featuring marine life (undersea and seashore) and physical, geographical and environmental aspects of oceans. Students will be able to use the term "globe" and point to and name the five oceans.

Introduction: If your school is located at a distance from a coast, ask the class if they've been to the ocean. Then ask, "What is an ocean? What do you know about the ocean?" Consider all answers, prompt if necessary. Ask, "What would you like to know about oceans?" List these items on a sheet of butcher paper displayed on the wall. Keep it there to refer to throughout the unit.

Read: *Wonders of the Sea*

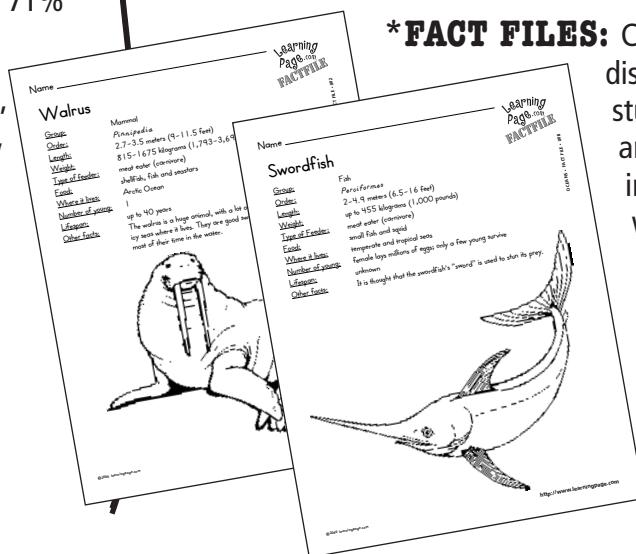
Procedure:

1. Begin the discussion by showing the class a large globe. Ask, "Where are the oceans of the world? How do we know which are the oceans on the globe?"
2. Name the oceans and point to them on the globe. Also refer to them on the large wall map.
3. As you look at the globe, can you imagine how much of the Earth is covered by water? Consider this: all the oceans are connected.
4. Divide the class into five sections and have each of them take an ocean. Have the groups work with you to find out facts about their ocean and then tell the rest of the class.

Conclusion: Review the five oceans. Talk about the differences and similarities of oceans and seas, oceans and rivers, oceans and lakes.

Oceans Learning Center: Collect lots of outdated natural history magazines such as *Audubon*, *Natural History*, *National Geographic*, *Smithsonian*, *Discover*, *Falcon*, and *Ranger Rick*; they are easy to find in second-hand bookstores and thrift shops. They make wonderful sources of photographs that can be used as examples of animals and their habitats, and can be cut up to make collages and for other art activities. Leave these in the [Oceans Learning Center](#).

***FACT FILES:** Copy the Learning Page [Fact Files](#) and distribute with a colored pocket folder. Give students time to organize, look them over, and decorate the covers of the folder. As an introduction to the Unit, take some time with the students to look at the [Fact Files](#), page by page, reading the information slowly as they follow with their eyes and fingers.



LESSON PLAN

2

Skills: same and different, comparing and contrasting

Preparation: Using any method (see [Grade 1–2 Lesson 2](#)) make flash cards to aid students' learning of fish, mammal and invertebrate facts.

Resources: [Fish Eyes](#), by Lois Ehlert; [Animals of Sea and Shore](#), by Illa Podendorf

Funsheets: Grade 1, [Science 4, 7](#)

Music: [A Child's Celebration Of Folk Music Music for Little People](#), audio cassette, Track 2: See The Sea; Track 3: Crawfish Song; [A Child's Celebration of Silliest Songs](#). Track 4: Three Little Fishes; [Music For Little People 15th Anniversary](#), Track 2: Baby Beluga, Track 3: Yellow Submarine

What is a Fish?

Grade Preschool-K

Objective: Students will be able to identify several characteristics of fish and be able to discriminate between animals that are fish and those that are not. Students will be able to identify the parts of a fish and compare it to their own (human anatomy).

Introduction: There are so many wonderful and wacky creatures living in the oceans. Let's read about some of them and see what we learn.

Read: [Animals of the Sea and Shore](#)

Procedure: As you read point out obvious characteristics of the different animals.

1. "Let's look at our [Fact Files](#) and point out the parts of these animals that we know." (eye, nose, tail, teeth, "arms,") Point out the features they may not know: fins (many kinds), gills, scales, nostril, barbel (sensitive whisker on the "chin").
2. Start a chart on the board with two headings: Fish and People. Ask for feedback on some of the body parts mentioned in the book or others you may have read lately.
3. Gather a substantial list under the fish heading and then go down the list item by item and ask: "Do humans have _____?" If the answer is yes, then add that to the people list.

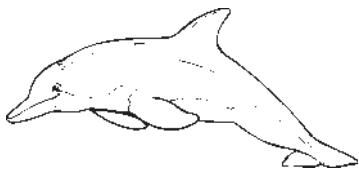
Conclusion: Discussion should encourage thinking about differences between fish and humans, (breathing, moving about, food); and similarities, (body structure, physical features).

Further Possibilities: Use the Oceans Inventory sheet on the next page as a worksheet, quiz or review for students' recognition of animals that are fish and animals that are not fish.

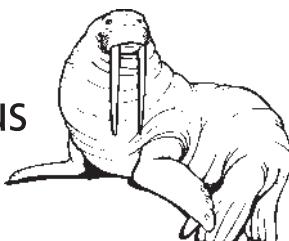
OCEANS INVENTORY

Name _____

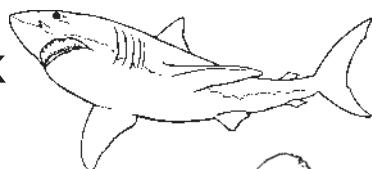
- Bottle-nosed
Dolphin



- Walrus



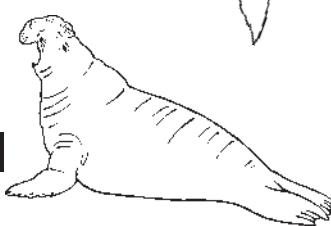
- Great
White Shark



- California
Sea Lion



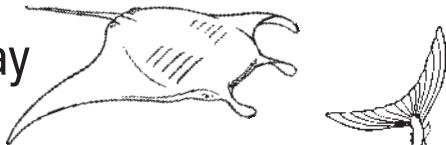
- Northern
Elephant Seal



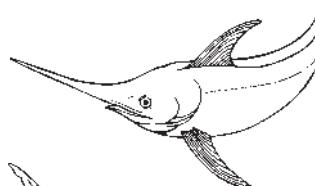
- Octopus



- Manta Ray



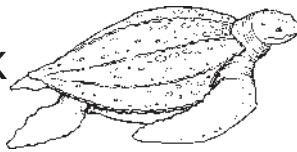
- Swordfish



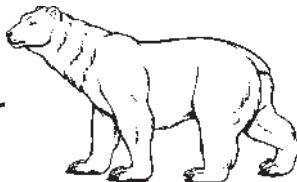
- Hammerhead
Shark



- Leatherback
Turtle



- Polar Bear



- Emperor Penguin



- Killer Whale



- Blue Whale



- Whale Shark



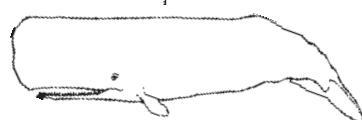
- Manatee



- Portuguese
Man-of-War



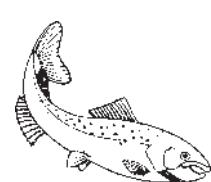
- Sperm
Whale



- Seahorse



- Atlantic Salmon



LESSON PLAN

3

Skills: cooperation, following directions, imaginary thinking

Preparation: coloring and constructing the mural would be a good preparation for this lesson.

Materials: blue, purple, green, white, and turquoise crepe paper, and shiny cellophane; shells, corals, sponges, fishing gear (no hooks), snorkeling equipment, plastic toys; large cardboard appliance box; beach paraphernalia (empty sunscreen bottle, beach towel, sunglasses, and hat)

Resources: [Hello, Fish!: Visiting the Coral Reef](#), by Sylvia A. Earle; [Yellow Submarine](#) (Video); [Yellow Submarine](#) Songtrack, The Beatles; [Abbey Road](#), The Beatles (Track 5: *Octopus's Garden*); [All You Need Is Love: Beatles Songs for Kids](#)
Track 5: *Yellow Submarine*,
Track 7: *Octopus's Garden*

Objective: Students will contribute to creating an undersea classroom environment throughout the duration of the Unit.

Introduction: Ask for suggestions about how to decorate the classroom. Suggestions: porthole windows taped to wall, crepe-paper streamers hanging from the ceiling mimicking seaweed, shipwrecks, coral reefs, treasure; fish nets draping the walls with shells, sponges, and snorkeling equipment hanging from them.

Watch: [The Yellow Submarine](#). Listen to [Octopus's Garden](#).

Procedure:

1. If room allows, set up a corner to construct a submarine out of a discarded appliance box. Cut porthole windows in it and cover with clear plastic wrap; draw and paint on both the inside and the outside. Outside you could draw seaweed, fish, rocks, shells, etc. On the inside, navigation instruments, dials, clocks, etc.
2. Display stuffed ocean creatures (that you make throughout the Unit; see Grade 1–2 Lesson 4 for how to make an octopus) from the ceiling, and decorate the bulletin boards with student artwork.
3. Hang long twisted strands of crepe paper and cellophane strips from the ceiling to simulate the undersea environment: seaweed, currents, blue water.

Conclusion: Creating and adding to the classroom atmosphere will help students get into the spirit of oceans. Let them come up with more ideas and add their writings, artwork and objects brought in from home as the unit progresses.

LESSON PLAN**4**

Skills: repetition, grouping, counting, cooperation

Preparation: Cut out several sponges in different fish shapes and sizes; collect enough styrofoam meat trays to hold tempera paints for printing.

Materials: a large length of white or pale blue butcher paper; tempera paints in watery colors.

Resources: *Swimmy*, by Leo Leonni

Words with Special Meanings

predator: an animal that eats another animal

Funsheets: Fundamentals [4](#), [6](#), [30](#); Kindergarten, [Science 5](#)

Fish Go to School, Too

Grade Preschool-K

Objective: Students will understand two reasons why animals travel in groups. They will create a mural of a school of fish.

Introduction: If you have studied [Zoo Animals](#), recall groups and families of other types of animals, what they are called, and how they benefit the animals.

Schooling provides safety from predators (those who would eat them); often a group of hundreds of small fish will appear as one large mass and stun a bigger fish. Also, small or baby fish can find and share rich feeding grounds. How they know to stay together may be one of the mysteries of the deep.

Read: *Swimmy*

Procedure:

1. After talking about the images and ideas in the book, ask students if they would like to create their own school of fish for the classroom. It's easy using a sponge for making prints.
2. Demonstrate how to take a dampened sponge, press it into the paint, and then reproduce the image on the mural paper. Many fish prints can be made from one dip in the paint, and the lighter impressions add interest and depth to the "school."
3. Sponges can also be cut into the shapes of stars, shells, and ribbony seaweed shapes to add variation and interest; string and ropes can also be pressed into the paint trays and then pressed onto the mural.

Conclusion: Stand back and look at the mural; have students take turns estimating how many fish are in the school, and recording the numbers; then, have others try to actually count them. Compare the numbers.

Review benefits of being in a group, and relate it to your own school situation. What other benefits do we have by working together? What are the drawbacks?

Further Possibilities: Pass out paper plates and give each student a pile of mixed fish crackers to count and sort into their own schools.

LESSON PLAN**5**

Skills: working cooperatively, sharing, animal characteristics

Preparation: Cut up some iridescent self-adhesive paper into scales and be prepared to have them stuck to your shirt before you read.

Materials: construction paper in bright watery colors such as purple, blue, turquoise; glue, brushes for glue, glitter, foil, white paper, tissue paper in the same watery colors, liquid starch diluted with water, brushes suitable for gluing

Resources: *The Rainbow Fish*, by Marcus Pfister

Rainbows of Fish

Grade Preschool-K

Objective: Students will understand how the system of scales functions for fish. They will also learn the value of sharing those parts of them that are special.

Introduction: Ask students, "Why do you think fish have scales?" List all the answers on the board. Possible answers: to keep them warm, to reflect light,

Read: *The Rainbow Fish*. Ask, "Why did Rainbow Fish want to keep all his scales? What did he learn about himself after he began to give his scales away?" Have some precut sticky-backed iridescent scales stuck to your shirt. When children ask for one, lift it off and give it away with a big smile.

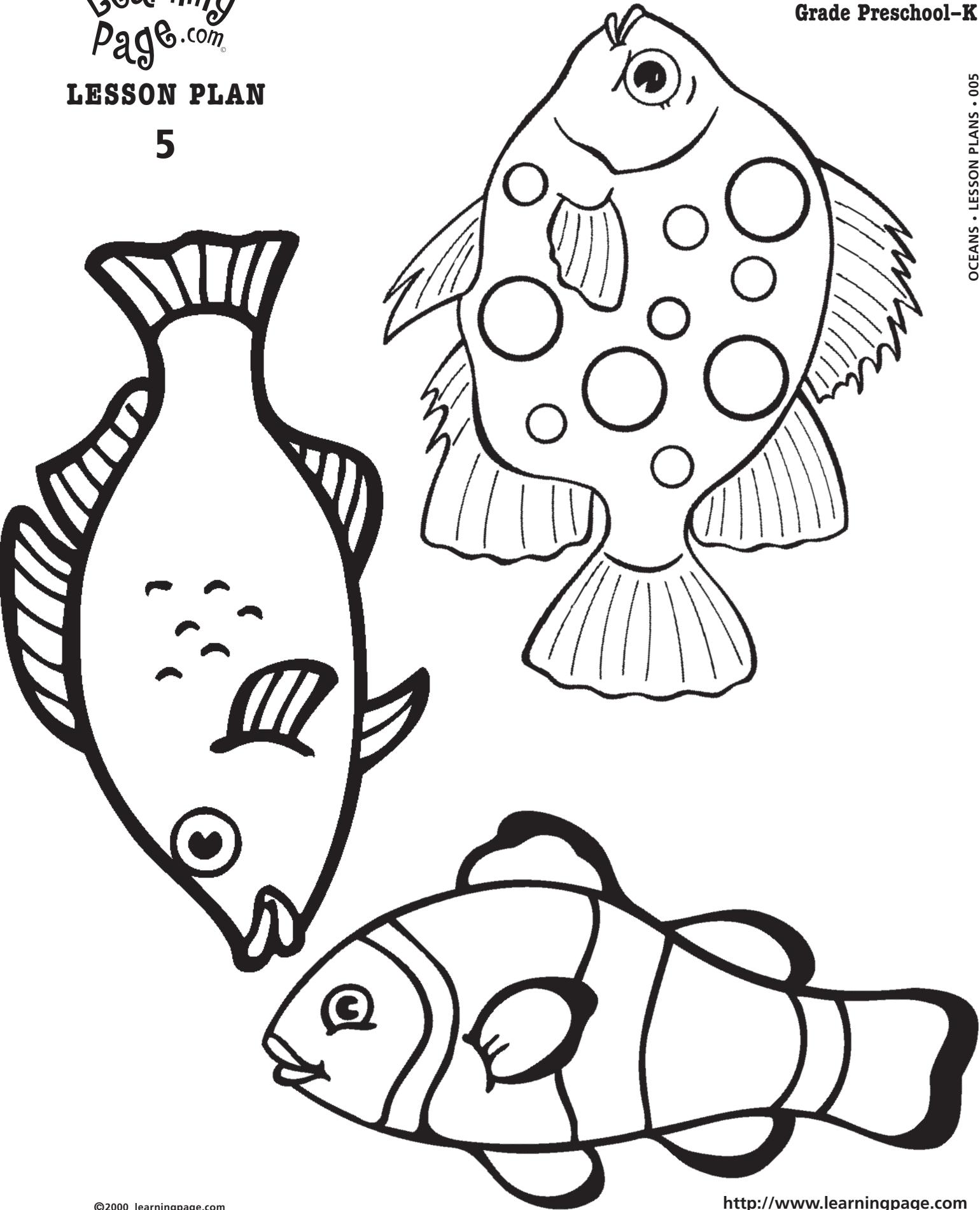
Procedure:

1. Review the reasons mentioned in the introductory discussion; other reasons might be for protection, that scales act like mirrors and reflect light, making them hard to see underwater. Draw on the board the shape of a scale.
2. Using one of the patterns on the next page, have students trace a fish shape with a pencil on construction paper.
3. Using other colors of construction paper, foil and iridescent paper, show students how to cut out several scales and then glue them onto their fish. Tell students that real scales are clear, that they can see through them and that helps them blend in with the water. Also that they overlap and go in the same direction, you might draw a scale pattern on the board to show them. They can then cut the fish out or not.

Conclusion: Have each student present their fish to the class, tell about the scales, and then post it on the bulletin board.

Further Possibilities:

1. Wet down large sheets of white paper with a damp sponge. Using watercolor paints and large brushes, demonstrate to students how to loosely create an underwater scene. Use the pictures from *The Rainbow Fish* as inspiration. When the paintings are dry, have students go back and use a lead pencil, colored pencils, or markers, to draw in fish outlines and details.
2. Show students how to create an underwater scene by painting colored tissue papers with watery liquid starch, adhering it to the paper. Use torn shapes and strips (or even cut out scale shapes) of the tissue papers. The results will be wonderful watery fluid ocean pictures.



LESSON PLAN**6**

Skills: estimate, confirm, compare and make inferences, collect, subtraction

Preparation: Fill the largest clear plastic jar you can find with all kinds of shells. If you are near a coast they will be easy to find; farther inland you will need to find a friend who collects shells, or ask a friend who lives closer to the sea, or look around in second hand and craft stores.

Materials: a bowl for each group; art prints of shells

Resources: [Is This a House for Hermit Crab?](#), Megan McDonald; [Shell](#), by Alex Arthur; [A House for a Hermit Crab](#), by Eric Carle; [Sea Shells of the World](#), R. Tucker Abbott; [The Shell Book](#), by Barbara Hirsch Lember; [What Lives in a Shell?](#), by Kathleen Weider Zoehfeld; [Georgia O'Keeffe](#), by Mike Venezia

Funsheets: Kindergarten Math 9, Language 8



The Game of Shells

Grade Preschool-K

Objective: Students will reinforce their counting, estimating, ordering and sorting skills, and appreciate the variety and beauty of shells.

Introduction: Refer to the large clear container of shells in the Learning Center. Ask, "What are shells? What are they made of? Who lived in these shells?" List some of the creatures that live in shells: clams, mussels, oysters, scallops, etc., animals with hard shells outside and soft bodies inside are called mollusks.

Look again at the large jar of shells and ask, "Can anyone guess how many shells are in the jar?" Record the estimates.

"Today we are going to hear a story about an animal that lives in a shell built by another kind of animal."

Read: [Is This a House for Hermit Crab?](#) or any of the other books at left.

Procedure: Divide the class into groups of students that can comfortably work together at a big table. Roughly divide the shells into the same number of groups. Tell the class how beautiful shells are. Pick one up.

1. Feel its shape, its smoothness, its hard edges. Feel the texture of the surface. Using a magnifying lens, look at it up close.
2. Sort the shells by size, length, or weight. Which shell is the biggest in each group? The whole class?
3. Count the shells by ones, then group by fives.
4. Sort by color and shape.
5. Students in higher levels can refer to a shell field guide to identify a few of their shells and share their knowledge with the class.

Conclusion: Have the class go around the room and look at what the other groups have done with their shells. Ask again for guesses on how many shells there were in the jar

Further Possibilities:

1. Use the shells in a drawing exercise, a still life type of arrangement or a close-up of one special shell. Use the magnifying lens. (Show Georgia O'Keeffe's painting, *Shell #1* featuring a large moon shell.)
2. The varieties of colors and shape of shells are an inviting way for a child to begin a collection, which can lead to a lifelong interest and study. Students can bring home shells when they go to visit different beaches and organize them by location. Shells can be mounted in frames or specimen boxes, labeled and documented in a Shell Journal. Shell collections can be displayed at home in glass cupboards or on colorful plates.
3. Play an impromptu game. Recite "10 little shells sitting on the shelf, take one away, now we have ___ ?"

LESSON PLAN**7****Skills:** observe and compare body parts

Preparation: The hermit crab is a fascinating animal to explore and study. If possible, buy one to keep in a terrarium in the classroom for the students to watch during the Unit. Observations could be recorded in the Oceans Journal or in a special Hermit Crab Book.

Resources: [Is This a House for a Hermit Crab?](#) by Megan McDonald; [A House for a Hermit Crab](#), by Eric Carle; [Going Lobstering](#), by Jerry Pallotta; [Shellfish Aren't Fish](#), by Allan Fowler; [Seashells, Crabs, and Sea Stars](#), by Christiane Kump Tibbitts; [Underwater Animals](#), by Helen Cooney (pp. 14–15); [Animals on the Inside](#), by Andres Llamas Ruiz (pp. 28–29)

Words with Special Meanings

crustacean: aquatic arthropod having a hard shell, including lobsters, crabs, barnacles, and shrimp

Funsheets: Kindergarten, [Science 8](#); Grade 1, [Science 8](#); Grade 2, [Science 10](#); Insects, Grade 1: [Science 1](#)

Crabby Crustaceans

Grade Preschool-K

Objective: Students will identify and name three facts about crustaceans.

Introduction: Have students think back to the reading of [Is This a House for Hermit Crab?](#) from the previous lesson. Look at the Fact File page for the Lobster. Observe and list some of the characteristics of crustaceans.

Read: [A House for a Hermit Crab](#), [Underwater Animals](#) pages 14 and 15

Procedure:

1. Be sure that students understand the concept of the crab (crustacean) living in the shell (mollusk); that they are two different families of animals.
2. Other crustaceans have their own hard shells, on the outside of their bodies, that they grow naturally. When they get too big for their shell, they leave it behind and form a new one. This is called molting.
3. Crab Walk: if you were a crab, how would you walk?

Conclusion: The shell serves as the home for the hermit crab. What other animals carry their homes about with them? How would you like to carry your home around with you on your back?

Further Possibilities: If you have studied the Insects Unit, enlarge and show them the [Grade 1, Science Fun Sheet 1](#), and [Grade 2 Science Fun Sheet 10](#) from Oceans, enlarged if possible. "What do you notice about these two pictures?" Explain that both crustaceans and insects are in the same family and therefore have similar body structures.

LESSON PLAN**8**

Skills: simple addition, beginning sounds, manual dexterity

Preparation: magnets (any kind), string, paper clips, a stick or bamboo rod. Put together a fishing rod (or two) with a magnet where the hook would be; a large sheet of blue butcher paper cut in an irregular shape, or a small plastic wading pool for the "ocean"

Materials: fish patterns, colored construction paper, glue, scissors, markers, glitter, etc.

Resources: [Fish Is Fish](#), by Leo Lionni; [One Fish Two Fish Red Fish Blue Fish](#), by Dr. Seuss

Funsheets: Fundamentals [1](#)

"Gone Fishing"

Grade Preschool-K

Objective: Students will be able to add randomly chosen numbers or say a word beginning with a letter chosen at random.

Introduction: Ask students if they've ever played "Go-Fish?" There is a card game by this name that they may be familiar with, but this is going to be "Go-Fish" with a real fishing pole.

Read: One of the books mentioned at left or any title from the list that you haven't read yet.

Procedure: First students must make the fish.

1. Demonstrate: Using the patterns after Lesson 5, or creating your own, cut the fish out of colored construction paper. Show them how to cut out fins and tails of different colored papers and glue them on.
2. Depending on the object of this lesson for you, assign each fish either a number or a letter. (Numbers from 1-9, letters of the alphabet that are the beginning sounds of familiar ocean creatures.)
3. Finally, attach a paper clip to the nose of each fish, and throw in the "ocean" (a large watery-shaped piece of blue butcher paper taped to the floor or a plastic wading pool).
4. Rig a fishing pole with a line and a magnet. Allow each student a chance at fishing. This activity could be one that you do with one or two students each day at a given time: "Time to Go Fishing!"
5. If the object is numbers, have them call out the number on their "catch" and then add the numbers together when they have two or more. If the student "catches" a letter, have he or she call it out and then name an ocean creature that begins with that letter.

Conclusion: Fishing is fun!! Each student should have a chance at the game and be able to solve at least one number or letter exercise.

LESSON PLAN 9

Skills: rhythm, movement, voice, exercise, cooperation

Preparation: listen to music ahead of time to cue up the selections.

Materials: long stretch of butcher paper, large (fat) colored chalks, pastels or markers

Resources: [A Child's Celebration Of Folk Music](#) [Music for Little People](#), audio cassette, Track 2: *See The Sea*; Track 3: *Crawfish Song*; [A Child's Celebration of Silliest Songs](#), Track 4: *Three Little Fishes*; [Music For Little People 15th Anniversary](#), Track 2: *Baby Beluga*, Track 3: *Yellow Submarine*; [All You Need Is Love: Beatles Songs for Kids](#) Track 5: *Yellow Submarine*, Track 7: *Octopus's Garden*; [A Child's Celebration of Silliest Songs](#), Track 4: *Three Little Fishes*

Sing a Song of the Sea

Grade Preschool-K

Objective: Students will participate in a movement, singing, or rhythm exercise.

Introduction: Announce early in the Unit that each day there will be a time for a music activity, a time for movement, exercise and dance (and singing too!).

Listen: Play one of the songs from one of the audio tapes or CDs mentioned, or any that you may have (Beach Boys albums have lots of beach and surf songs that are fun to dance to; pretend we are surfing!).

Procedure: Before playing the music, tell the students that they are going to hear a song about oceans. Then play one of the selections mentioned at left. After first hearing, ask what the song is about? Briefly tell a few facts or references (to something already mentioned in the Unit perhaps) and write the word(s) on the board. For instance, students may not be familiar with a crayfish; it is similar to a lobster which has a Fact File.

1. Encourage and show students how to move with the music, suggesting whatever the content of it is.
2. After two or more hearings, the words will become familiar.
3. In keeping with the looseness and fluidity of the movement, have students translate their dance to a drawing on a long length of butcher paper stretched across one side of the room (either on the floor or along a wall). Demonstrate how to go from dancing to drawing and then back to dancing. Provide fat pastels or fat markers. Be spontaneous!

Conclusion: As a class, look over the drawing and see how it reflects the movement of the class, their bodies, their arms, and the theme of the oceans!

LESSON PLAN**10**

Skills: follow directions, write and construct

Preparation: Hand make a book as a sample or use one made by a student in a previous year.

Materials: various papers precut to a size easily manipulated by students; for accordion books, cut enough long strips of butcher paper for the class. Accordion books can also be made by drawing each page on a separate sheet of paper and then taping them together to fold into an accordion.

Colored pencils and crayons, old magazines for cut outs, scissors and glue.

Resources: [How a Book is Made](#), by Aliki; [The Underwater Alphabet Book](#), by Jerry Pallotta

Funsheets: Fundamentals 8–10, 17, 19

A Whale of a Book!

Grade Preschool–K

Objective: Students will make an accordion book with an Oceans theme of their choice. Possibilities: Ocean Alphabet, Blue, Counting 1–10, Diary of a Hermit Crab, Why I like Fish.

Introduction: Show students an example of a simple to make accordion book. Ask: "Why do they call it an accordion book? See, you can pull it open to read it, and fold it up again, or read it this way." Demonstrate pulling open the book, and folding it up again.

Read: "Read" the handmade sample book, and have the books mentioned at left available in the [Learning Center](#).

Procedure:

1. Students must first plan their books: decide on a subject, title and what kinds of pictures they want.
2. Draw one part of the story on each page; for instance, if it was an alphabet book you could have one letter on each page; if it was about an animal, such as a seal, you could have one fact on each page; if it was a story, you would tell a little piece of the story on each page.
3. Students can also dictate words to add to their books, add border designs around the edges, and paste in cut out pictures if they so choose.

Conclusion: This activity can be an ongoing long term project that can be repeated and added to. Be sure to display the books on a special shelf with a sign "Our Ocean Books."

Further Possibilities: For detailed instructions on how to make an Oceans Journal, see [How a Book is Made](#) and [Dinosaurs, Grade Preschool–K, Lesson 2](#), and [Dinosaurs, Grade 1–2, Lesson 2](#); in this case the shape could be a fish, a shell, or any ocean animal. The journal could be used for recording observations at the aquarium or at the beach; after each animal is discussed, have students draw its picture in their books with its name.

End of Unit Activities for Oceans: The most ideal concluding activity would be a half day field trip to the beach. Next best, a trip to an aquarium or marineland. Or how about a fish market? Does your local university or college have a marine biology department?

An oceans party could be planned with beach props (sunscreen, hats, sunglasses, beach towels, etc.), games (like "Go Fish" from Lesson 8), a fish piñata, fish balloons, etc. A seashore or underwater video could be shown. Display and read your books, vote on your favorite sea creature, and eat "fishy" foods (fish-shaped cookies, starfish tuna sandwiches, fish crackers, shell macaroni salad, etc)!

The books *Swimmy* and *The Rainbow Fish* are favorites of children of all ages. They can serve as birthday party themes for young children. The Lessons based on these books (Lessons 4 and 5) could be fun art activities for the party. The artwork in the books can be an inspiration for invitations, favors and decorations.

LESSON PLAN

1

Skills: geography, mapping, visual perception

Preparation: obtain a map of the world and a globe

Materials: poster paper, writing materials, construction paper

Resources: *Wonders of the Sea*, by Louis Sabin; *The Seashore First Discovery Book*, Gallimard Jeunesse

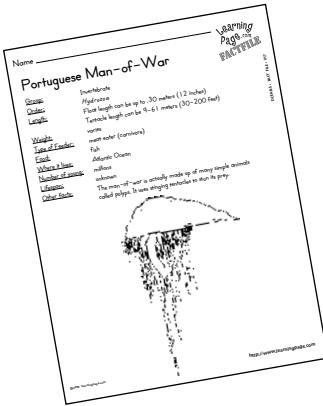
Words with Special Meanings

oceans: the great bodies of salt water that cover 71% of the Earth

Funsheets: Grade 1 Science 3; Grade 2, Science 1, 2

Tips: Point out the oceans, continents and countries that border them on a map of the world.

Mention to students that the Atlantic is shaped like the letter "S;" the Pacific, "O;" the Indian, upside-down "V;" Arctic and Antarctic, "O."



Introduction to Oceans

Grade 1-2

Unit Objective: Students will develop an awareness of oceans through activities featuring marine life (undersea and seashore) and physical, geographical and environmental aspects of oceans. Students will be able to point out the five oceans on a map or globe.

Introduction: If your school is located at a distance from a coast, ask the class if they've been to the ocean. Then ask, "What is an ocean? What do you know about the ocean?" Consider all answers, prompt if necessary. Ask, "What would you like to know about oceans?" List these items on a sheet of butcher paper displayed on the wall. Keep it there to refer to throughout the unit.

Read: *Wonders of the Sea*

Procedure:

1. Begin the discussion by showing the class a large globe. Ask, "Where are the oceans of the world? How do we know which are the oceans on the globe?"
2. Name the oceans and point to them on the globe. Also refer to them on a large wall map.
3. "As you look at the globe, can you estimate how much of the Earth is covered by oceans?" Note where the equator lies; what do you notice about the water north of the equator and the water south of the equator? (N: 1.5x as much water as land; S: 4x as much water as land.)
4. Divide the class into five sections and have each of them take an ocean. Have the groups independently find out facts about their oceans and be able to tell the rest of the class about them.

Further Possibilities: Locate your area on a map and ask students to locate the nearest ocean, bay, harbor, sea, island. Have these words on the board or on displayed word cards. They can practice writing these words in their Journals. Using the colors they see on the maps and globe, have students draw a map showing their state and the closest ocean.

Book Arts: For detailed instructions on how to make an Oceans Journal, see *Dinosaurs, Grade Preschool-K, Lesson 2*, and *Dinosaurs, Grade 1-2, Lesson 2*; the shape could be an ocean animal, plant, shell, or boat and the Oceans Journal could be used for creative writing, spelling practice, and drawing. See *Grade Preschool-K, Lesson 9*, for further book ideas.

Oceans Learning Center: Shop second-hand and thrift shops for old *Natural History*, *National Geographic*, *Smithsonian*, *Discover*, *Falcon*, and *Ranger Rick* magazines; use as examples of animals and their habitats, and cut up to make collages and for other art activities. Leave these in the *Oceans Learning Center*.

***FACT FILES:** Copy the Learning Page *Fact Files* and distribute with a colored pocket folder. Give students time to organize the pages and decorate the covers. As an introduction to the Unit, look at the *Fact Files*, page by page, reading the information slowly as students follow with their eyes and fingers.

LESSON PLAN

2

Skills: sort, recognize differences, recall facts

Preparation: Make flash cards from the Fact Files. One way: Fold each page just above the illustration, then open flat. Bring the fold line up to just under the Ocean animal's name, and press flat (all the facts should be covered.) Paste this onto a piece of cardboard or oaktag. To make it easier, you could also paste the facts onto the reverse side of the card for reference.

Resources: What's It Like to Be a Fish? by Wendy Pfeffer; How Many Fish? (My First I Can Read Book) by Caron Lee Cohen

Words with Special Meanings

ichthyology: the branch of zoology dealing with fishes

Funsheets: Grade 1, Science 5, 7

Tip: See Grade Preschool-K Lesson 3 for ideas about creating a classroom underwater environment for the unit.

What Is a Fish?

Objective: Students will be able to identify several characteristics of fish and be able to discriminate between animals that are fish and those that are not.

Introduction: Ask: "What is a fish?" Write responses on the board as students make guesses. Points to emphasize: most fish live in water, breathe with their gills, have scales, and swim using fins. All fish have backbones, (which means they are vertebrates), and a skeleton inside their bodies. Fish have a streamlined shape that allows them to maneuver smoothly through the water. Just because an animal lives in water does not make it a fish. Seals and dolphins may be streamlined but they need to come to the surface for air. Shellfish like clams are mollusks. Ask them what other animals with "fish" names are really not fish.

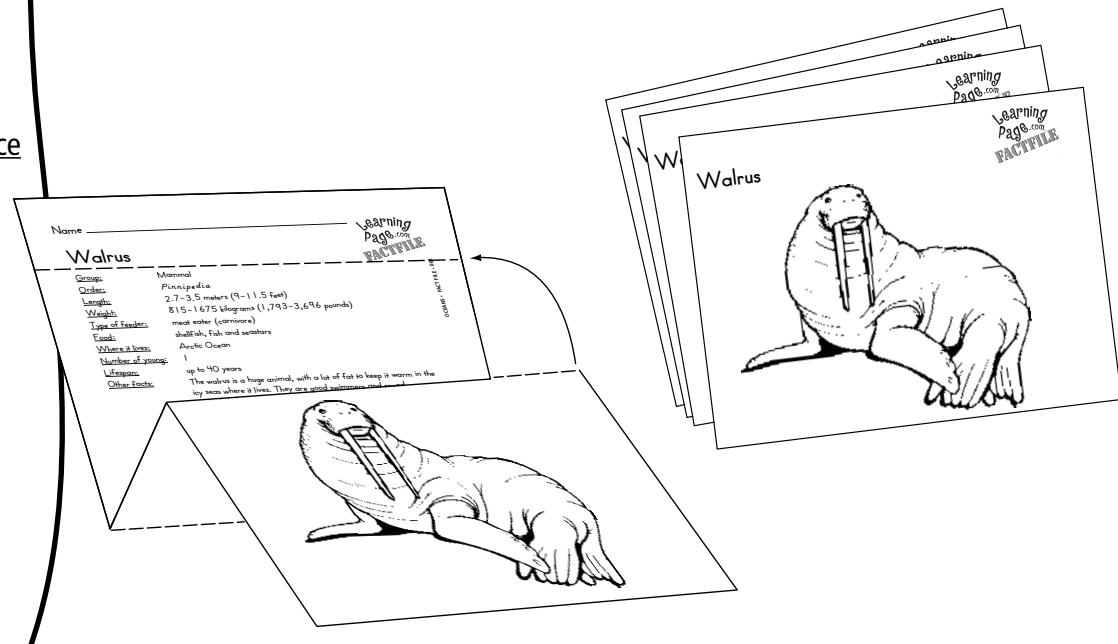
Read: What's It Like to Be a Fish?

Procedure: Create a fish painting using either of these methods; be sure to include all the parts that make a fish a fish.

1. With only light colored wax crayons, demonstrate drawing on white paper; draw all kinds of fish swimming in the ocean. It will look invisible.
2. Using water colors with lots of water, show students how to paint a "wash" over the crayon fish. The fish will pop out from the blue watery background.

Conclusion: Be sure that all students include the fish characteristics you discussed earlier.

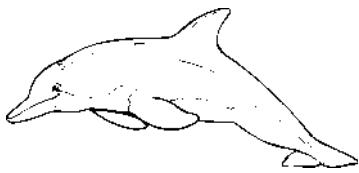
Further Possibilities: Using your Fact Files Flash cards, quiz students up to the Unit. They can guess which animals are fish and which are not based on the information above. Then using their Fact Files, have them construct graphs, sorting the animals according to group: fish, mammal, bird, invertebrate or reptile.



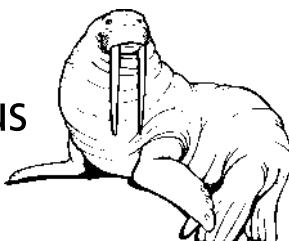
OCEANS INVENTORY

Name _____

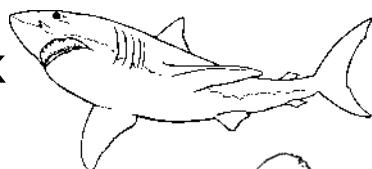
- Bottle-nosed
Dolphin



- Walrus



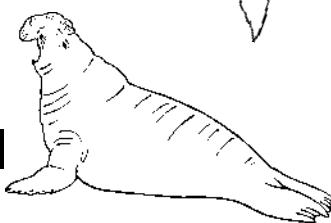
- Great
White Shark



- California
Sea Lion



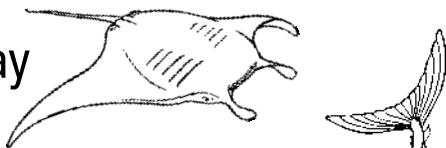
- Northern
Elephant Seal



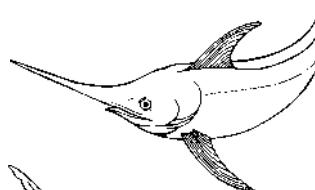
- Octopus



- Manta Ray



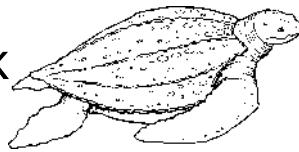
- Swordfish



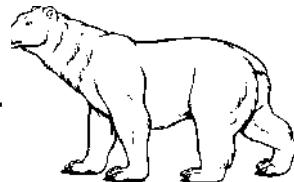
- Hammerhead
Shark



- Leatherback
Turtle



- Polar Bear



- Emperor Penguin



- Killer Whale



- Blue Whale



- Whale Shark



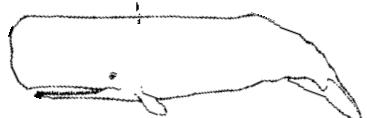
- Manatee



- Portuguese
Man-of-War



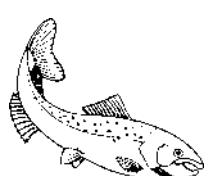
- Sperm
Whale



- Seahorse



- Atlantic Salmon



LESSON PLAN

3

Skills: alphabetical order, beginning sounds, research using Fact Files

Preparation: copy enough Oceans Inventory sheets for each student.

Materials: white drawing paper, drawing materials

Resources: The Underwater Alphabet Book, by Jerry Pallotta; The Oceans Alphabet Book, by Jerry Pallotta; ABSea, by Bobbie Kalman; Alphabet Sea, by Carolyn Spencer

Funsheets: Fundamentals 35; Kindergarten Science 1; Grade 1, Science 10; Language 3

Adopt a Sea Creature

Grade 1-2

Objective: Students will become familiar with one ocean creature and be able to share what he or she learns.

Introduction: Have each student choose a marine animal that will be their adopted creature for this activity; or, use the ocean animal inventory sheet cut into strips and folded and have them pick one at random from a hat.

Read: one of the alphabet books at left.

Procedure:

1. Pass out a copy of the Oceans Inventory Sheet to each student and have them put the animals in alphabetical order on a separate piece of paper. Then assign each child to an animal, or have them choose one as their own. If they initiate it, they can pick one that is not on the list (that begins with a letter that is not on the list).
2. Have the students draw their animal in the center of a large sheet of drawing paper, as well as the letter it starts with.
3. Using their Fact Files, or other materials from the Learning Center, have students fill the rest of the paper with features of the habitat, the surroundings of the fish.

Conclusion: Go around the room and have each student stand, display their picture, and tell what they learned about that animal.

Further Possibilities:

1. Movement: Be your animal, swimming under water, breathing underwater; use arms and legs freely, crawl like a crab.
2. Art: make a painting of your ocean animal.
3. Book Arts: construct a book all about your sea creature. Use any book form you like.
4. Language: write or draw pictures of as many things you can think of that begin with the same letter of the alphabet as your chosen animal.

LESSON PLAN 4

Skills: recalling octopus facts, prefixes, octo–, the number eight, plurals

Preparation: create a plastic bag octopus in advance; the students will be fascinated by it's "color" and "texture."

Materials: clear plastic kitchen trash bags, string, scissors; additional materials if making alternative method octopi.

Tip: the first writing ink was made from the pigment (color) found in octopus's ink sac. Today, the ink is used as a color and flavoring for pasta and sauces.

Resources: [My very Own Octopus](#), by Bernard Most; [An Octopus Followed Me Home](#), by Dan Yaccarino; [An Octopus is Amazing](#), by Patricia Lauber; [The Tickle Octopus](#), Audry Wood

Words with Special Meanings

octo–: a prefix meaning eight

tentacles: flexible feelers for touching, feeling and smelling

Funsheets: Kindergarten Math 1, Science 7

Objective: Students will be able to say three facts about the octopus and know it is an invertebrate; students will know what the prefix octo– means.

Introduction: Write the word octopus on the board. Then again, separated into two parts: octo – pus. Talk about prefixes, and ask, "What does the prefix octo– mean? Take guesses, responses and then ask if any one knows any other words that start with octo–? This is a stretch for early grades but suggest the word octagon, write it on the board and draw a picture of it. Other words: octave (music), octet (a group of eight), octuplet (one of eight), octogenarian (eighty-year old person.)

The octopus has eight arms, called tentacles. They are used for swimming, crawling, fighting, building, holding food, and breeding. What would we do with eight legs? How would we walk? Can two students demonstrate the movements of one eight-legged creature?

Read: Book about octopi from the list at left.

Procedure:

1. Demonstrate to students how to make an octopus using this method or any of the others below.
2. Take one clear garbage bag, roll it up into a tight ball and stuff it into the the other bag. Grab it tightly by the "neck" and secure what is now the head with a cord or rubber band. Then with scissors, divide the "skirt" of the plastic bag into eight strips. This may take some care, the arms do not need to be the same size but there should be eight. If a student ends up with more, simply cut them off.
3. Whatever method you use to create an octopus, pay special attention to the creation of the eight arms or tentacles. When each student has finished making them, have them line them up and count them 1 to 8. The class can also do this in unison.

Conclusion: Using heavy thread or twine, hang the octopi around the room. Then ask, if this is an octopus, what do you call two of these creatures. Octopuses? Maybe sometimes, but another form of this plural is not as simple as adding an "s." They are called *octopi*. This is derived from the Latin language.

Further Possibilities: There are unlimited ways for children to create octopi from available materials. The body can be made out of a small butter tub, a paper plate cut in half, a small paper or clear lunch bag stuffed with newspaper or waxed paper; the legs can be anything from accordion-folded strips of paper to pipe cleaners to extra thick yarn. If made out of long strips of construction paper, have students stamp the "suction cups" using a finger and contrasting paint or stamp pad with washable ink.

LESSON PLAN

5

Skills: visual perception, see similarities and differences, matching, create similarities

Preparation: Have the Oceans Mural prepared ahead of time and posted on a bulletin board. (put together but not colored in) Copy and enlarge Grade One Science Fun Sheet 10 and Grade Preschool– K Lesson 5 for a variety of fish to draw. Preread the books below and bookmark the sections about oceans.

Resources: How to Hide an Octopus, by Ruth Heller; Animal Camouflage: A Closer Look, by Joyce Powzyk; Animals in Camouflage, by Phyllis Limbacher Tildes; Can You See Me?, by Shirley Greenway; Clever Camouflagers, by Anthony D. Fredericks; Under the Sea, The Nature Company, p. 22–23

Words with Special Meanings

predator: an organism that eats another organism

camouflage: the colors and patterns of an animal that blend in with the background and conceal it from predators and help it to ambush prey.

Funsheets: Kindergarten Language 9, Math 5

Hide and Seek: Camouflage

Grade 1–2

Objective: Students will understand the importance of camouflage: shape and coloration in undersea environments.

Introduction: Ask: "Have you ever played Hide and Seek?" Talk more about hiding and ask students to think of when they would be disguised to avoid detection. Playing games, dressing up for Halloween or a part in a play.

In the natural world, it's not a game: hiding can mean survival.

Why are some fish such beautiful colors and patterns? Talk about different ways that marine animals use their colors and ability to change colors: warning, calling attention to themselves for mating, announcing their social status, trickery, mimicry, disruptive coloration, hiding among coral and plants. Some fish can change color instantly to blend in with their background. Read about the butterfly fish, that has a black "eye" on its back that can confuse a predator.

Note that the females of any species may be more blandly colored to be able to better protect their young. The male is often brightly colored to attract females for mating. Also, young fish (juveniles) are often different colors than their parents so that they can travel freely away from the protection of their parents, among other kinds of fish, and be unharmed.

Read: How to Hide an Octopus or several of the premarked sections of the other books.

Procedure:

1. Using the Mural, have children draw and color a fish or sea creature of their choice, any color, any shape, any features. Then have them fill in the background behind their creature so that it is protected. See **Preparation** at left.
2. Or, students may draw and color individual pictures. Assign a background that their creature must survive in: stripey green seaweed, a spotty gray rock, a pebbly sandy bottom, pink leggy coral.
3. When the mural is completed, have the class stand back and look at it. Then stand back further. Decide which creatures are most successfully camouflaged.

Conclusion: Talk about other animals you have studied that use camouflage to their benefit (Zoo Animals, Preschool–K Lesson 7; Insects, Grade 1–2 Lesson 9).

LESSON PLAN

6

Skills: observation, conservation, cooperation

Preparation: obtain a large piece of coral from an aquarium store or biology supply house, if you are not near an ocean. Also find an example of coral jewelry to borrow and wear; Southwestern Native Americans have traditionally used coral in their silver jewelry, (beads, set as a stone, or inlaid in delicate silver work). Make copies of the work sheet on the next page.

Tip: mention that the tiny polyps have tentacles similar to the ones the octopus has, but much much smaller.

Resources: Look Closer: Coral Reef, by Barbara Taylor; At Home in the Coral Reef, by Katy Muzik; Treasures of the Great Barrier Reef, Nova (VHS); Coral Reef, by Donald M. Silver

Words with Special Meanings

ecosystem: the combination of all the communities and environmental factors in an area

Exploring Coral Reefs

Grade 1-2

Objective: Students will understand the rich variety of life that lives just below the ocean surface in coral reefs, and be aware of conservation efforts towards this fragile ecosystem.

Introduction: Show students the samples of coral and ask them to identify it. Explain that we call this coral, but it is actually the skeleton of the coral. Discuss how coral reefs colonies are made up of millions of tiny coral animals (called polyps) that build up limestone as they grow. It take many years to grow enough coral to produce a reef, and it is a delicate and balanced environment. Fish, plants, algae, invertebrates and coral live in harmony and depend on each other. For many reasons brought on by man and industrialized society, reef ecosystems are struggling to survive.

Watch: Treasures of the Great Barrier Reef, or another video about coral reefs.

Procedure:

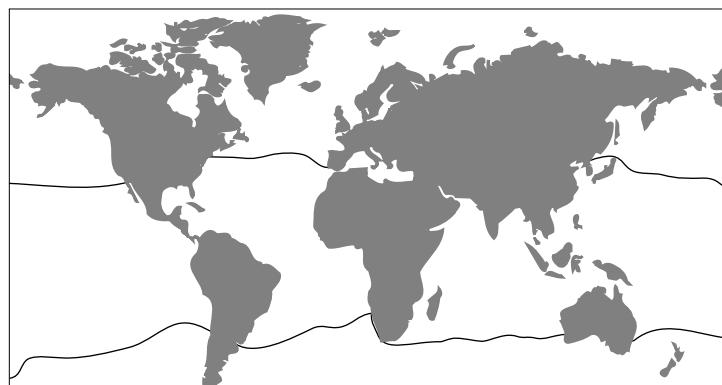
1. Ask for students' reactions and what they remember about what they watched.
2. List on the board the creatures students can recall that live in the reef.
3. Have the students color the worksheet on the next page to identify four types of coral.

Conclusion:

1. Have students name several ways that creatures living in a coral reef help each other and ask them to draw and color a picture of one of those relationships
2. Ask for suggestions: What can we do to help protect the coral reef ecosystem?
3. Say: "The Great Barrier Reef is in Australia. Can anyone point to Australia on the map?" (pinpoint the location of the Reef) What else have we studied about Australia? (Zoo Animals: Koalas and kangaroos originated in Australia.)

Further Possibilities:

1. Call a local dive shop (these exist even in landlocked communities) to arrange for a speaker to come to class and talk about the training, equipment and responsibilities of snorkeling and scuba diving. They usually have excellent videos on underwater topics.
2. Look at the world map and using both arms, show the northern and southern boundaries of the area where coral reefs can live, where the water never gets colder than 68°F (20°C).





Color the branch coral red. Color the fan coral yellow. Color the brain coral tan. Color the bubble coral blue.

LESSON PLAN

7

Skills: language arts, creative writing, rhyming, alliteration

Resources: *Creatures of the Earth, Sea and Sky*, by Georgia Heard; *The Random House Book of Poetry for Children*, edited by Jack Prelutsky; *All the Small Poems*, by Valerie Worth; *Sea Gifts*, by George Shannon; *Hailstones and Halibut Bones*, by Mary O'Neill

Words with Special Meanings

alliteration: repetition of an initial sound (usually a consonant or cluster) in two or more words in a phrase.

Funsheets: Grade 2 Language 6

Oceans Word Bank

Grade 1-2

Objective: Students will write a poem about the ocean.

Introduction: Let's practice using some of our new words by writing. First we will listen to some poems that others have written about oceans.

Read: Several poems about fish from some of the books mentioned at left.

Procedure:

1. Make a Word Bank list to post to get students started on their poems. Ask them for more word ideas to add to the list.
2. Go through the list and brainstorm rhyming words for the words in the Bank. Then, ask for words that begin with the same letter or sound. To take it further, ask for action words that begin with the same sound.
3. Give students a time limit to sit quietly and write their first poems. You may also give them a limit of lines or words to use to keep it simple at first.
4. If students are having trouble getting started, give them an assignment: begin your poem with an ocean animal. Then use only words that have the same beginning sound, at least 6; it does not need to rhyme.

Example: Fiddler Crab finds frog.

Funny?
Frightened first,
Forever friends.

Conclusion: Poems can be copied into the Ocean Journals and illustrated. Other stimulants for writing poetry could be a field trip to an aquarium or a fish market, watching a video such as *The Yellow Submarine*, or an experience with a live ocean creature.

Sample Word Bank:

ocean word	rhyming word	word with same beginning	verb with same beginning
sea	tree	splash	swim
beach	reach	blue	bike
shore	floor	shadow	shout
shell	tell	shiny	shut
fish	wish	flower	fling
whale	tail	wish	walk
snail	pail	sneak	soar
crab	grab	cloud	crawl
sand	land	sail	spin
fin	win	four	fly
tide	wide	time	tiptoe

LESSON PLAN**8**

Skills: estimate, confirm, compare and make inferences, collect and organize similar objects

Preparation: Get the largest clear plastic jar you can find and fill it with all kinds of shells. If you are near a coast they will be easy to find; farther inland you'll need to find someone who collects shells, ask a friend who lives closer to the sea, or shop in second hand and craft stores; art prints of shells in art if available.

Materials: a plastic bowl for each group

Resources: *Is This a House for Hermit Crab?*, Megan McDonald; *Shell*, by Alex Arthur; *A House for a Hermit Crab*, by Eric Carle; *Sea Shells of the World*, A Golden Nature Guide; *The Shell Book*, by Barbara Hirsch Lember; *Seashells, Crabs, and Sea Stars*, by Christiane Kump Tibbitts; *Georgia O'Keeffe*, by Mike Venezia

Words with Special Meanings

bivalve: a mollusk with a shell that has two halves hinged together

Funsheets: Kindergarten Math 9, Language 8

The Game of Shells

Grade Grade 1-2

Objective: Students will reinforce their counting, estimating, ordering and sorting skills, and appreciate the variety and beauty of shells.

Introduction: Refer to the large clear container of shells in the Learning Center. Ask, "What are shells? What are they made of? Who lived in these shells?" List some of the creatures that live in shells: clams, muscles, oysters, scallops, etc., animals with hard shells outside and soft bodies inside are called mollusks.

Look again at the large jar of shells and ask, "Can anyone guess how many shells are in the jar?" Record the estimates.

"Today we are going to hear a story about an animal that lives in a shell built by another kind of animal."

Read: *Is This a House for Hermit Crab?*

Procedure: Divide the class into groups of students that can comfortably work together at a big table. Roughly divide the shells into the same number of groups. Tell the class how beautiful shells are. Pick one up.

1. "Feel its shape, its smoothness, its hard edges. Feel the texture of the surface." Using a magnifying lens, look at it up close.
2. Sort the shells by size, length, or weight. Which shell is the biggest in each group? The whole class? Sort by color and shape.
3. Count the shells by ones, then group by fives.
4. Students can refer to a shell field guide to identify a few of their shells and share their knowledge with the class.

Conclusion: Have the class go around the room and look at what the other groups have done with their shells. Ask again for guesses on how many shells there were in the jar. Compare to the estimates.

Further Possibilities:

1. Use the shells in a drawing exercise, a still life type of arrangement or a close-up of one special shell. Use the magnifying lens. (Show Georgia O'Keeffe's painting, *Shell #1* featuring a large moon shell.)
2. The varieties of colors and shape of shells are an inviting way for a child to begin a collection, which can lead to a lifelong interest and study. Students can bring home shells when they go to visit different beaches and organize them by location. Shells can be mounted in frames or specimen boxes, labeled and documented in a Shell Journal.
3. There are many craft projects to make using shells. Glue flat scallop shells onto a small cardboard or wood box, and finish with natural spray polyurethane. Thread shells on heavy cord to hang as windchimes in the garden. Look for shells with holes already worn into them. Students can probably come up with lots of other ideas.



LESSON PLAN 9

Skills: work, commerce, natural resources

Preparation: Look at the following books before class and bookmark sections to read in class, during one or more days.

Materials: basic drawing and painting materials, white poster paper

Resources: You Can Be a Woman Marine Biologist, by Florence McAlary; I'd Like to Be a Marine Biologist: Learning About Whales, Sea Turtles and Ocean Life, by Kim M. Thompson; Marine Biologist: Swimming With the Sharks, by Keith Elliot Greenberg; Opportunities in Marine and Maritime Careers, by William Ray Heitzman and Jean-Michel Cousteau; Jacques Cousteau: Saving Our Seas, by Lorraine J. Hopping

Words with Special Meanings

oceanographer: a person who studies the oceans including the waters, depths, beds, animals, and plants

At Work with Oceans

Grade 1-2

Objective: Students will demonstrate an understanding of the economy of the oceans and the people who work in that economy.

Introduction: Ask students if they can name kinds of workers connected to oceans. Make a list on the board. Here are some possibilities: oceanographer, marine biologist, marine geologist, commercial fisherman, offshore driller, diver, mariculturist, navigator, marine ichthyologist, marine ecologist, underwater welder, sailor in the Navy. "Does anyone know of anyone that works in any of these fields?"

Read: Sections of any of the books mentioned, spotlighting several different types of work associated with the oceans. Refer students to the Learning Center for more materials for researching careers involved.

Procedure:

1. Have each student choose one of the job titles on the board, or any other they may think of.
2. Have the children draw a poster to attract others to their chosen occupation. Before beginning, encourage brainstorming about the area they have chosen and answer any questions.
3. Suggest that students begin with a dominant figure of the person at work (male or female): what kinds of clothes would they wear? The background can be any marine image they have seen or can invent. They can copy the titles from the list of the board to use as headlines for their posters if desired.

Conclusion: After looking over all of the posters, ask if anyone would like to work in jobs connected with the oceans. Why? (Reasons why: be outside, help animals, be near the ocean, dress casually, like science, like to travel, help the environment. Reasons why not: can't swim, get sea sick, afraid of water, don't want to live near the ocean.)

Further Possibilities: Read about the famous oceanographer, Jacques Cousteau and discuss his contributions to the study and appreciation of the ocean.

LESSON PLAN

10

Skills: culture, nourishment, commerce

Preparation: shop for the tunafish sandwich makings, paper plates and napkins; obtain several star-shaped cookie cutters

Materials: map of the world

Resources: Famous Seaweed Soup, by Antoinette Martin; It's Disgusting—And We Ate It!, by James Solheim; Lobster for Lunch, by Bob Hartman; Shellfish Aren't Fish, by Allan Fowler

Funsheets: Kindergarten, Science 5

Got Fish?

Objective: Students will be aware of the vast resource of foods that come from the oceans.

Introduction: On the map, point out that countries that border oceans (specifically say, Japan, China, Italy, Mexico) depend on the ocean for nourishment and have strong seafood-based culinary traditions.

Read: One or two of the books mentioned at left.

Procedure:

1. Have students brainstorm all the foods they can think of that come from the ocean, noting the ones that may be local. Write them on the board. Samples: canned tuna, sardines, anchovies, sushi, ceviche, fish sticks, clam chowder, clams and oysters on the half shell, clam sauce, smoked salmon, fried catfish, and caviar.
2. Ask students to pretend they are restaurant owners and to design and illustrate a menu featuring ocean foods. Use the Fact Files and old magazines for picture ideas to illustrate their menus.
3. Read the label from the can of tuna aloud to the class or have a student read it. Consider the ingredients, the nutritional content, calories, etc. Together, make a batch of tuna salad (tuna, mayo, pickle relish, salt and pepper). Then make sandwiches on whole wheat bread and cut out with a star-shaped cookie cutter for an afternoon snack.

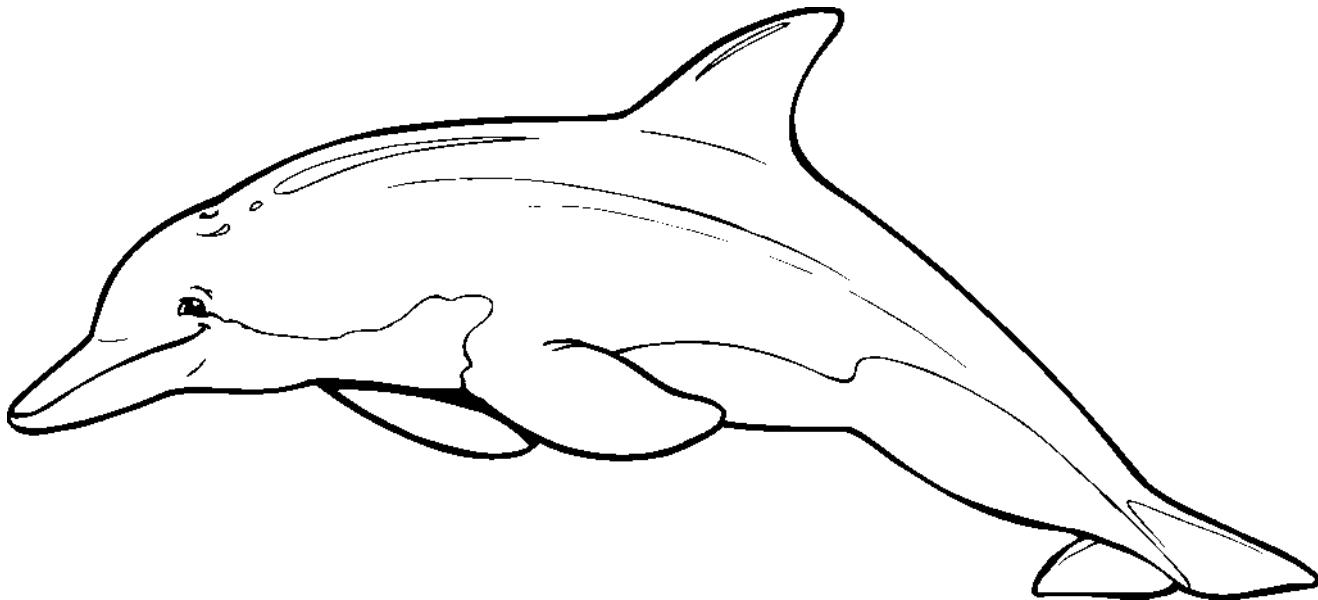
Conclusion: Talk about other careers and work opportunities revolving around fish and other seafoods. Fish market manager, fisherman, shrimp importer, working in a cannery or fish market.

Further Possibilities: There are many other products that come from the oceans. Pearls, beads, mother-of-pearl, agar (a thickener used as a substitute for gelatin). A visit to an oriental market would be an eye opener for children, seeing the fresh seafood and also the many varieties of canned, dried, pickled, and preserved fish, shellfish, seaweed products. Perhaps you could make the visit and bring to the classroom a sampling of the preserved products.

Name _____

Bottle-nosed Dolphin

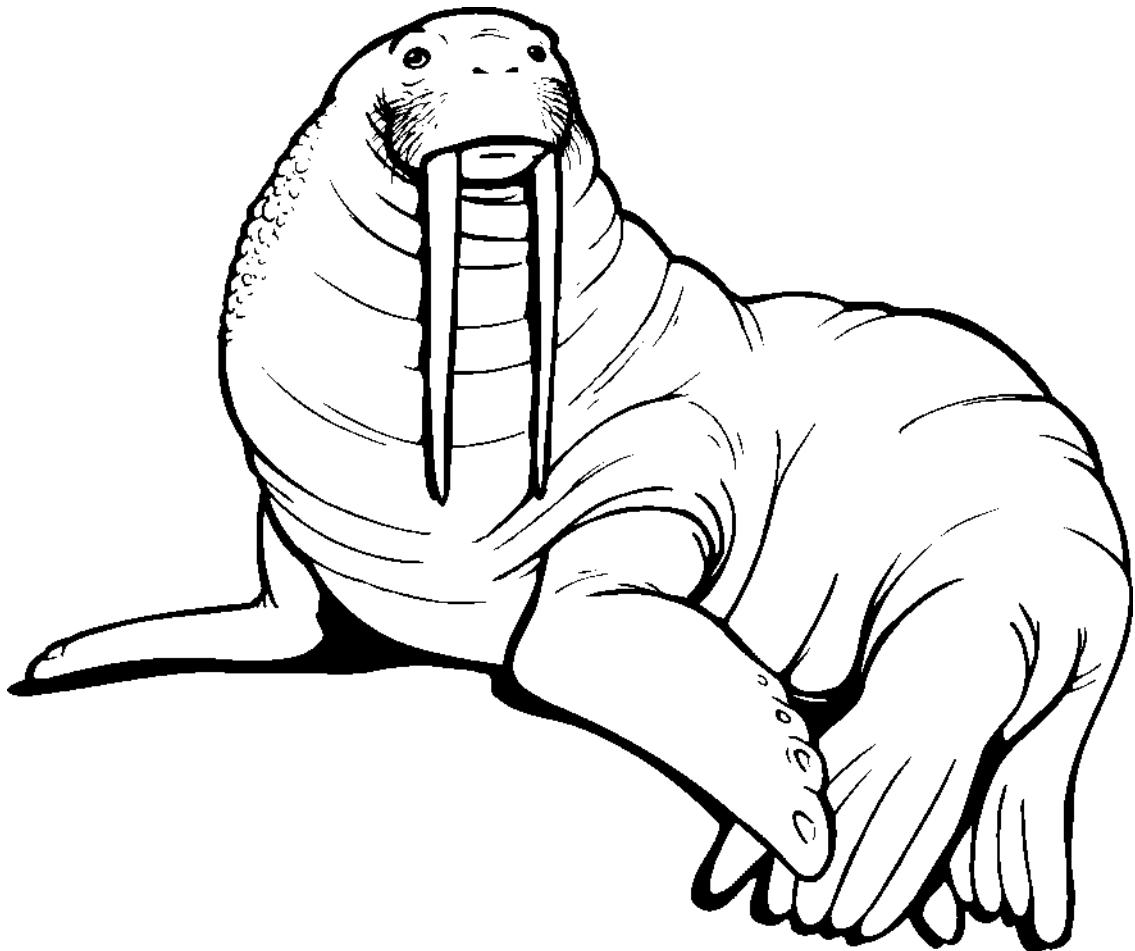
<u>Group:</u>	Mammal
<u>Order:</u>	<i>Cetacea</i>
<u>Height:</u>	3-4.2 meters (10-14 feet)
<u>Weight:</u>	160-270 kilograms (350-600 pounds)
<u>Type of feeder:</u>	meat eater (carnivore)
<u>Food:</u>	fish, shrimp and squid
<u>Where it lives:</u>	temperate and tropical coastal waters
<u>Number of young:</u>	1
<u>Lifespan:</u>	25-30 years
<u>Other facts:</u>	Dolphins are very intelligent. They communicate by sound, clicking and whistling.



Name _____

Walrus

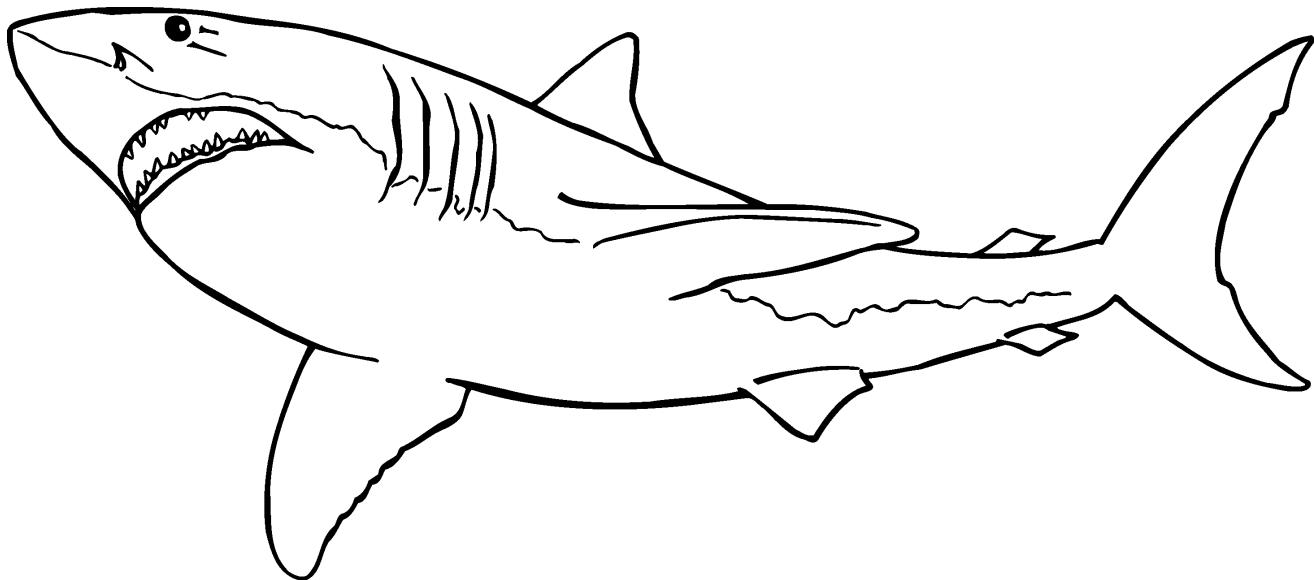
<u>Group:</u>	Mammal
<u>Order:</u>	<i>Pinnipedia</i>
<u>Length:</u>	2.7–3.5 meters (9–11.5 feet)
<u>Weight:</u>	815–1675 kilograms (1,793–3,696 pounds)
<u>Type of feeder:</u>	meat eater (carnivore)
<u>Food:</u>	shellfish, fish and seastars
<u>Where it lives:</u>	Arctic Ocean
<u>Number of young:</u>	1
<u>Lifespan:</u>	up to 40 years
<u>Other facts:</u>	The walrus is a huge animal, with a lot of fat to keep it warm in the icy seas where it lives. They are good swimmers and spend most of their time in the water.



Name _____

Great White Shark

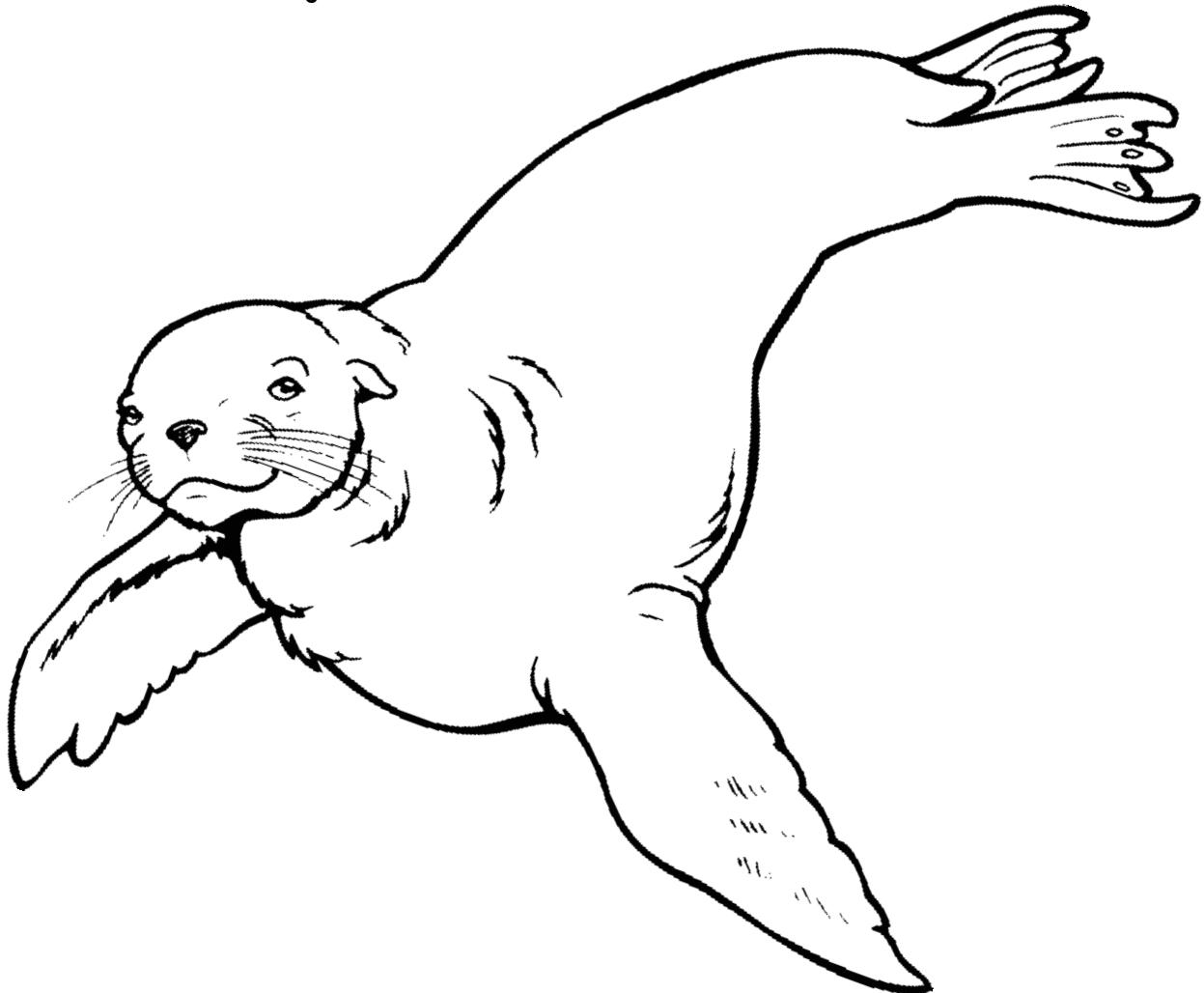
<u>Group:</u>	Fish
<u>Order:</u>	<i>Lamniformes</i>
<u>Length:</u>	up to 6 meters (19.75 feet)
<u>Weight:</u>	2,700–3,200 kilograms (5,940–7,040 pounds)
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	fish, seals, dolphins
<u>Where it lives:</u>	warm waters of the Atlantic, Pacific and Indian oceans
<u>Number of young:</u>	1 to 2
<u>Lifespan:</u>	30–50 years
<u>Other facts:</u>	The Great White shark is a very large and aggressive shark.



Name _____

California Sea Lion

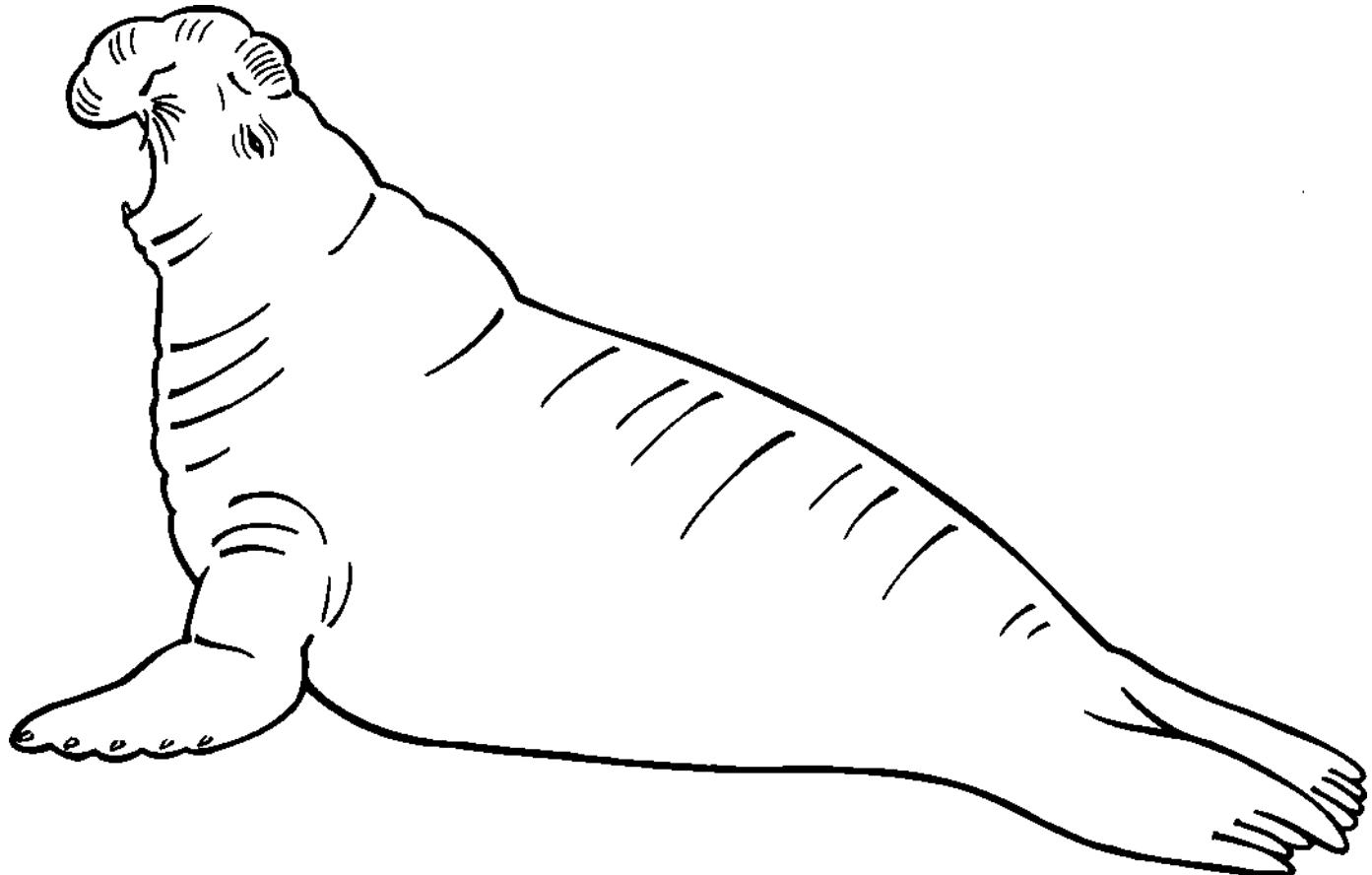
<u>Group:</u>	Mammal
<u>Order:</u>	<i>Pinnipedia</i>
<u>Height:</u>	1.7–2 meters (5.5–7 feet)
<u>Weight:</u>	272 kilograms (600 pounds)
<u>Type of feeder:</u>	meat eater (carnivore)
<u>Food:</u>	fish, octopus and squid
<u>Where it lives:</u>	Pacific coast, Canada to Mexico
<u>Number of young:</u>	1
<u>Lifespan:</u>	10–15 years
<u>Other facts:</u>	Sea Lions are great swimmers. They are intelligent and can be taught to do tricks.



Name _____

Northern Elephant Seal

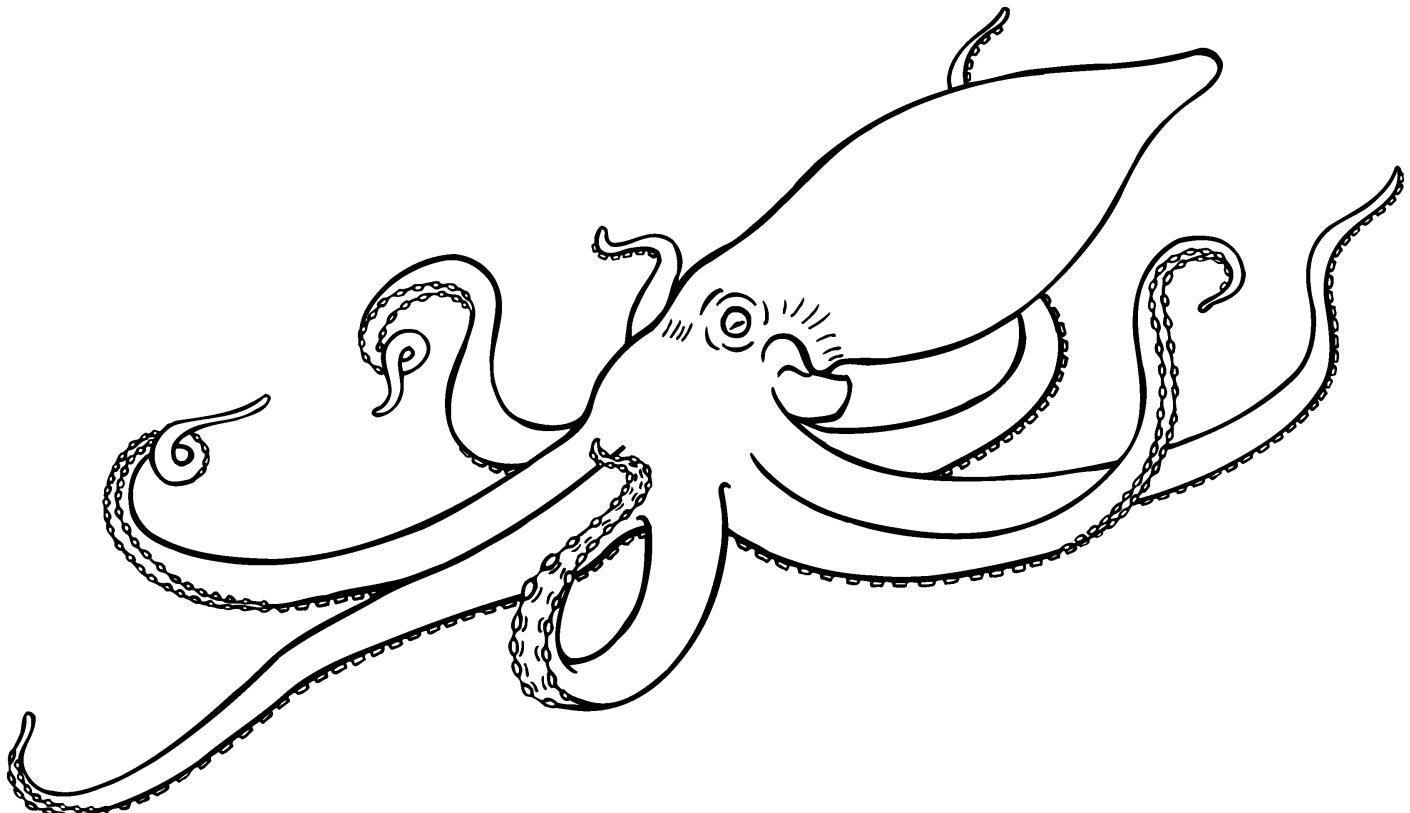
<u>Group:</u>	Mammal
<u>Order:</u>	<i>Pinnipedia</i>
<u>Length:</u>	3–6 meters (9.75–19.75 feet)
<u>Weight:</u>	900–2,700 kilograms (2,000–6,000 pounds)
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	fish and squid
<u>Where it lives:</u>	Pacific coast, southern US to Canada
<u>Number of young:</u>	1
<u>Lifespan:</u>	15–20 years
<u>Other facts:</u>	Elephant seals use their large noses to make loud sounds as they defend their territory.



Name _____

Octopus

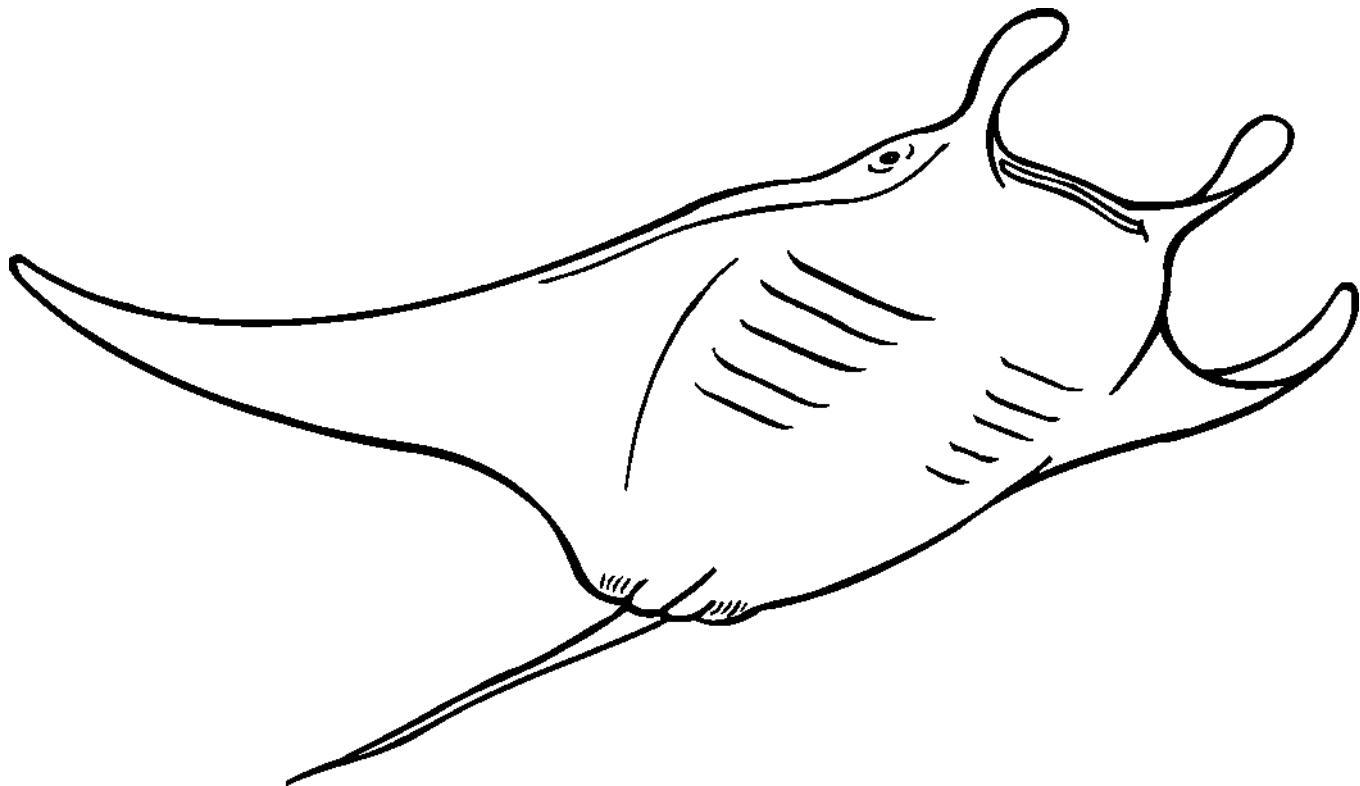
<u>Group:</u>	Invertebrate
<u>Order:</u>	<i>Octopoda</i>
<u>Length:</u>	up to 3 meters (10 feet)
<u>Weight:</u>	up to 25 kilograms (55 pounds)
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	crabs, crayfish, mollusks
<u>Where it lives:</u>	warm oceans worldwide
<u>Number of young:</u>	female lays up to 150,000 eggs
<u>Lifespan:</u>	the female may only live for 2 years; males live longer
<u>Other facts:</u>	The octopus can release a cloud of black ink to provide cover while it escapes from enemies.



Name _____

Manta Ray

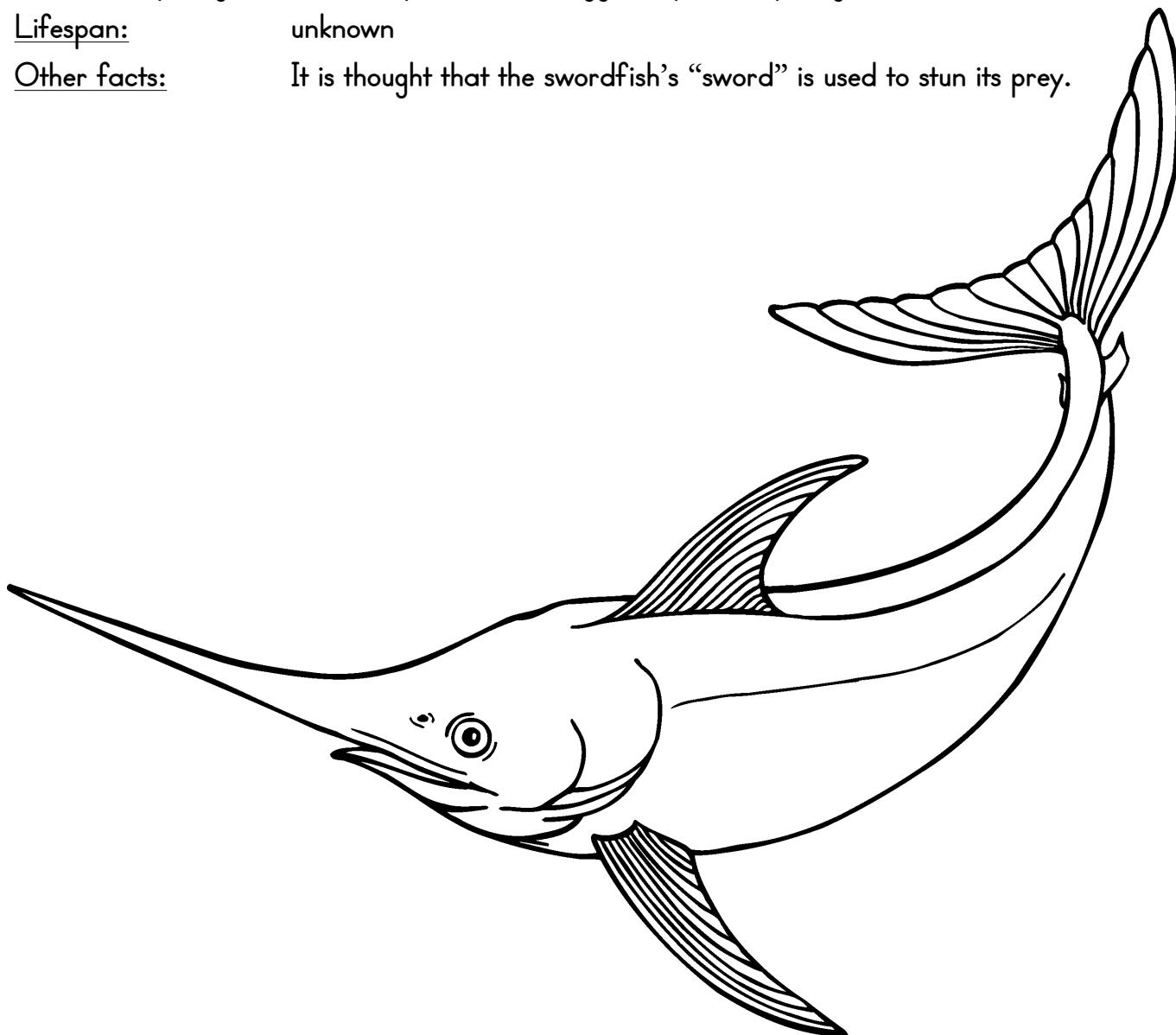
<u>Group:</u>	Fish
<u>Order:</u>	<i>Rajiformes</i>
<u>Length:</u>	5.2 meters (17 feet)
<u>Weight:</u>	up to 455 kilograms (1,000 pounds)
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	plankton, crustaceans, fish
<u>Where it lives:</u>	Atlantic Ocean
<u>Number of young:</u>	1
<u>Lifespan:</u>	unknown
<u>Other facts:</u>	The manta ray uses its "wings" to swim rather than fly, but it does sometimes leap into the air when playing.



Name _____

Swordfish

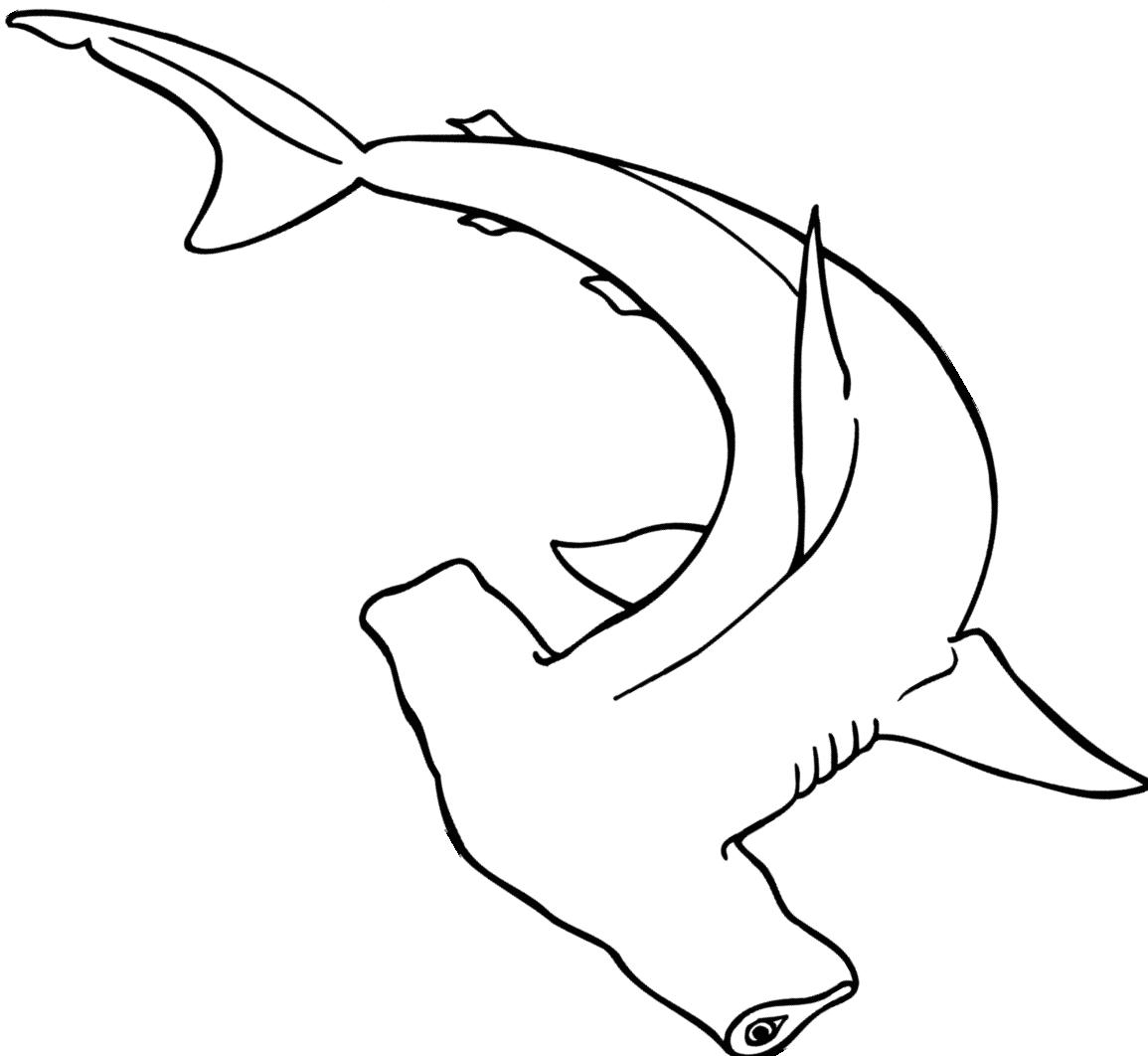
<u>Group:</u>	Fish
<u>Order:</u>	<i>Perciformes</i>
<u>Length:</u>	2–4.9 meters (6.5–16 feet)
<u>Weight:</u>	up to 455 kilograms (1,000 pounds)
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	small fish and squid
<u>Where it lives:</u>	temperate and tropical seas
<u>Number of young:</u>	female lays millions of eggs; only a few young survive
<u>Lifespan:</u>	unknown
<u>Other facts:</u>	It is thought that the swordfish's "sword" is used to stun its prey.



Name _____

Hammerhead Shark

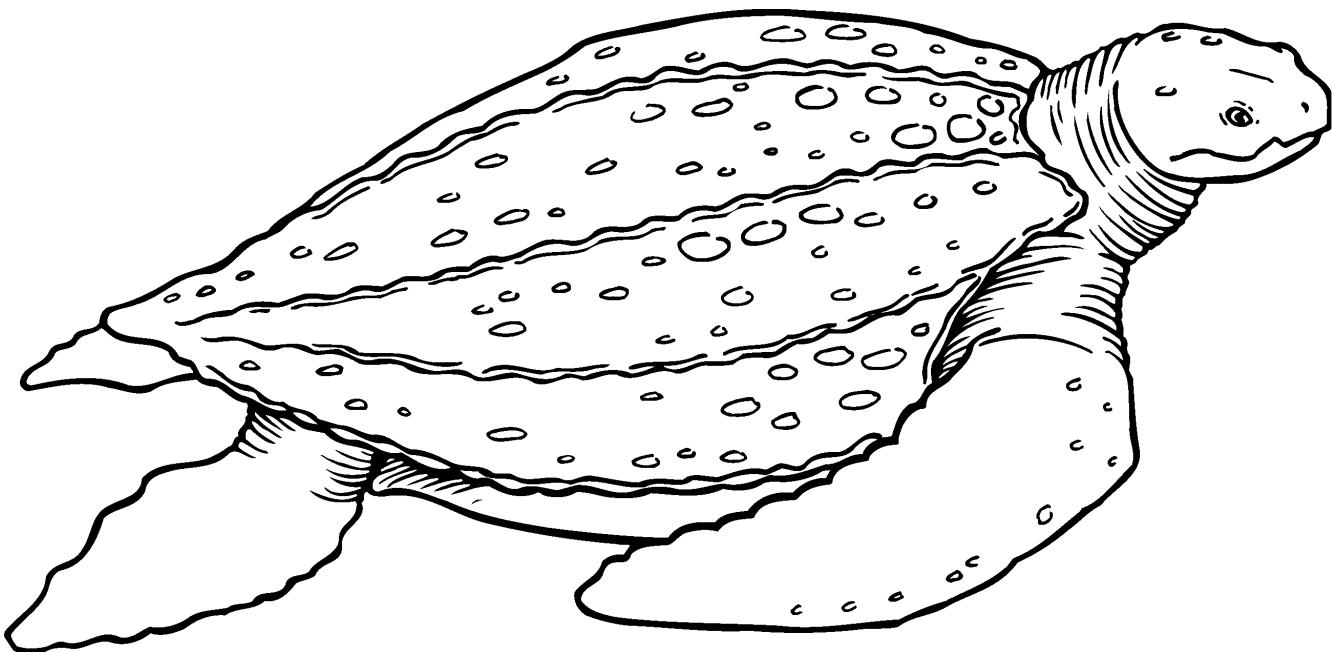
<u>Group:</u>	Fish
<u>Order:</u>	<i>Lamniformes</i>
<u>Length:</u>	4.3 meters (14 feet)
<u>Weight:</u>	225-900 kilograms (495-1,980 pounds)
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	fish (mostly rays)
<u>Where it lives:</u>	tropical and warm temperate oceans
<u>Number of young:</u>	10-30
<u>Lifespan:</u>	20-30 years
<u>Other facts:</u>	The hammerhead's eyes are on either end of its head, which may improve its ability to see prey.



Name _____

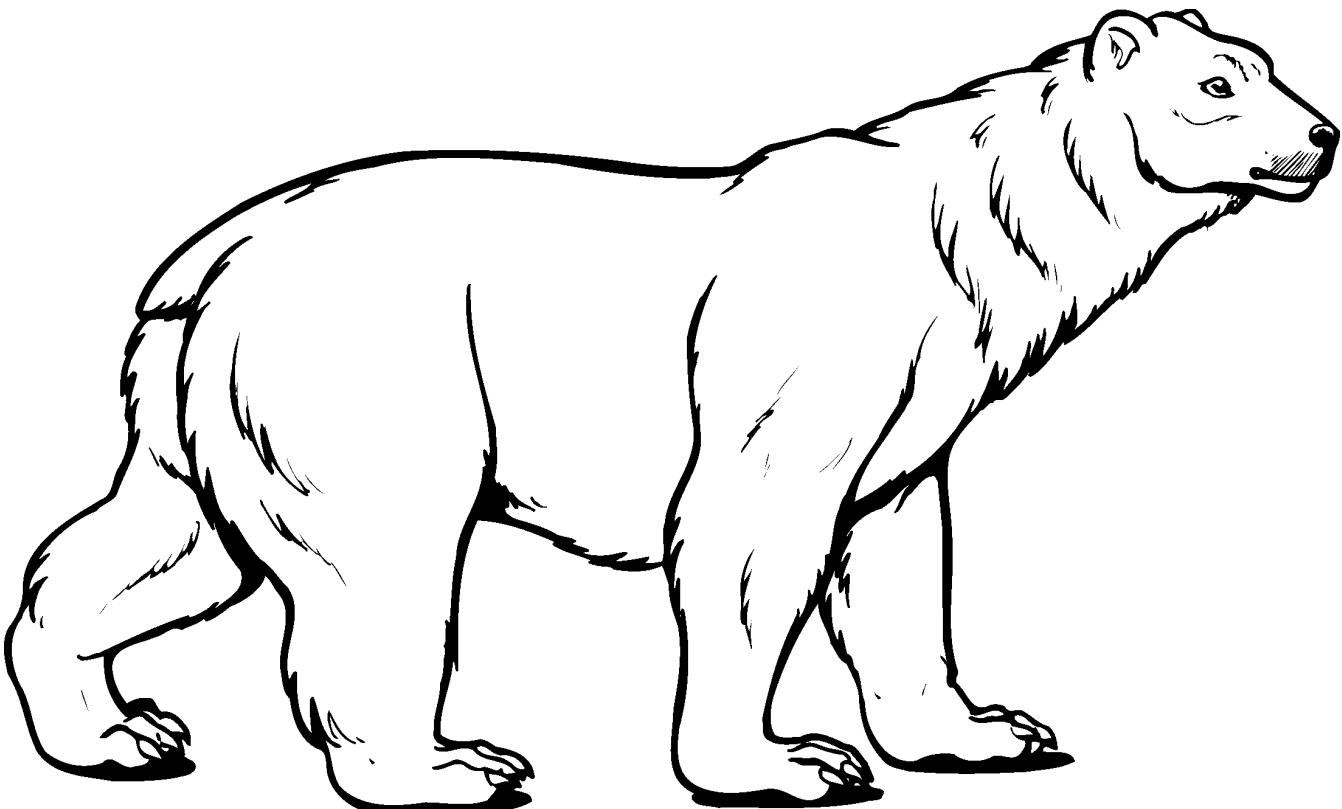
Leatherback Turtle

<u>Group:</u>	Reptile
<u>Order:</u>	<i>Chelonia</i>
<u>Length:</u>	1.2–2.1 meters (4–7 feet)
<u>Weight:</u>	360–590 kilograms (800–1300 pounds)
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	jellyfish and shellfish
<u>Where it lives:</u>	worldwide, in warmer ocean waters
<u>Number of young:</u>	female lays 80–100 eggs at a time
<u>Lifespan:</u>	possibly 100 years
<u>Other facts:</u>	The leatherback is the world's largest turtle.



Polar Bear

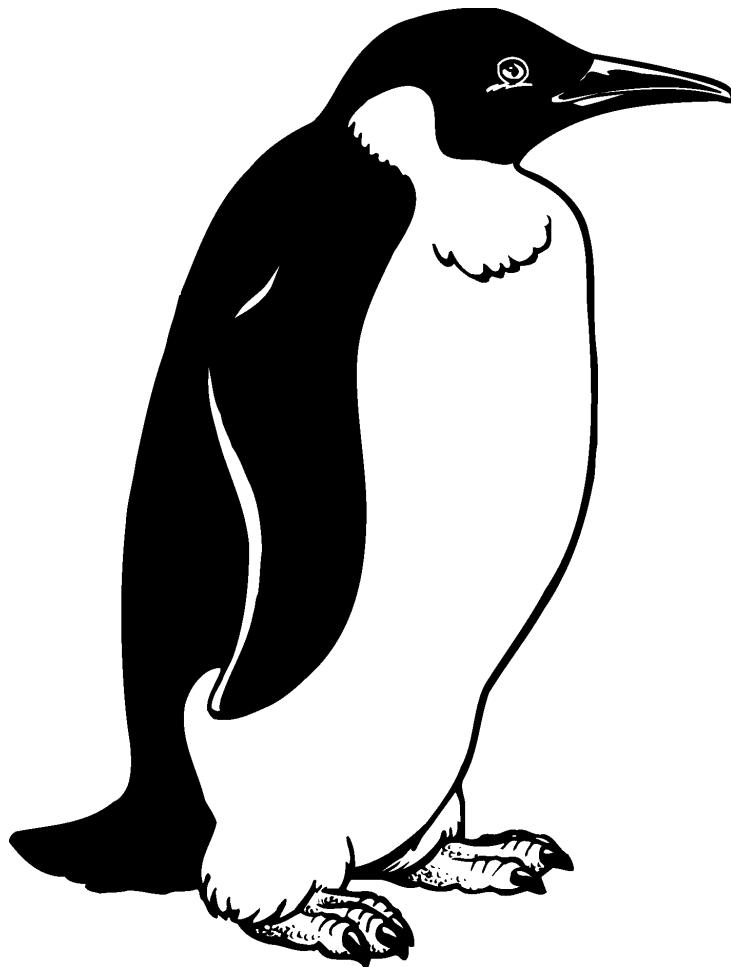
<u>Group:</u>	Mammal
<u>Order:</u>	<i>Carnivora</i>
<u>Length:</u>	2.4-3 meters (7.9-9.9 feet)
<u>Weight:</u>	male: 725 kilograms (1,595 pounds) female: 250 kilograms (548 pounds)
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	seals
<u>Where it lives:</u>	Arctic Ocean
<u>Number of young:</u>	1 to 4
<u>Lifespan:</u>	15-18 years
<u>Other facts:</u>	Although the polar bear lives around the Arctic Circle, it is so well insulated that it must dive into the frigid ocean in the summer to keep from overheating.



Name _____

Emperor Penguin

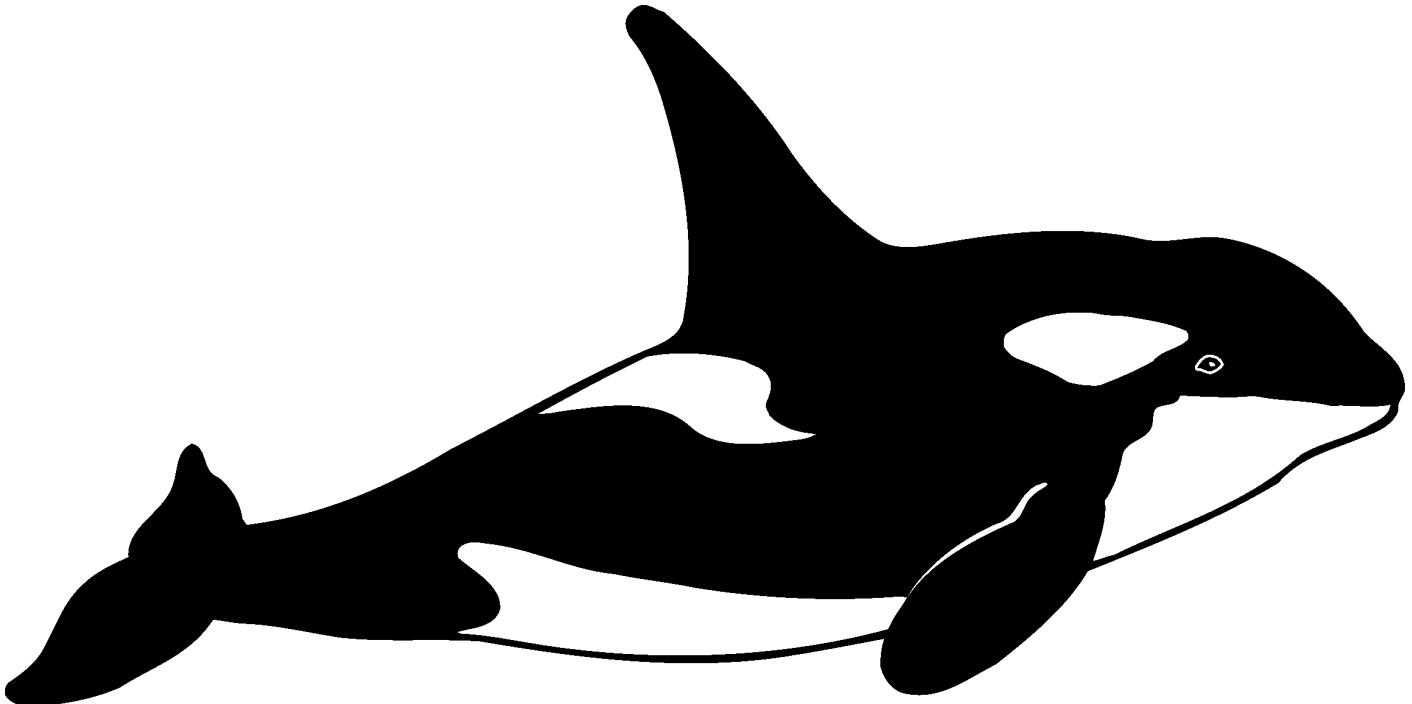
<u>Group:</u>	Bird
<u>Order:</u>	<i>Sphenisciformes</i>
<u>Height:</u>	1.2 meters (4 feet)
<u>Weight:</u>	male: 36.3 kilograms (80 pounds)
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	fish and squid
<u>Where it lives:</u>	Antarctic
<u>Number of young:</u>	1
<u>Lifespan:</u>	20 years
<u>Other facts:</u>	Penguins cannot fly but they are great swimmers. They use their wings as paddles and their webbed feet help them move fast through the water.



Name _____

Killer Whale

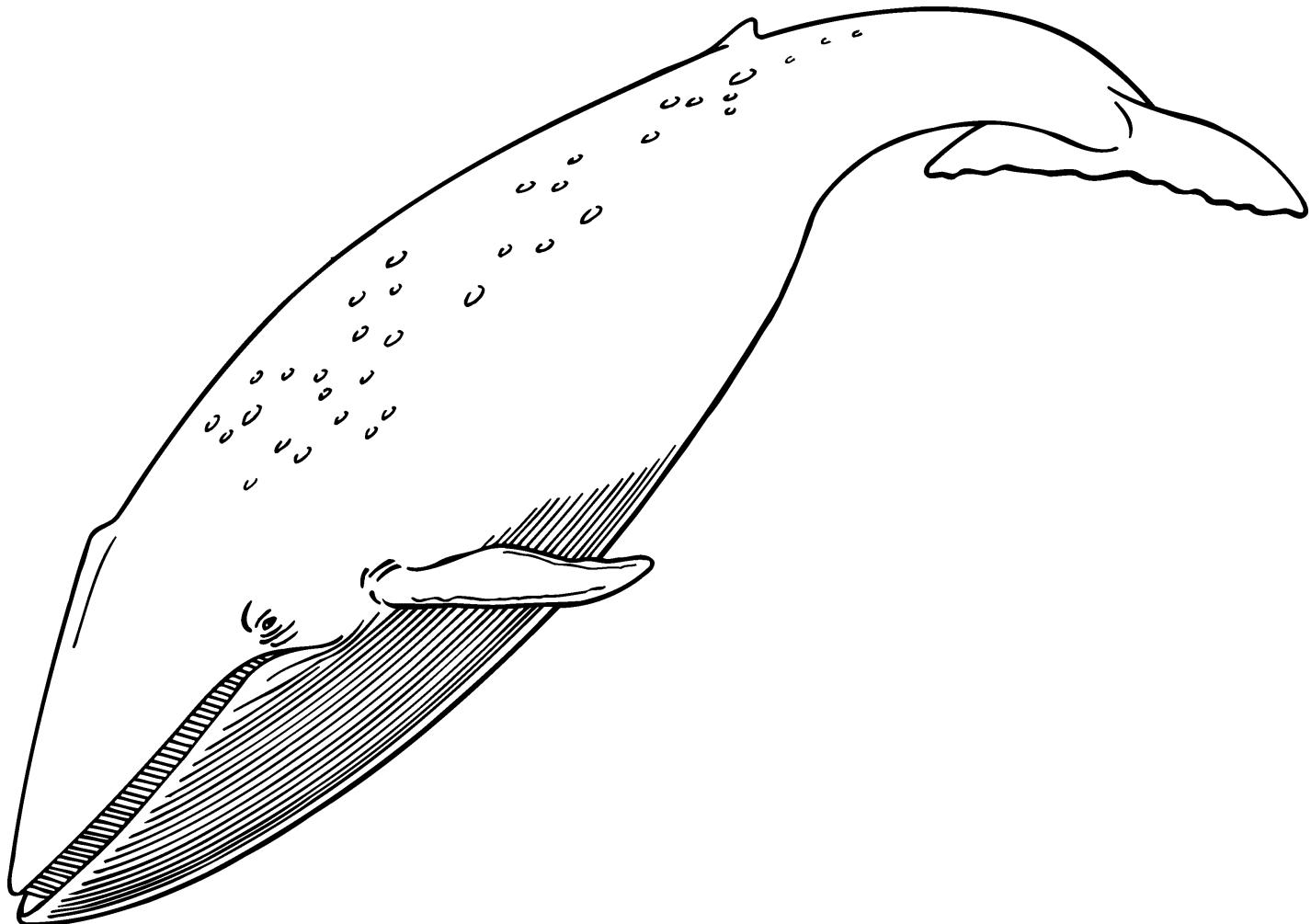
<u>Group:</u>	Mammal
<u>Order:</u>	<i>Cetacea</i>
<u>Length:</u>	7–9.7 meters (23–32 feet)
<u>Weight:</u>	5,490–7,680 kilograms (12,100–16,940 pounds)
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	fish, squid, sea lions, birds, other whales
<u>Where it lives:</u>	cooler oceans
<u>Number of young:</u>	1
<u>Lifespan:</u>	30 years
<u>Other facts:</u>	The killer whale lives and hunts in large family groups.



Name _____

Blue Whale

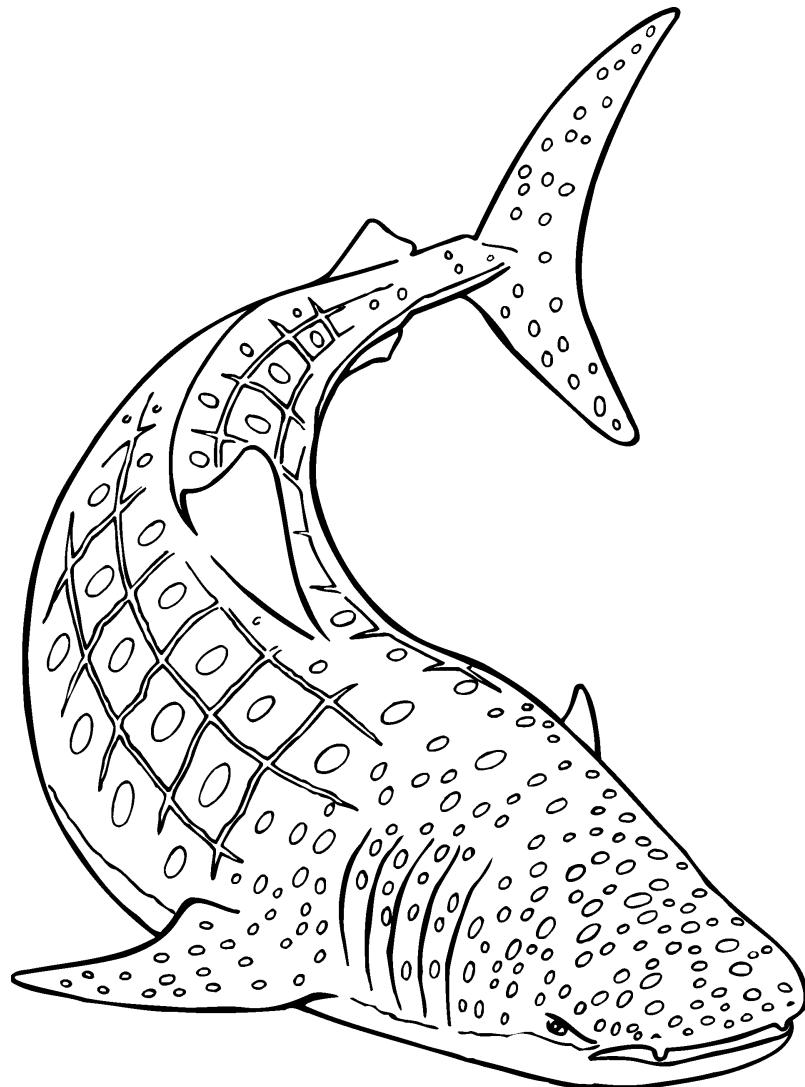
<u>Group:</u>	Mammal
<u>Order:</u>	<i>Cetacea</i>
<u>Length:</u>	25-32 meters (82-105 feet)
<u>Weight:</u>	79,500-130,000 kilograms (175,000-285,000 pounds)
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	plankton (microscopic sea creatures)
<u>Where it lives:</u>	sparsely distributed in all oceans
<u>Number of young:</u>	1
<u>Lifespan:</u>	80 years
<u>Other facts:</u>	The blue whale is the largest mammal ever to exist.



Name _____

Whale Shark

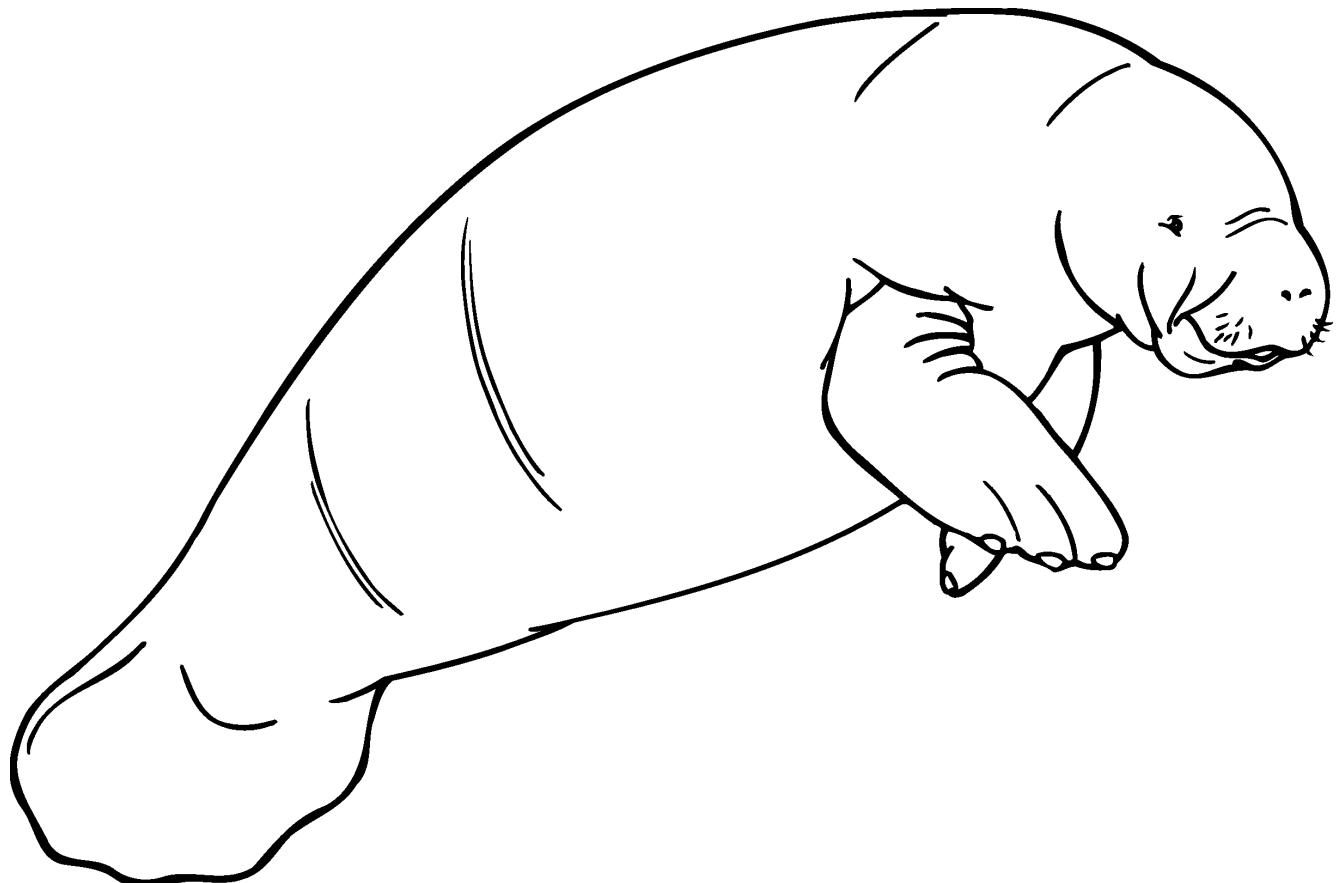
<u>Group:</u>	Fish
<u>Order:</u>	<i>Lamniformes</i>
<u>Length:</u>	15.2–18 meters (50–60 feet)
<u>Weight:</u>	as much as 13,600 kilograms (15 tons)
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	small fish and plankton (microscopic sea creatures)
<u>Where it lives:</u>	all tropical seas
<u>Number of young:</u>	unknown
<u>Lifespan:</u>	unknown
<u>Other facts:</u>	The whale shark is the largest living fish. Little is known about it.



Name _____

Manatee

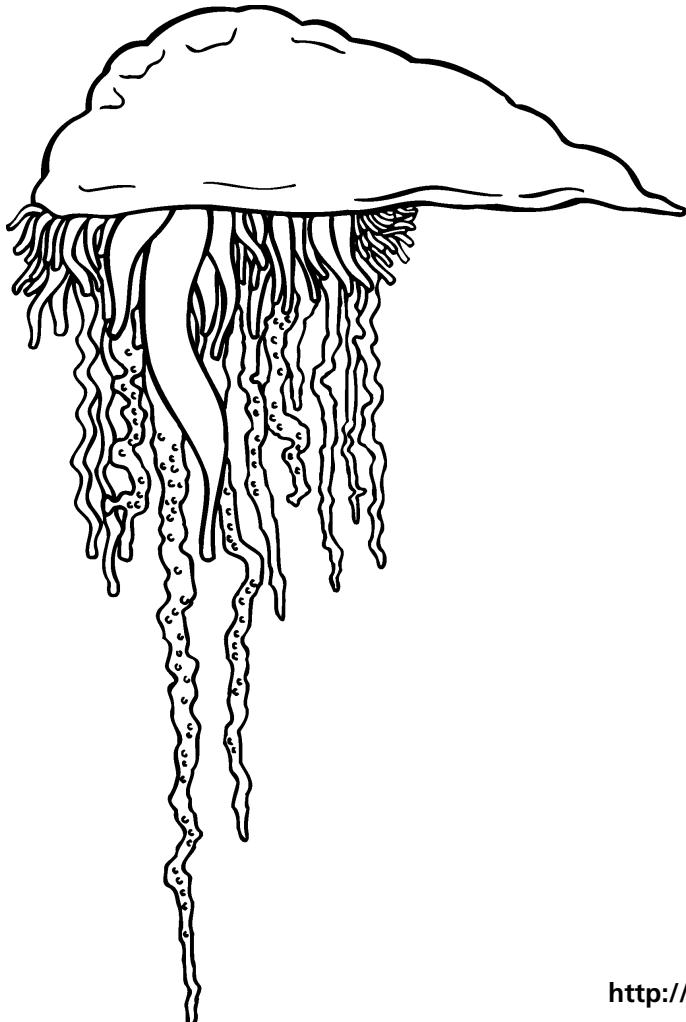
<u>Group:</u>	Mammal
<u>Order:</u>	<i>Sirenia</i>
<u>Length:</u>	2.4–4.6 meters (8–15 feet)
<u>Weight:</u>	200–1,600 kilograms (440–3,520 pounds)
<u>Type of Feeder:</u>	plant eater (vegetarian)
<u>Food:</u>	floating vegetation and seaweeds
<u>Where it lives:</u>	Atlantic and Caribbean coastlines
<u>Number of young:</u>	1
<u>Lifespan:</u>	30 years
<u>Other facts:</u>	Manatees are gentle and slow-moving, rarely showing aggression toward other animals.



Name _____

Portuguese Man-of-War

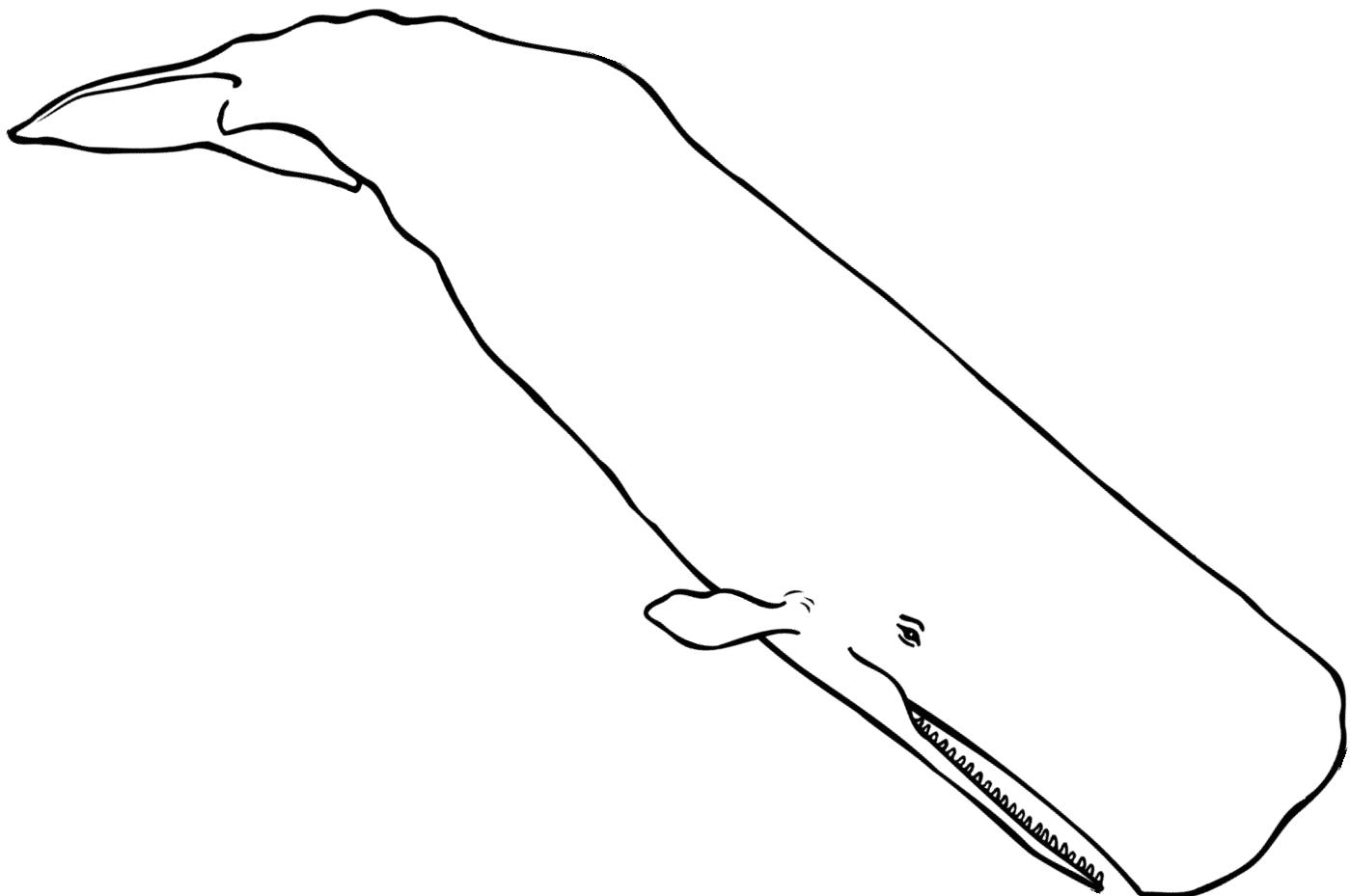
<u>Group:</u>	Invertebrate
<u>Order:</u>	<i>Hydrozoa</i>
<u>Length:</u>	Float length can be up to .30 meters (12 inches) Tentacle length can be 9-61 meters (30-200 feet)
<u>Weight:</u>	varies
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	fish
<u>Where it lives:</u>	Atlantic Ocean
<u>Number of young:</u>	millions
<u>Lifespan:</u>	unknown
<u>Other facts:</u>	The man-of-war is actually made up of many simple animals called polyps. It uses stinging tentacles to stun its prey.



Name _____

Sperm Whale

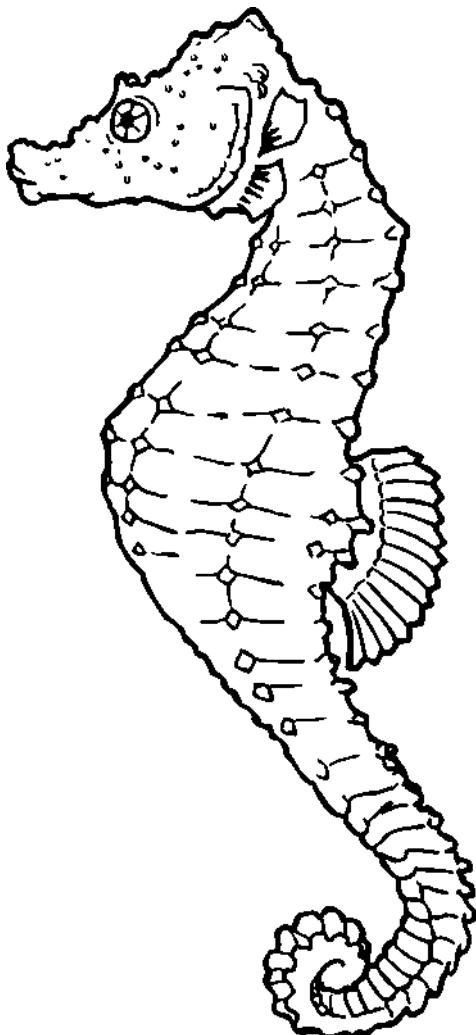
<u>Group:</u>	Mammal
<u>Order:</u>	<i>Cetacea</i>
<u>Length:</u>	11-20 meters (36-66 feet)
<u>Weight:</u>	36,280 kilograms (80,000 pounds)
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	mostly squid, some fish
<u>Where it lives:</u>	temperate and tropical oceans
<u>Number of young:</u>	1
<u>Lifespan:</u>	70 years
<u>Other facts:</u>	Sperm whales dive to more than 1,000 meters (3,300 feet) in pursuit of their main prey, the giant squid.



Name _____

Sea Horse

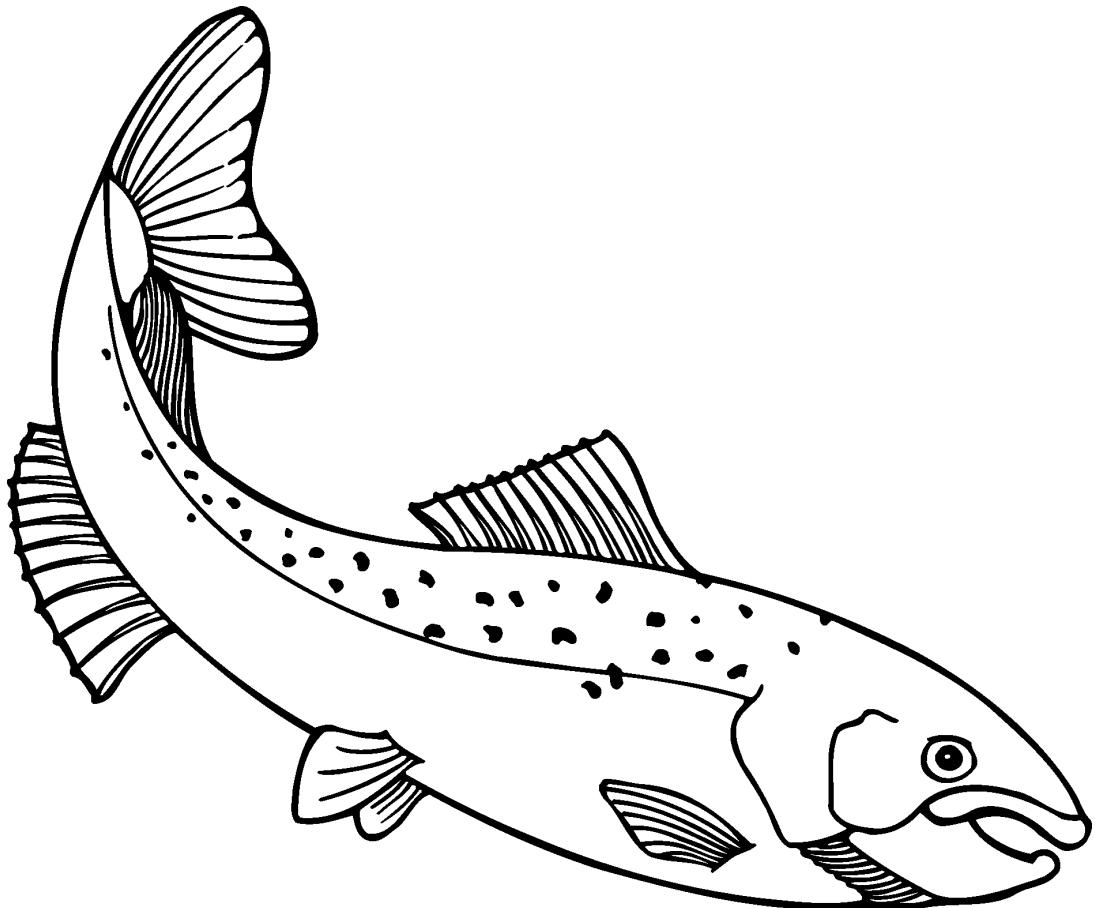
<u>Group:</u>	Fish
<u>Order:</u>	<i>Gasterosteiformes</i>
<u>Length:</u>	2.5-36 centimeters (1 - 14 inches)
<u>Weight:</u>	Up to 8 ounces
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	plankton, crustaceans, tiny fish
<u>Where it lives:</u>	warm temperate oceans
<u>Number of young:</u>	200 to 300 per brood; up to six broods per season
<u>Lifespan:</u>	Up to 4 years
<u>Other facts:</u>	The male sea horse keeps the female's eggs in his brood pouch and carries them until they hatch.



Name _____

Atlantic Salmon

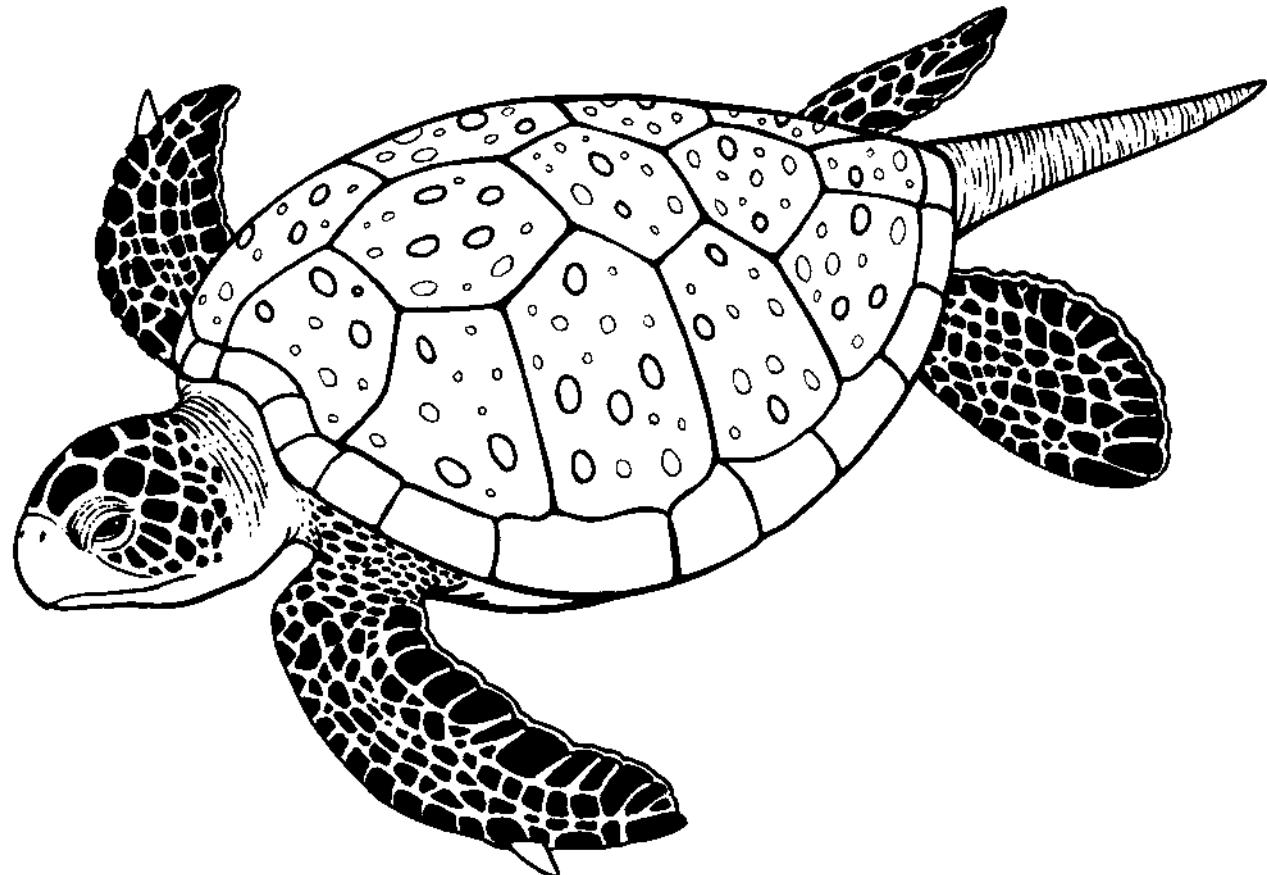
<u>Group:</u>	Fish
<u>Order:</u>	<i>Salmoniformes</i>
<u>Length:</u>	up to 1.5 meters (5 feet)
<u>Weight:</u>	3.6–22.6 kilograms (8–50 pounds)
<u>Type of Feeder:</u>	meat eater (carnivore)
<u>Food:</u>	other fish, mollusks and crustaceans
<u>Where it lives:</u>	North Atlantic Ocean
<u>Number of young:</u>	female may lay thousands of eggs
<u>Lifespan:</u>	up to 10 years or more
<u>Other facts:</u>	Salmon leave the ocean and swim up rivers to lay their eggs. Many times they will return to the river where they were born.



Name _____

Green Turtle

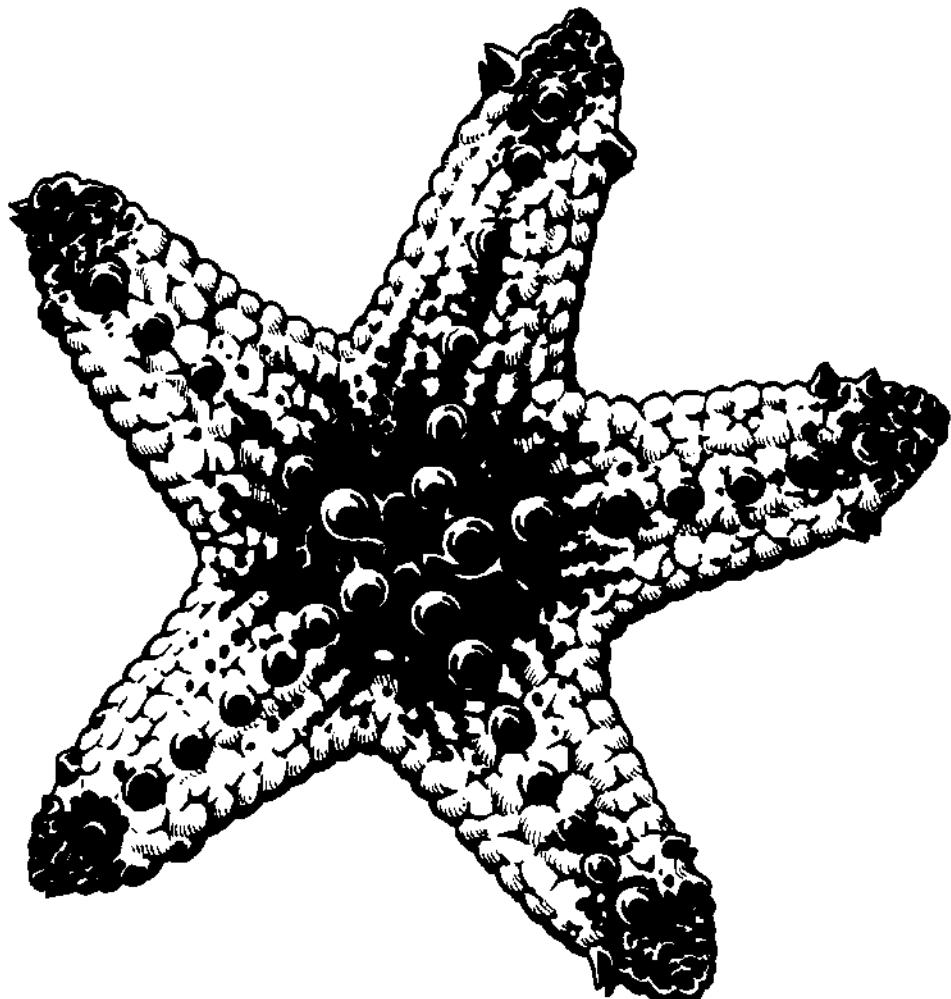
<u>Group:</u>	Reptile
<u>Order:</u>	<i>Chelonia</i>
<u>Length:</u>	0.9-1.2 meters (3-4 feet)
<u>Weight:</u>	90-137 kilograms (200-300 pounds)
<u>Type of Feeder:</u>	plant eaters (herbivores) as adults
<u>Food:</u>	sea grasses and algae; young turtles also eat worms, young crustaceans, and insects
<u>Where it lives:</u>	worldwide, in warmer ocean waters
<u>Number of young:</u>	female lays over 100 eggs at a time
<u>Lifespan:</u>	possibly 80 years
<u>Other facts:</u>	Female green turtles have smaller tails than males and lack the claws that males have on their front flippers.



Name _____

Five-Armed Sea Star

<u>Group:</u>	Invertebrate
<u>Order:</u>	<i>Astroidea</i>
<u>Length:</u>	6 to 14 inches
<u>Type of Feeder:</u>	Carnivore
<u>Food:</u>	Corals, clams, mussels, sea urchins
<u>Where it lives:</u>	Tide pools and rocky shores
<u>Number of young:</u>	Can lay up to 2 million eggs at one time
<u>Other facts:</u>	Pentamerous (five part) radially symmetrical, with mouth located in the underside central part of body. Can regenerate injured or missing body parts.



Name _____

Coral (Polyps)

<u>Group:</u>	Invertebrate (Cnidaria)
<u>Order:</u>	<i>Anthozoa</i>
<u>Length:</u>	.04-0.12 inches (1-3 mm)
<u>Type of Feeder:</u>	Carnivore
<u>Food:</u>	Plankton
<u>Where it lives:</u>	In colonies, in warm shallow waters of the tropics and subtropics
<u>Other facts:</u>	Cells at the base of each polyp take lime from the sea water to build up a stony skeleton. These are the corals that form great reefs.



Name _____

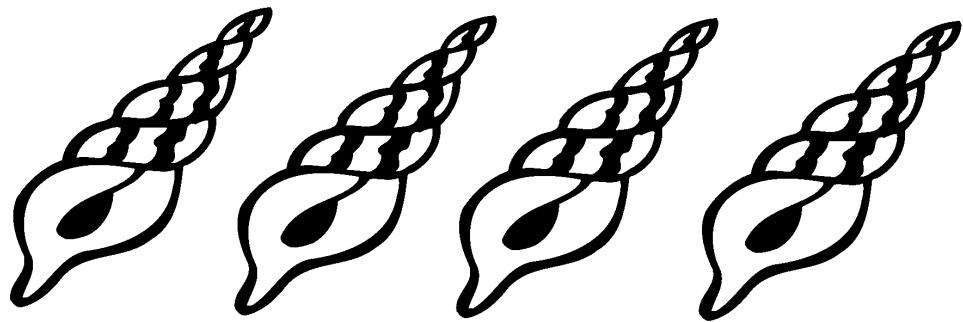
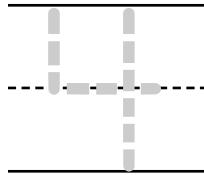
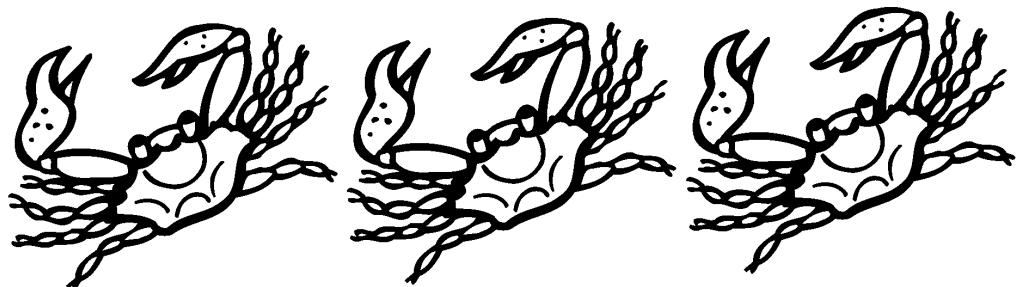
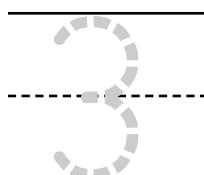
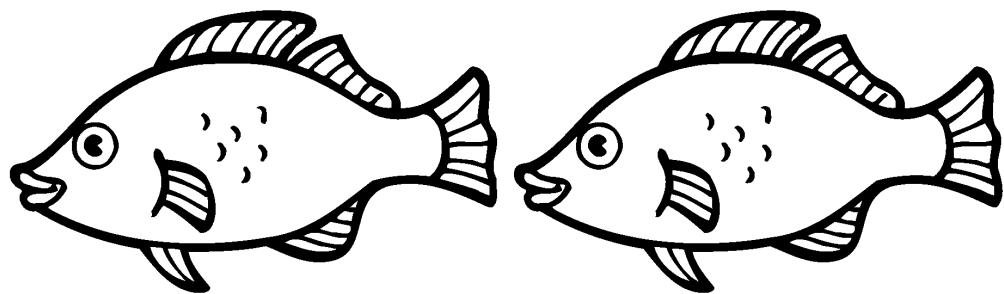
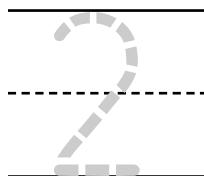
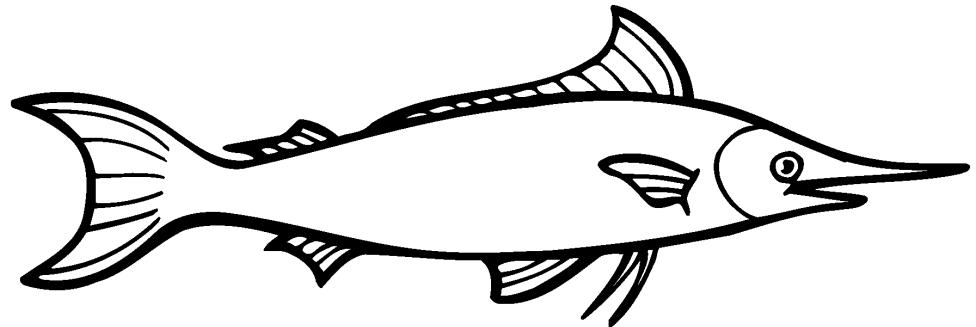
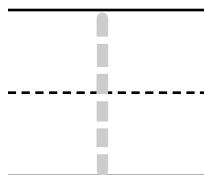
INSTRUCTIONS: Ask the student to find and color the six fish in this picture.



SKILL: FIND HIDDEN OBJECTS AND COUNT TO SIX

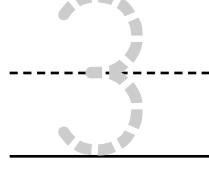
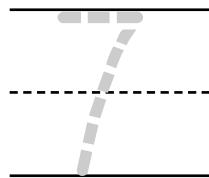
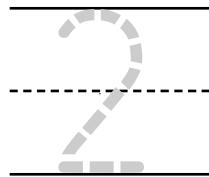
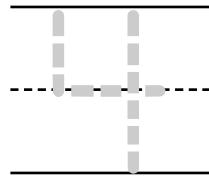
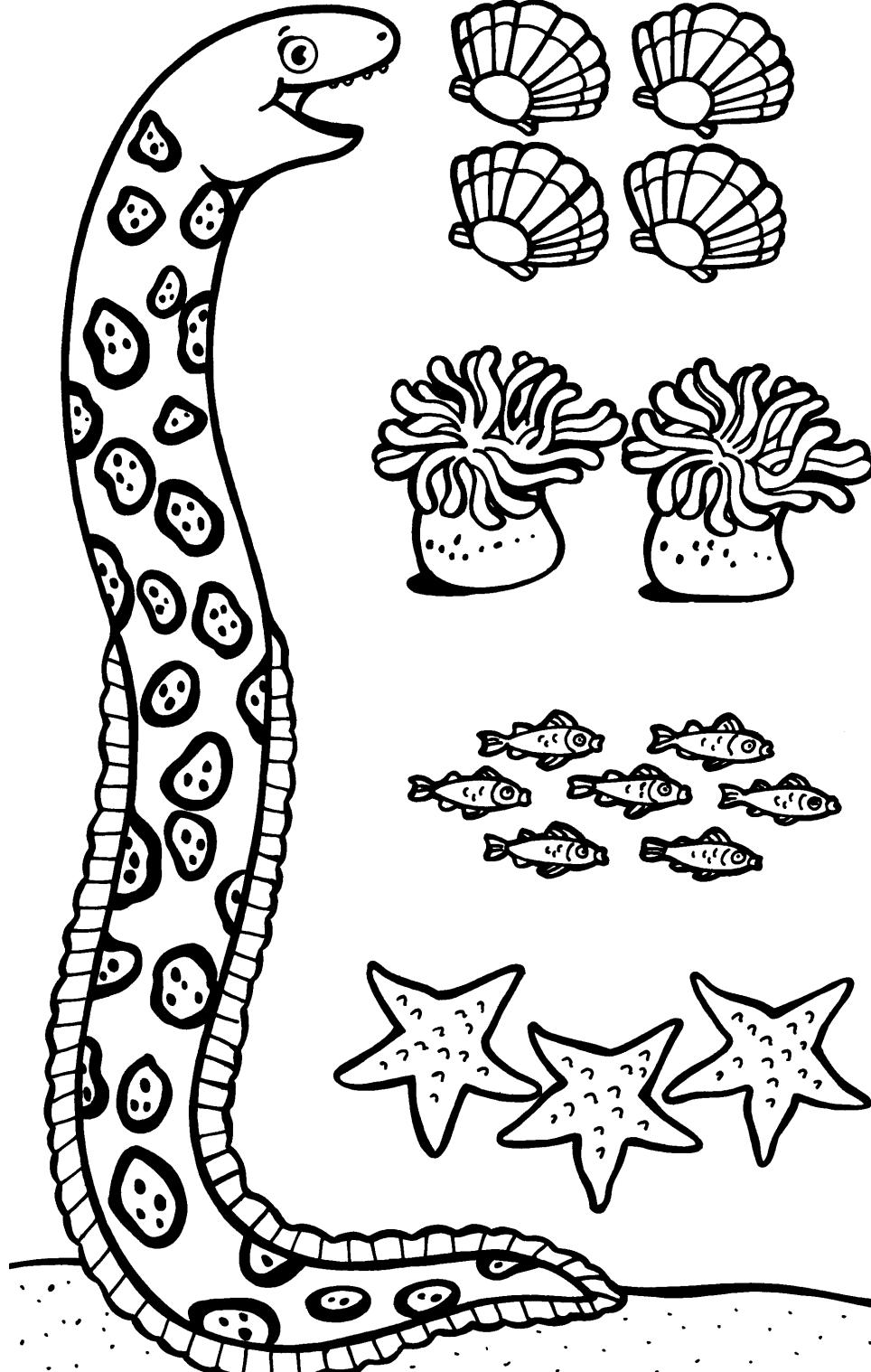
Name _____

INSTRUCTIONS: Ask the student to trace the number to the left of the picture and to count the number of sea creatures.



Name _____

INSTRUCTIONS: Ask the student to count and color the ocean creatures below. Then ask the student to write the number to the right of each group.



Name _____

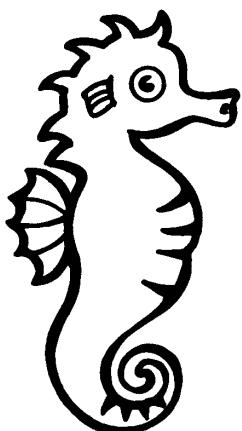
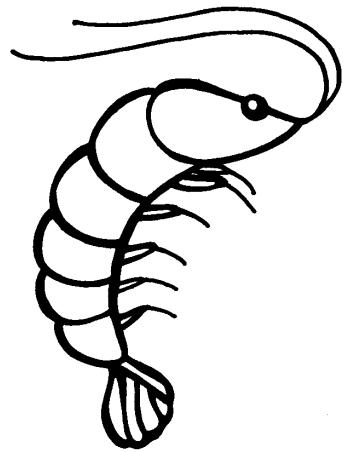
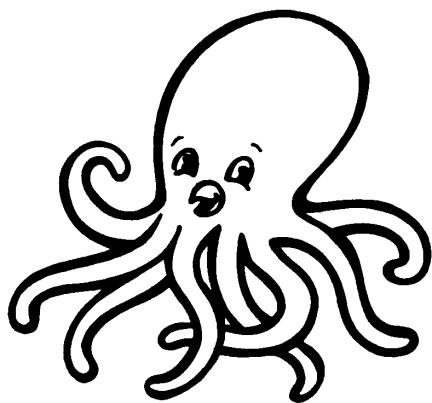
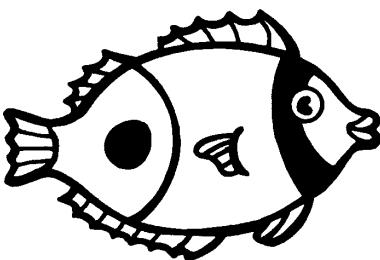
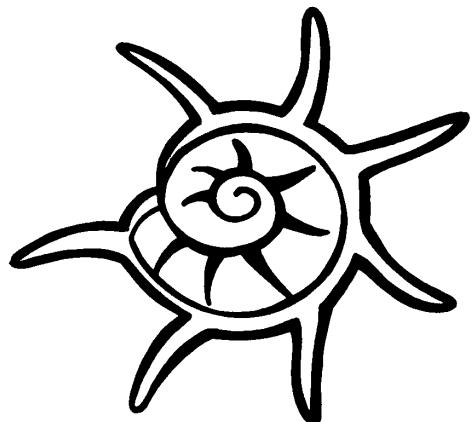
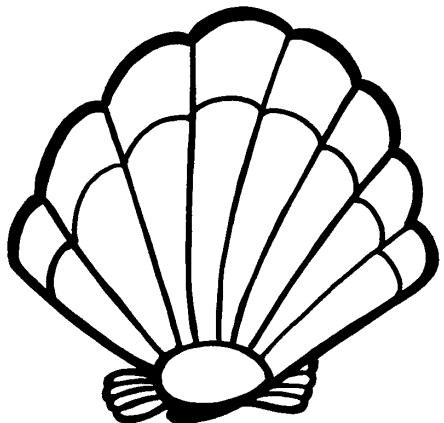
INSTRUCTIONS: Ask the student to count the baby sea turtles and color them green. Have the student write the number of turtles.



SKILL: COUNT 1-10

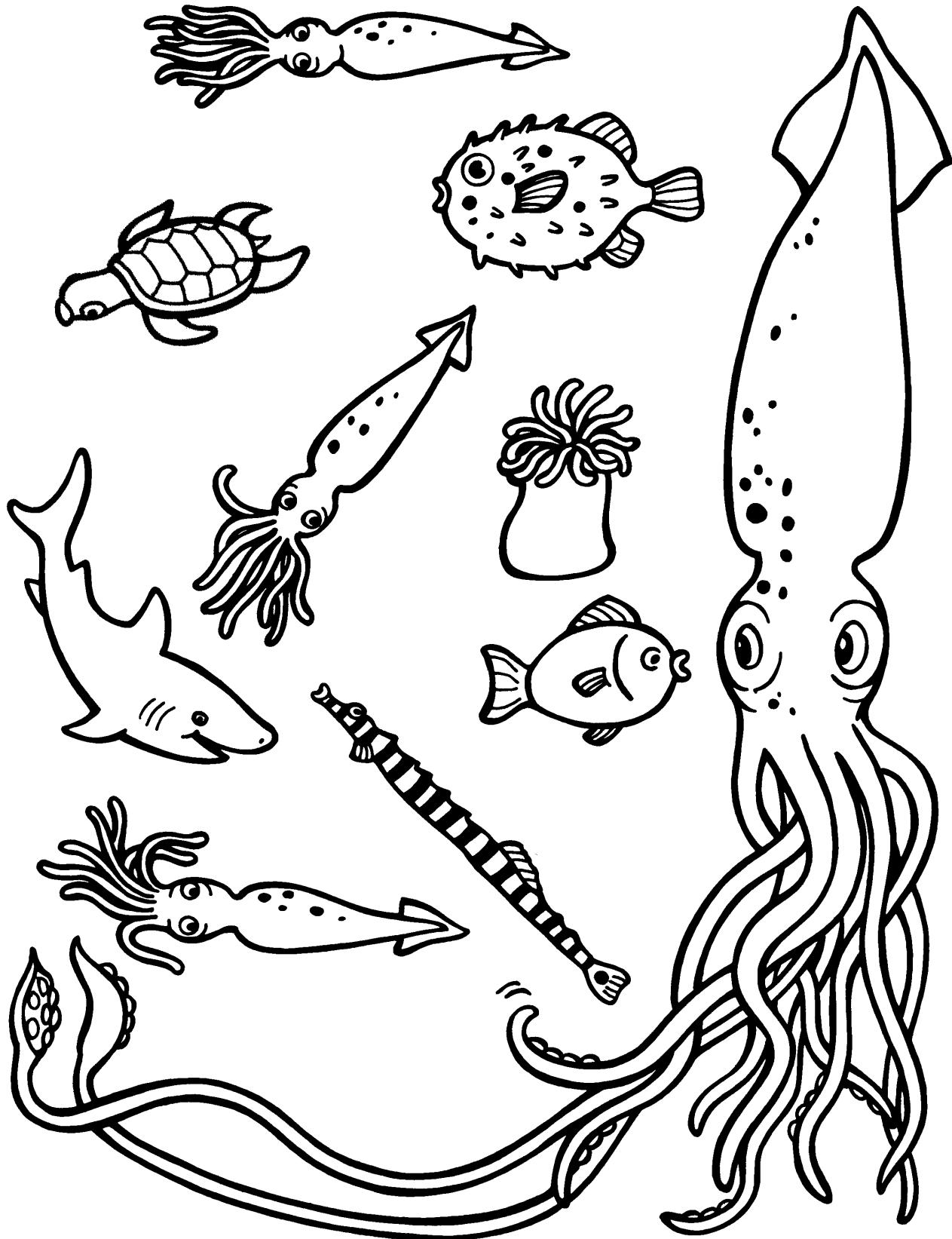
Name _____

INSTRUCTIONS: Ask the student to circle the one that doesn't belong.



Name _____

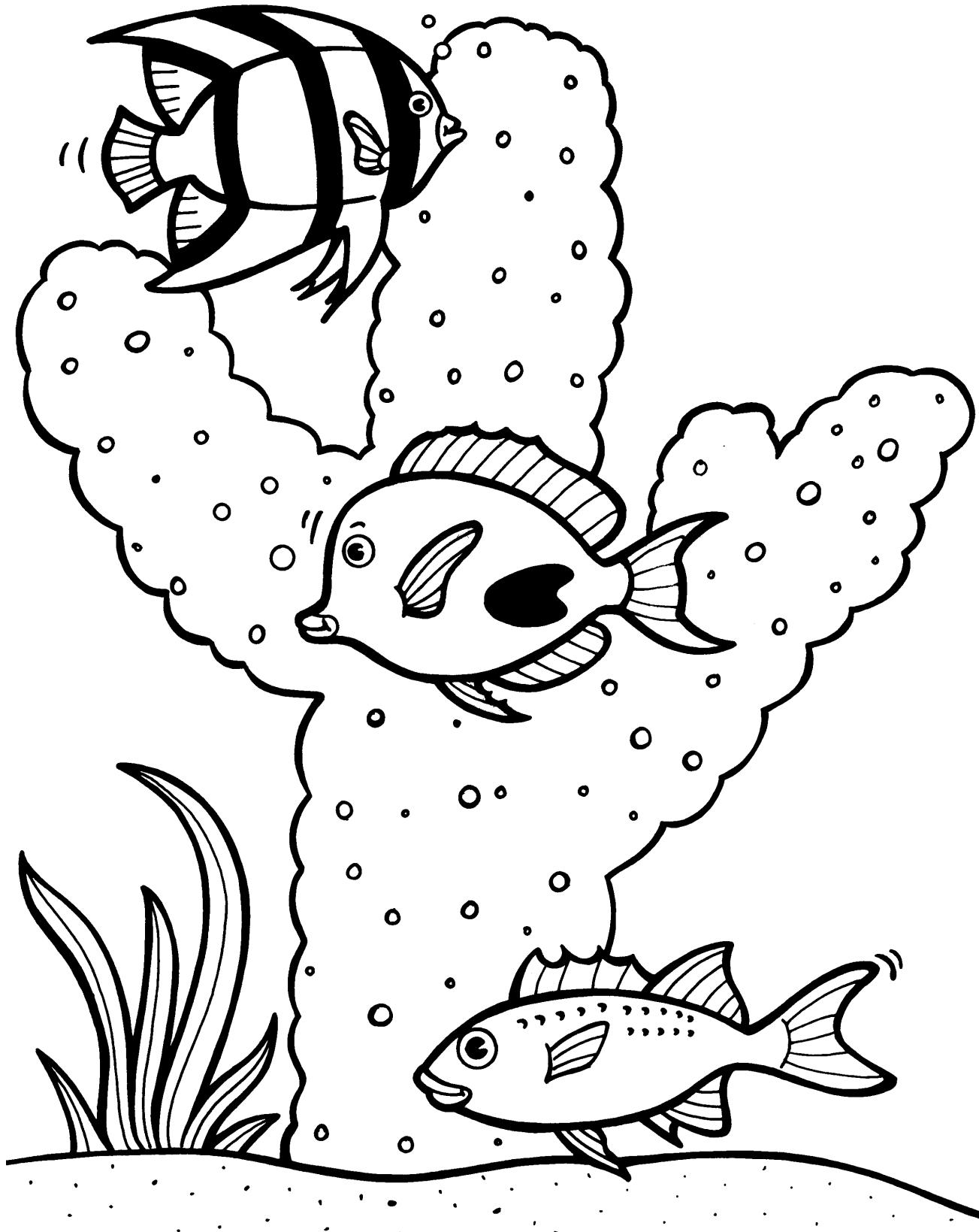
INSTRUCTIONS: Ask the student to help the mother squid find her three babies and then draw a circle around each.



SKILL: IDENTIFY OBJECTS THAT ARE THE SAME

Name _____

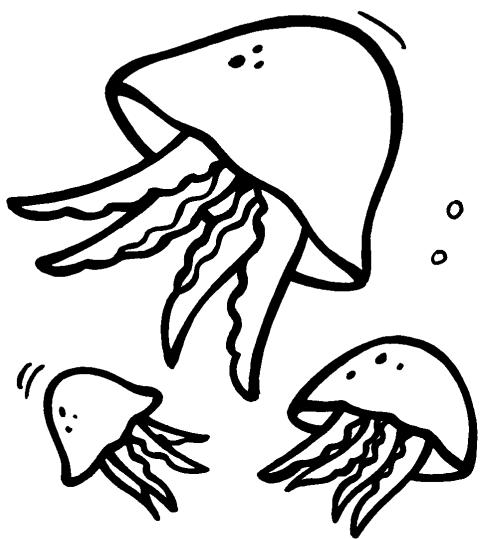
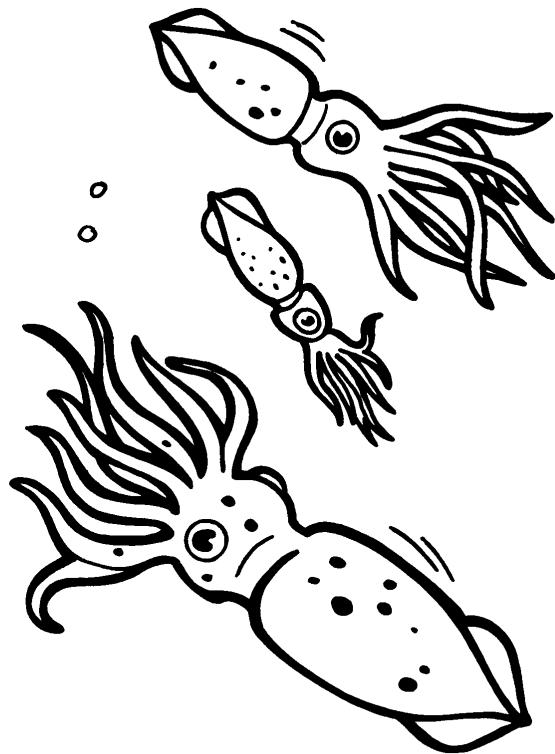
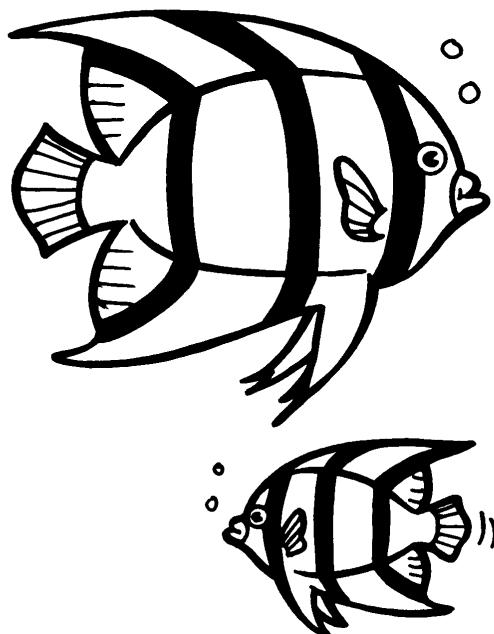
INSTRUCTIONS: Ask the student to color the top fish yellow, the middle fish purple, and the bottom fish red.



SKILL: IDENTIFY TOP, MIDDLE, BOTTOM

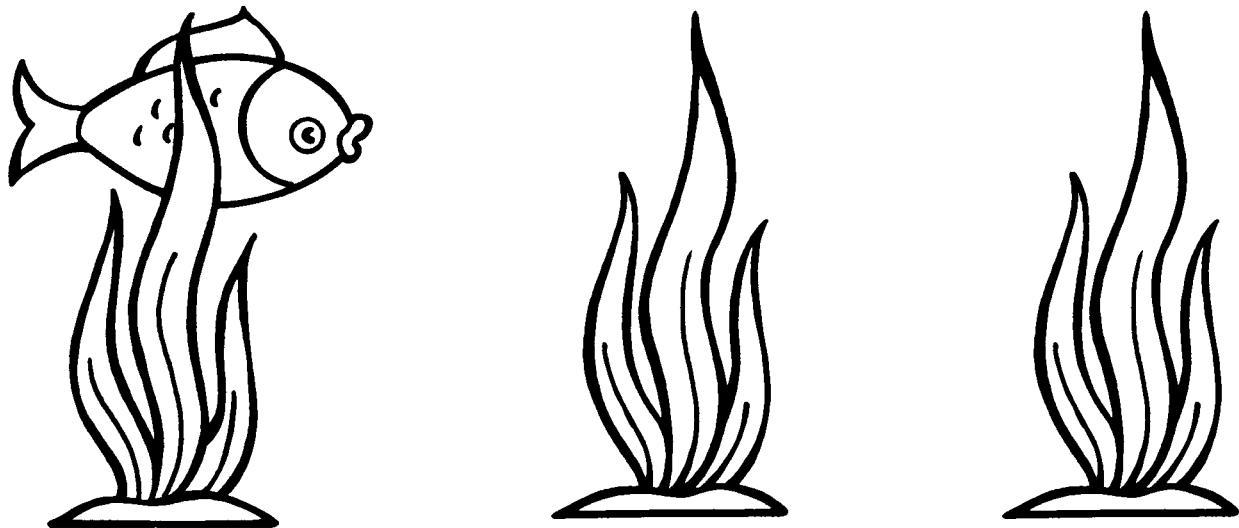
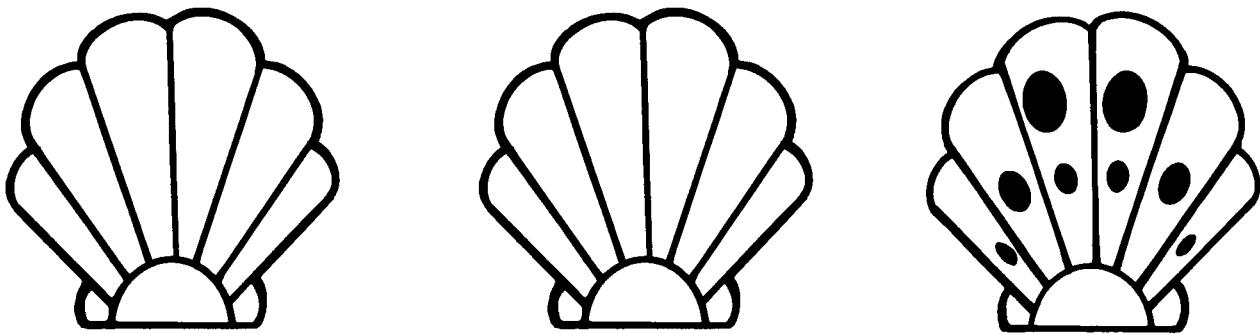
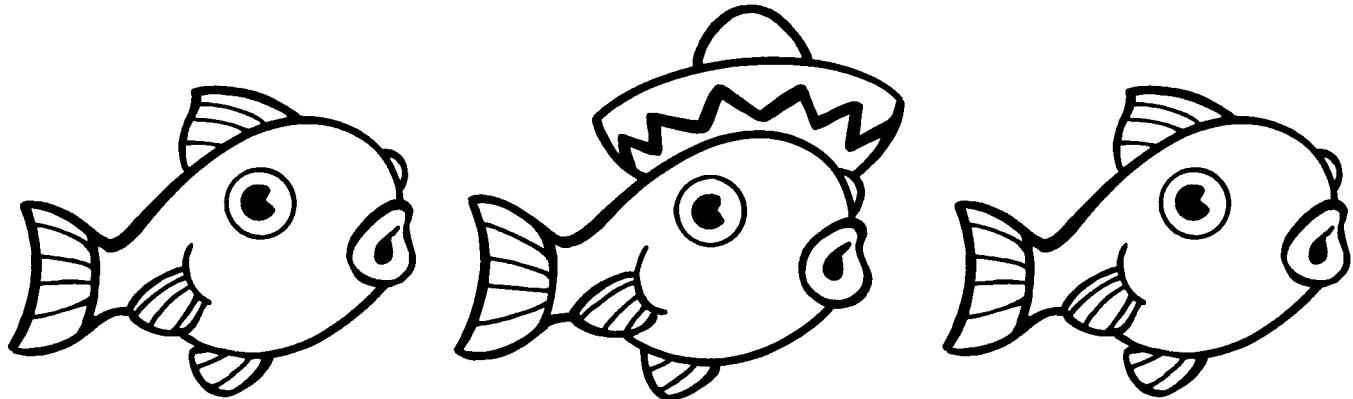
Name _____

INSTRUCTIONS: Ask the student to circle the smallest one in each section.



Name _____

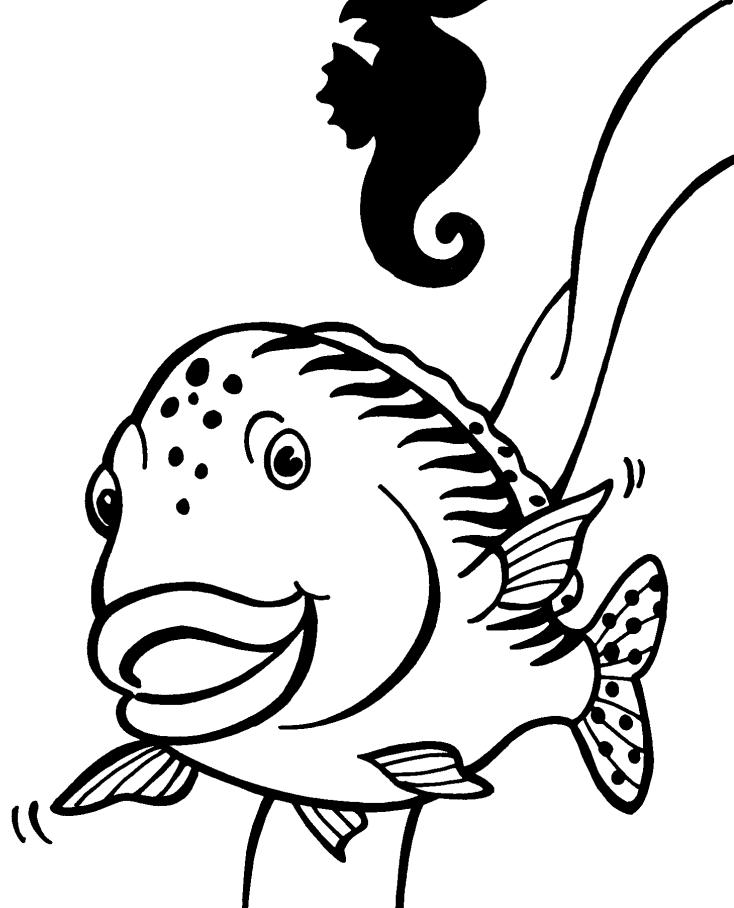
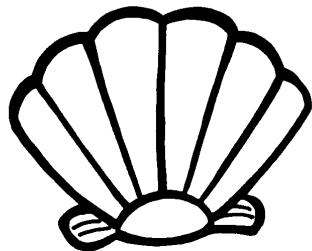
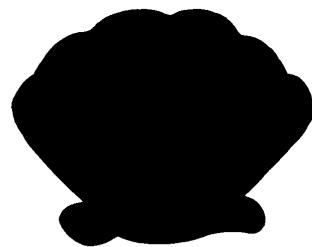
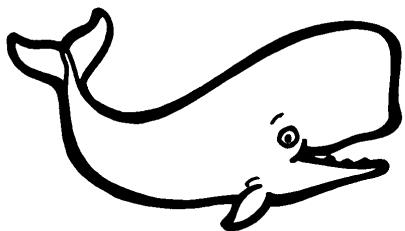
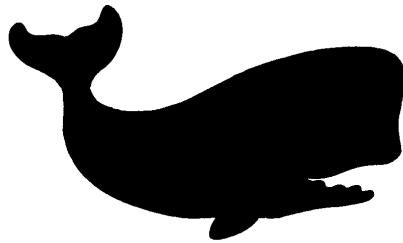
INSTRUCTIONS: Ask the student to color the one that is different.



SKILL: IDENTIFY OBJECTS THAT ARE DIFFERENT

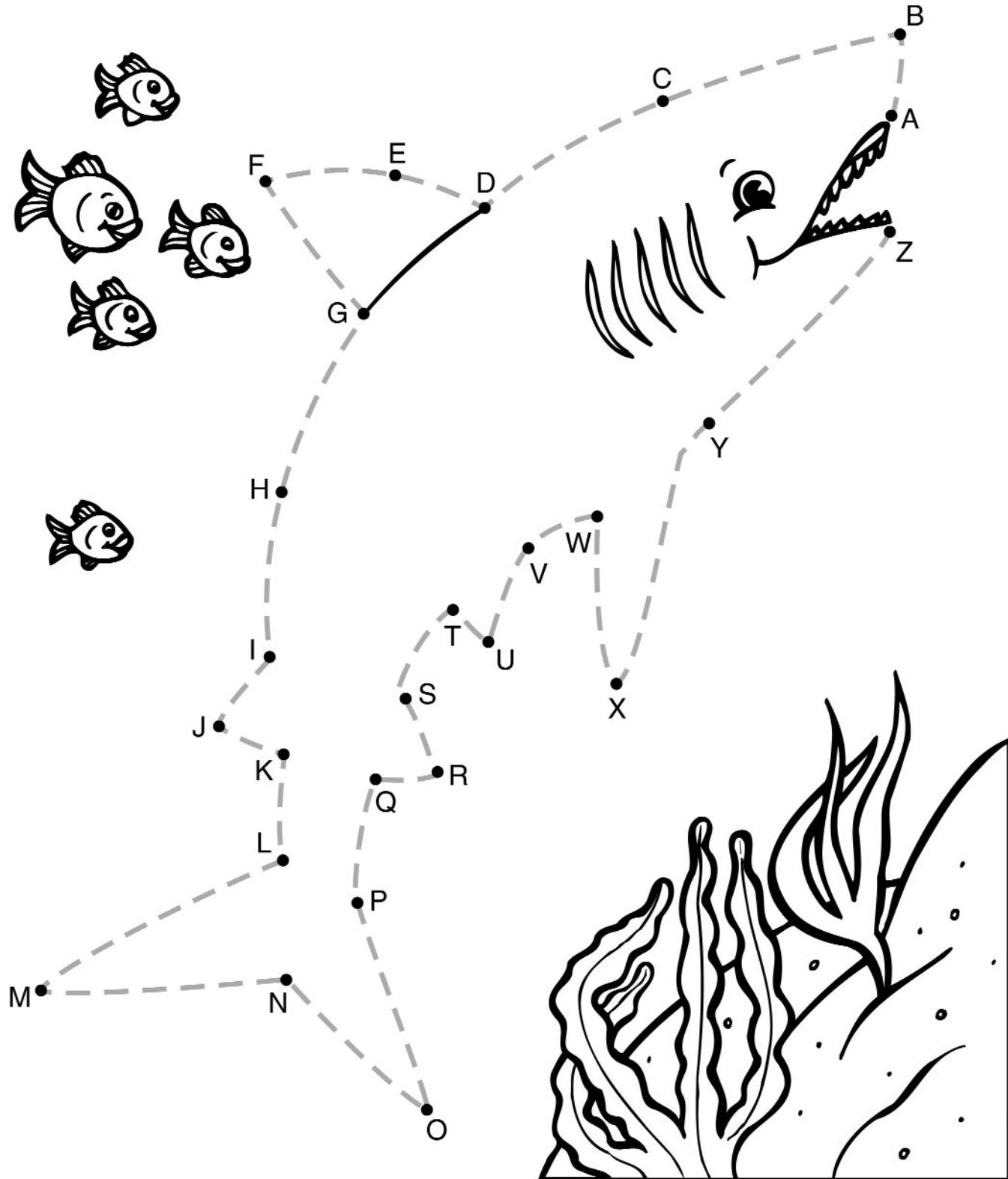
Name _____

INSTRUCTIONS: Ask the student to draw lines to the matching shapes.



Name _____

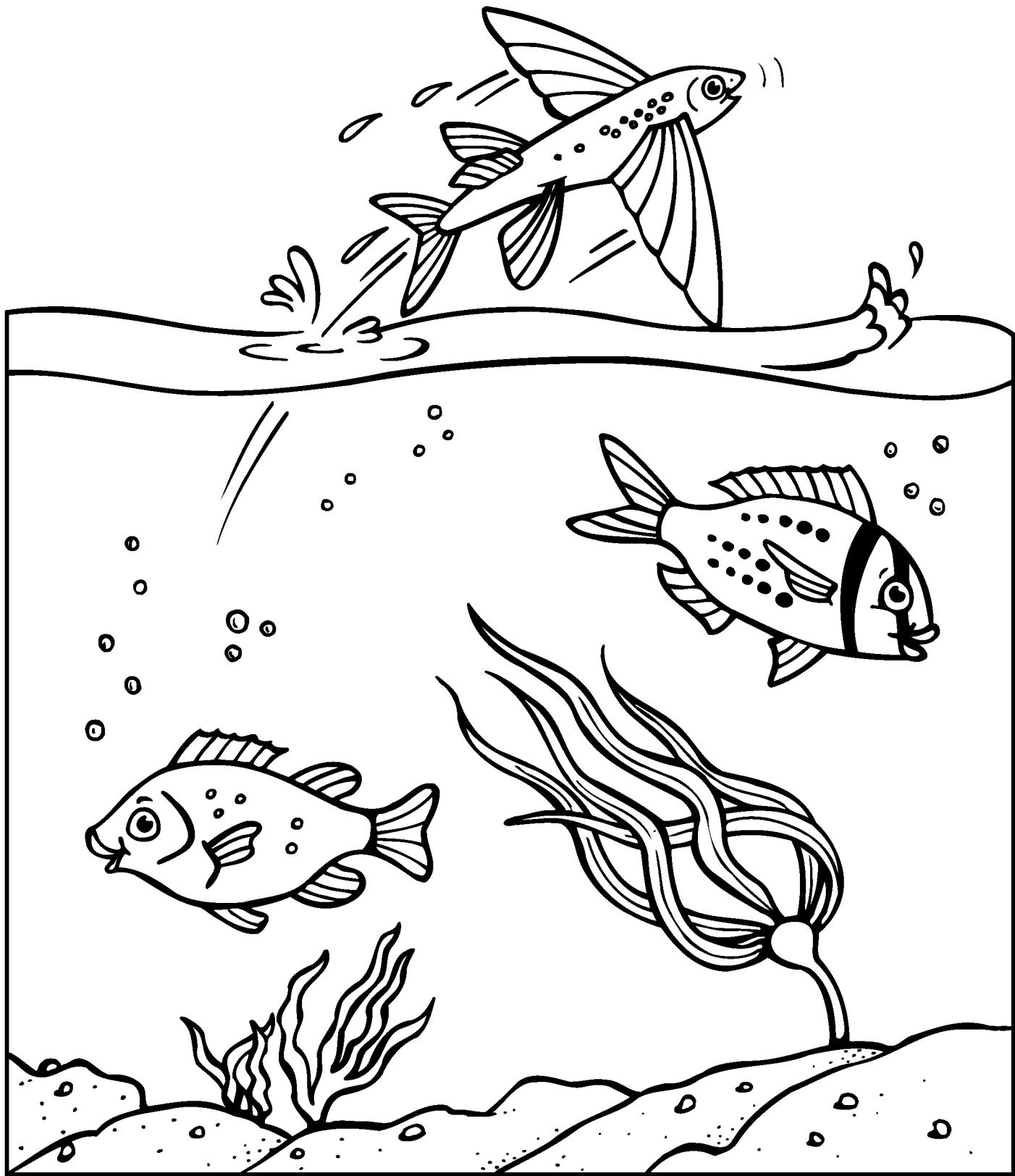
INSTRUCTIONS: Ask the student to trace over the dashed lines and connect the dots. Follow the letters A-Z. Then ask the student to color the picture.



SKILL: CONNECT THE DOTS A-Z

Name _____

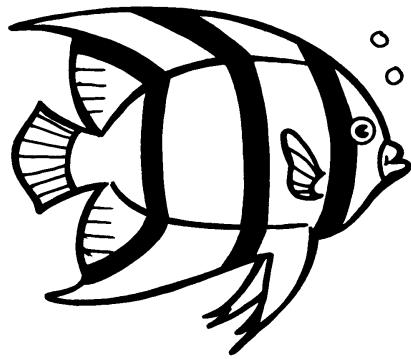
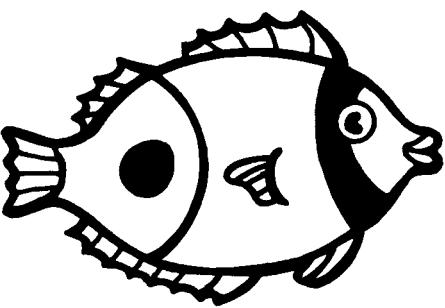
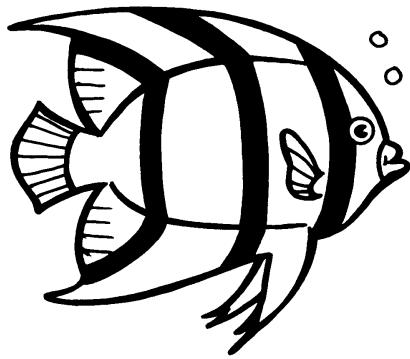
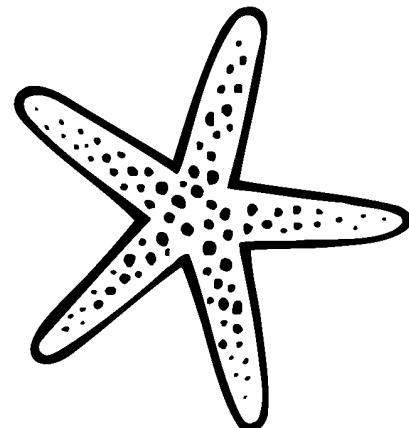
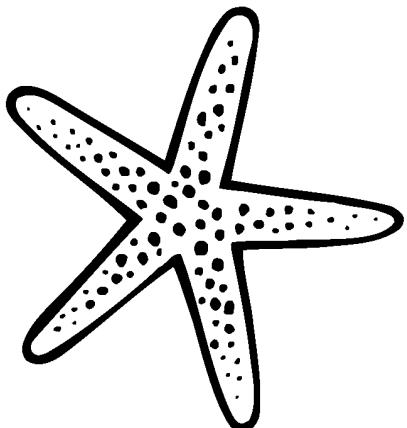
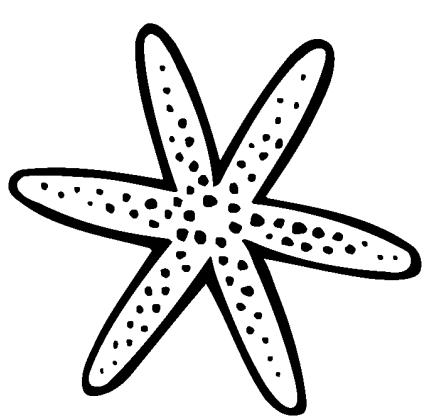
INSTRUCTIONS: Ask the student to circle the fish that is above the water. Then have the student color the fish on the *right* green and color the fish on the *left* blue.



SKILL: IDENTIFY ABOVE, RIGHT, AND LEFT

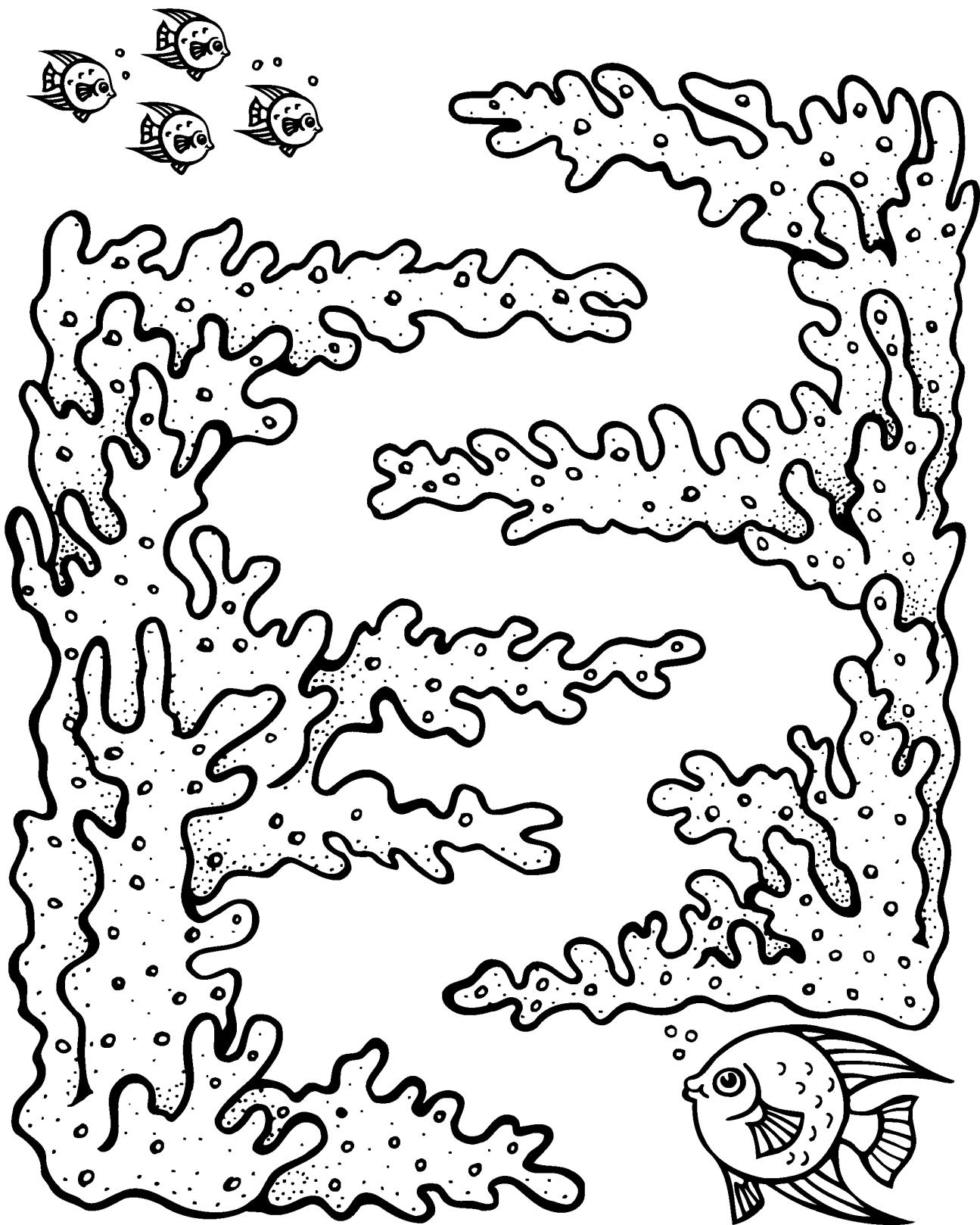
Name _____

INSTRUCTIONS: Ask the student to color the two pictures that are the same in each row.



Name _____

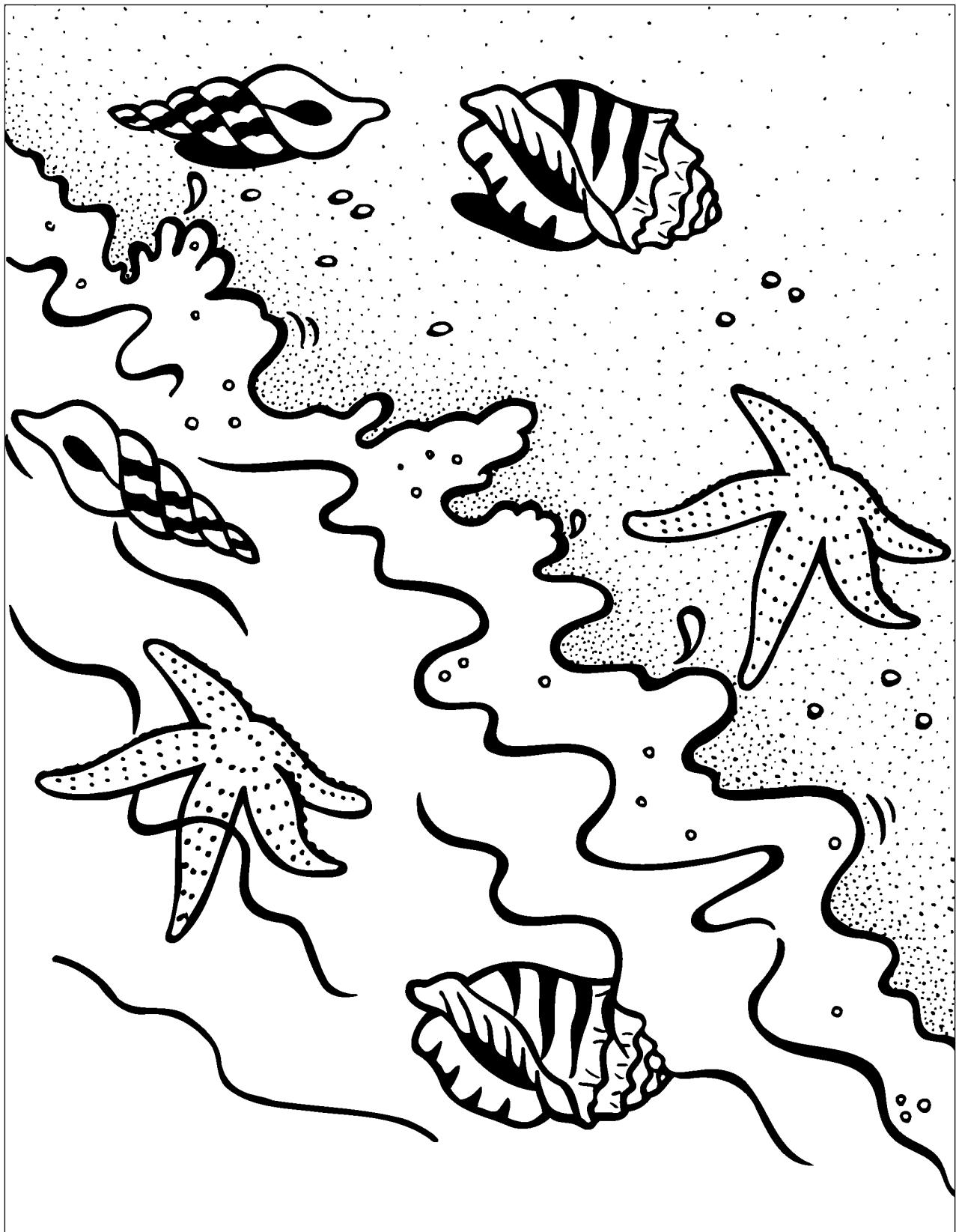
INSTRUCTIONS: Ask the student to start at the top left and help the baby fish find their way back to their mother.



SKILL: VISUAL PERCEPTION

Name _____

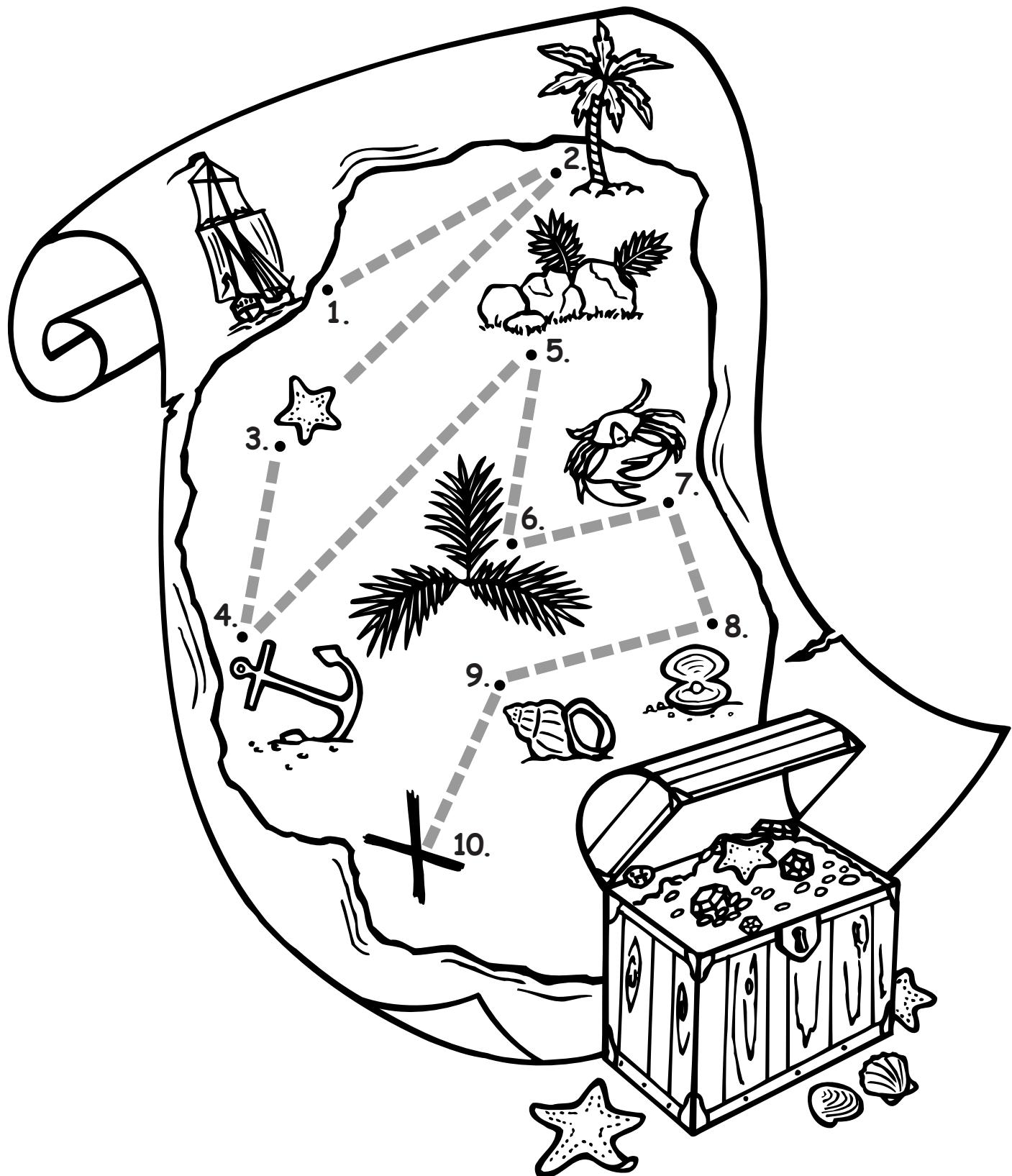
INSTRUCTIONS: Ask the student to draw lines from one matching item to another.



SKILL: MATCH SHAPES

Name _____

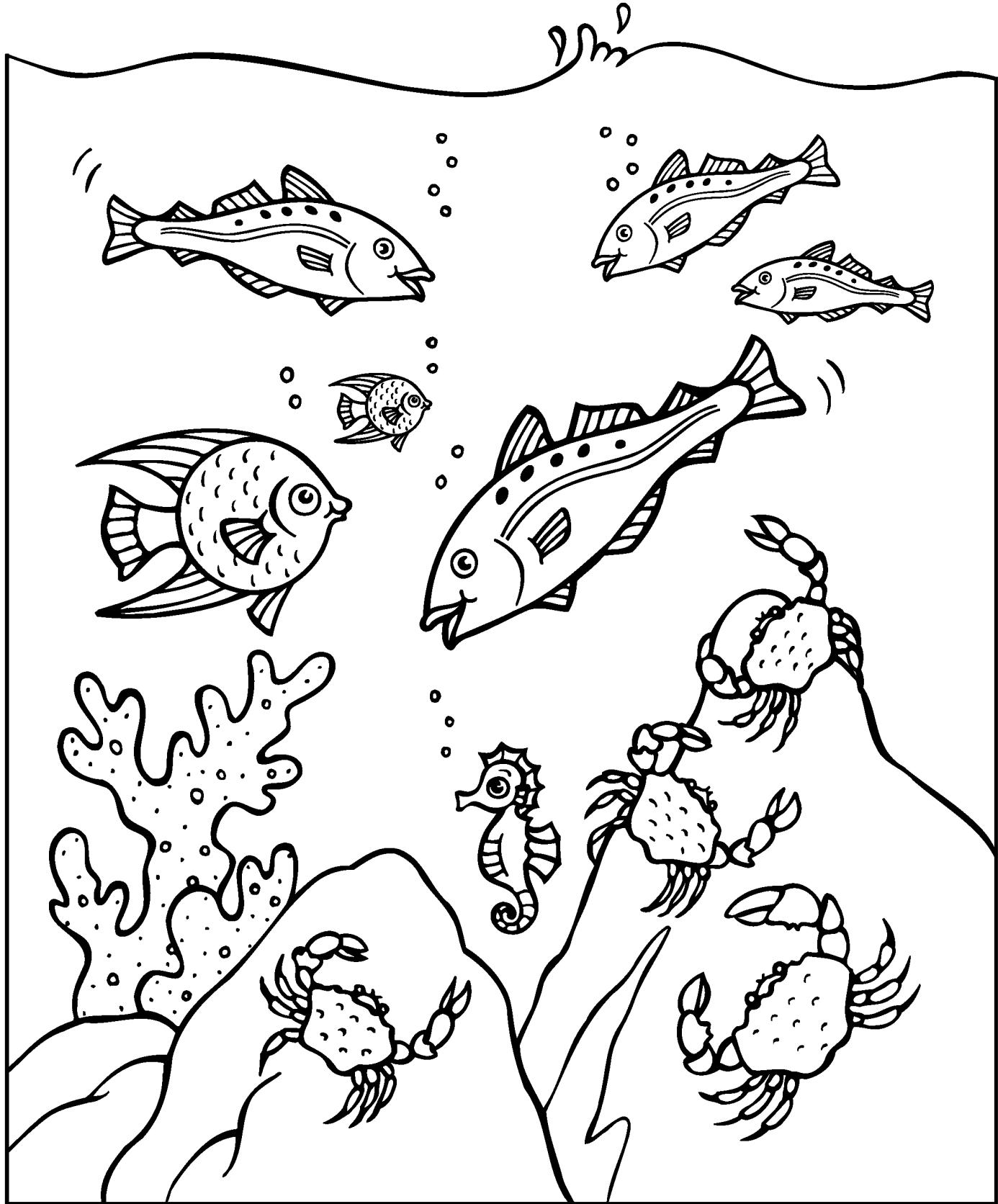
INSTRUCTIONS: Ask the student to trace over the dashed lines and connect the dots.
Follow the numbers from 1–10.



SKILL: CONNECT THE DOTS 1-10

Name _____

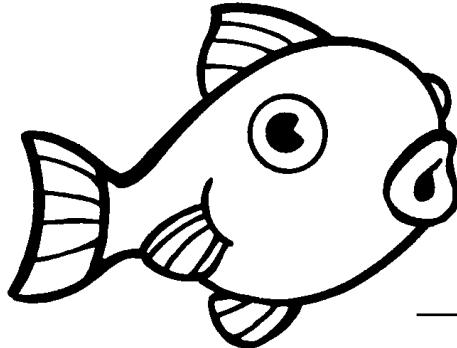
INSTRUCTIONS: Ask the student to color all the fish blue and all the crabs red. Then circle the seahorse that is next to the rocks.



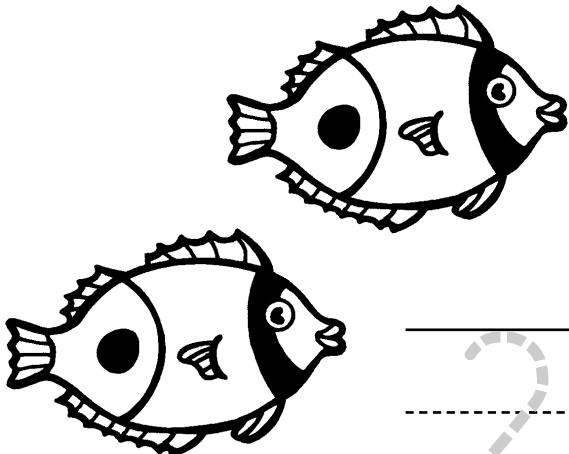
SKILL: CLASSIFY FISH AND CRABS

Name _____

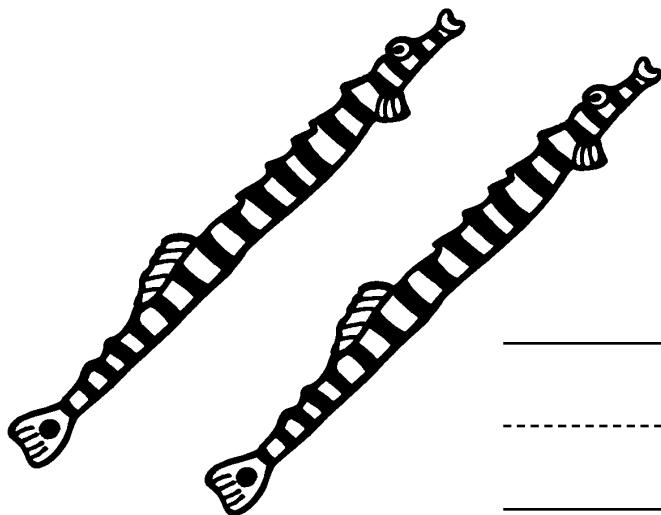
INSTRUCTIONS: Ask the student to trace the numbers in the first two examples, then ask the student to count the fish in each block and write 1 or 2 to tell how many.



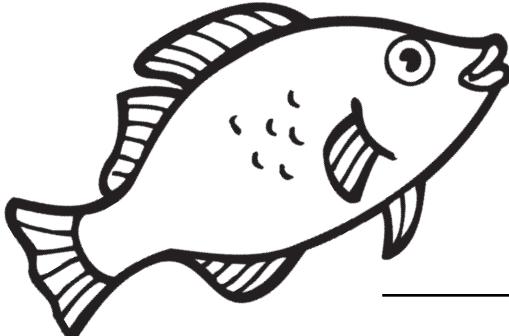
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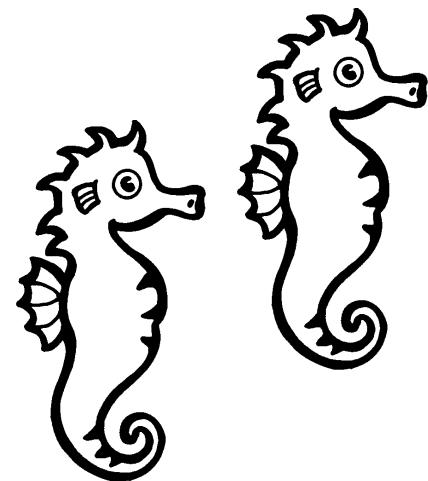
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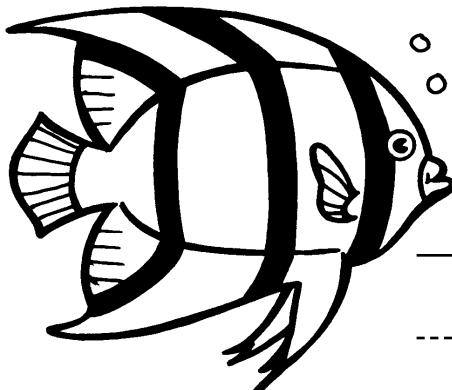
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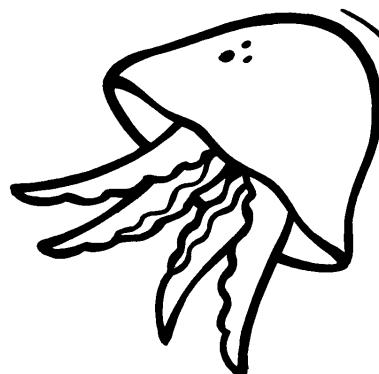
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Name _____

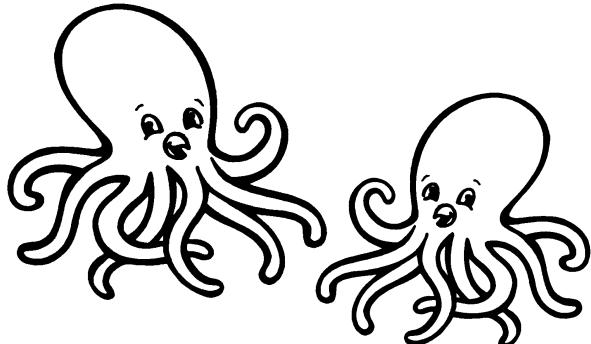
INSTRUCTIONS: Ask the student to count the ocean creatures in each block, then circle the correct number to tell how many.



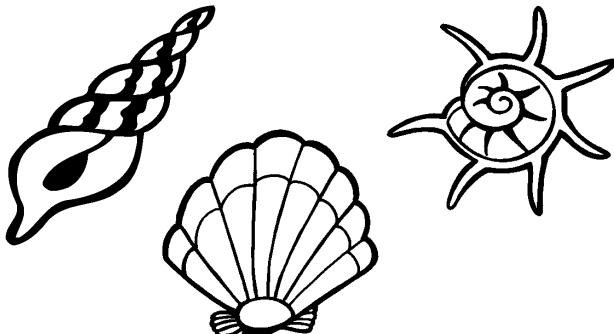
| 2 3



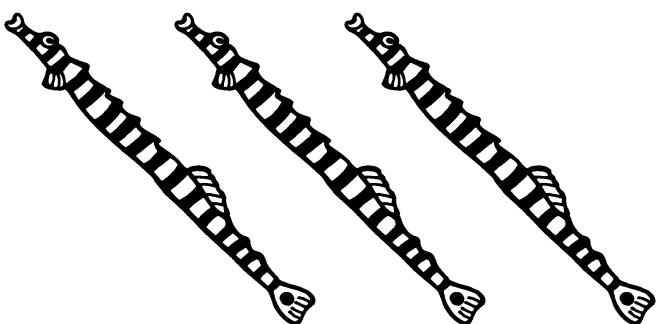
| 2 3



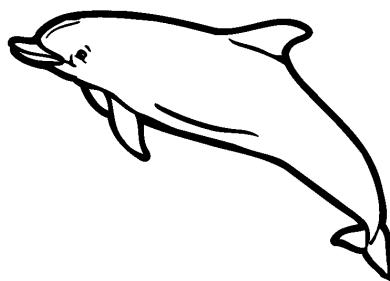
| 2 3



| 2 3



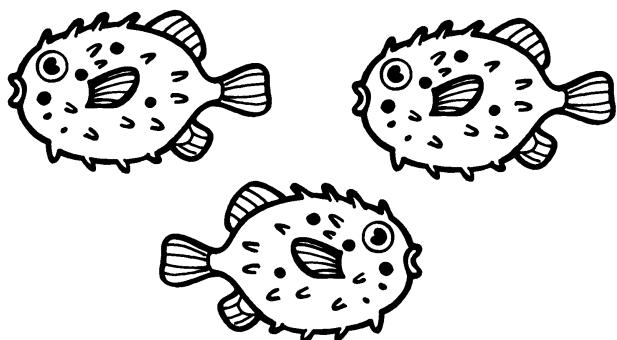
| 2 3



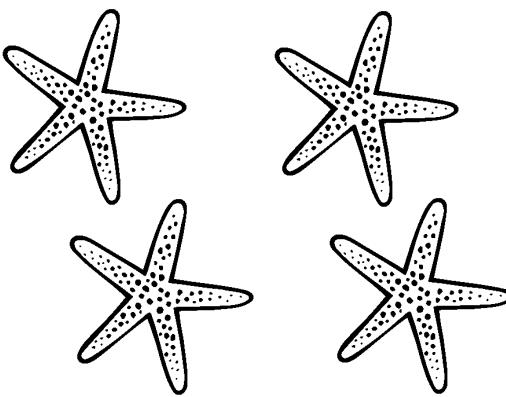
| 2 3

Name _____

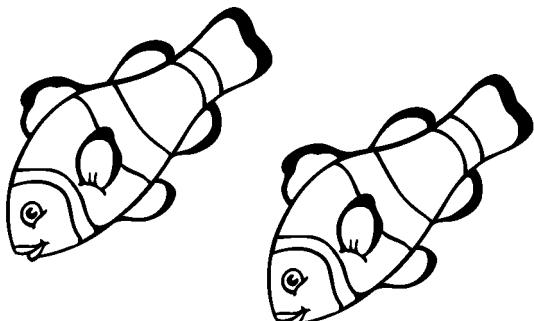
INSTRUCTIONS: Ask the student to count the objects in each section then put an X through the correct number to show how many.



1	2	3	4
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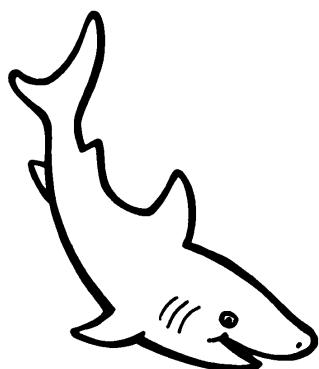
1	2	3	4
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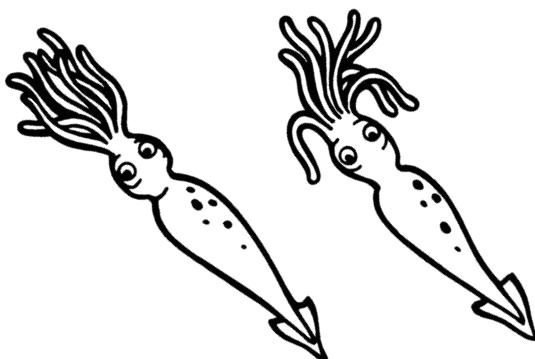
1	2	3	4
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1	2	3	4
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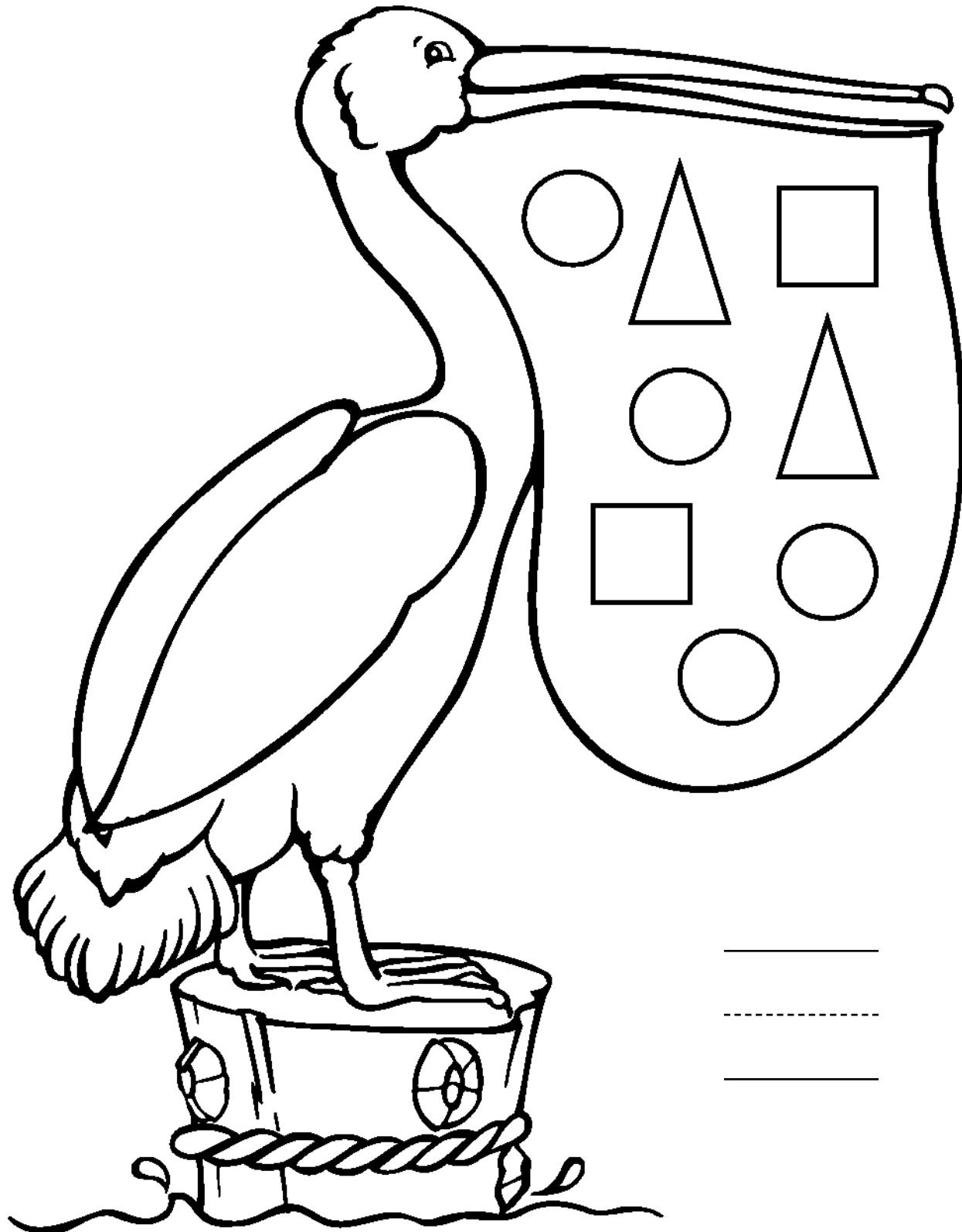
1	2	3	4
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1	2	3	4
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Name _____

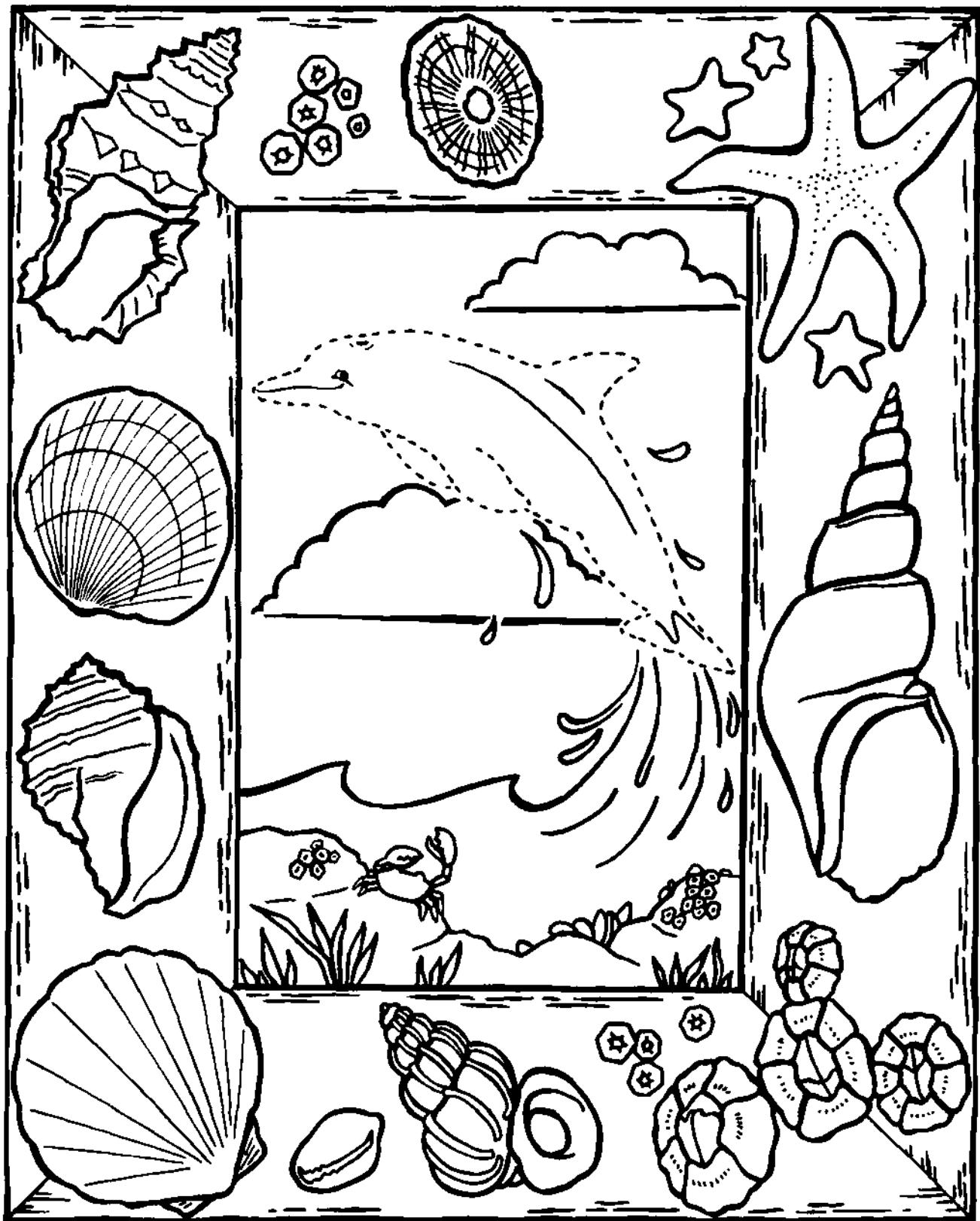
INSTRUCTIONS: Ask the student to look at the picture of the pelican's pouch and write an X on the circle shapes. Then ask the student to count the circles and write the number in the space provided.



SKILL: IDENTIFY A CIRCLE

Name _____

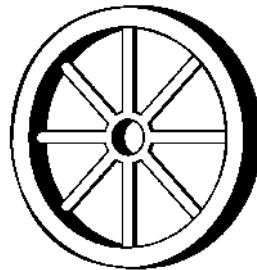
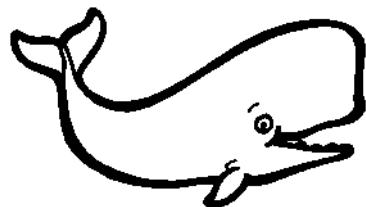
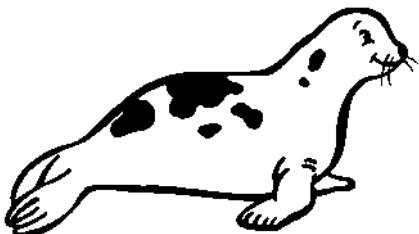
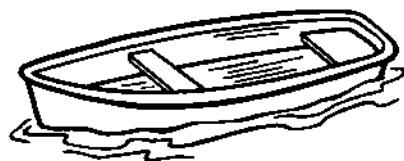
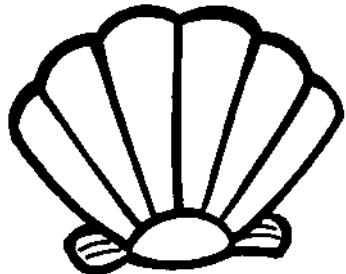
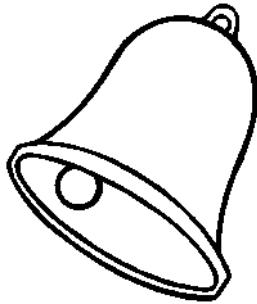
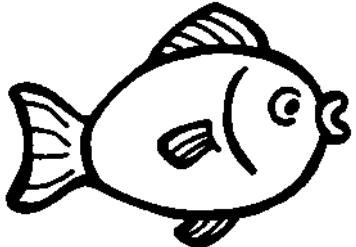
INSTRUCTIONS: Ask the student to follow the dashed lines in the middle of the picture and then color the picture and picture frame.



SKILL: FOLLOW DIRECTIONS

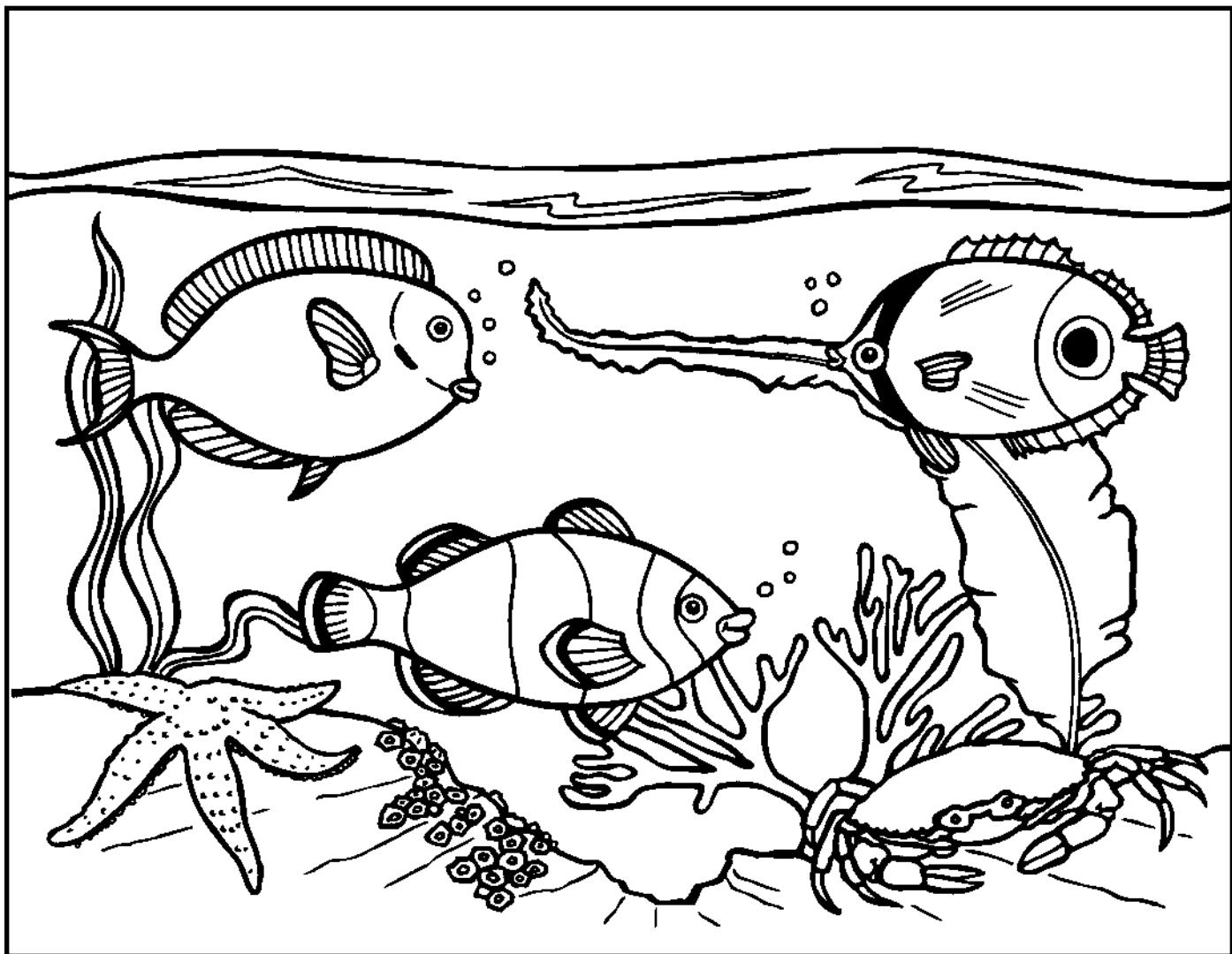
Name _____

INSTRUCTIONS: Ask the student to look at the pictures and a draw line to connect each picture on the left to the picture on the right with which it rhymes.



Name _____

INSTRUCTIONS: Ask the student to color the picture. Then have the student write the word "fish" by following the dotted letters, then write "fish" three more times on the lines provided.



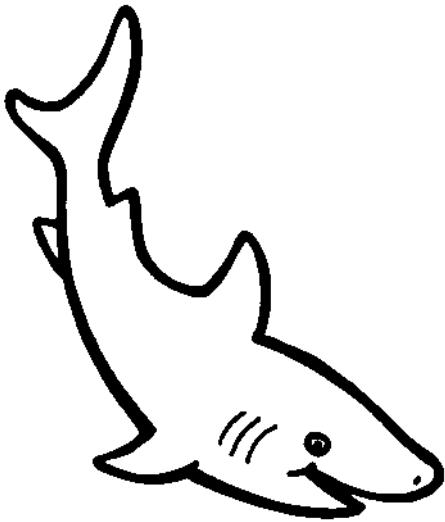
f i s h

Name _____

INSTRUCTIONS: Ask the student to circle the letter that is the first letter for each picture shown below.

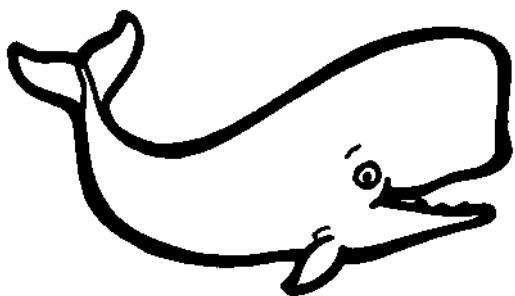


C



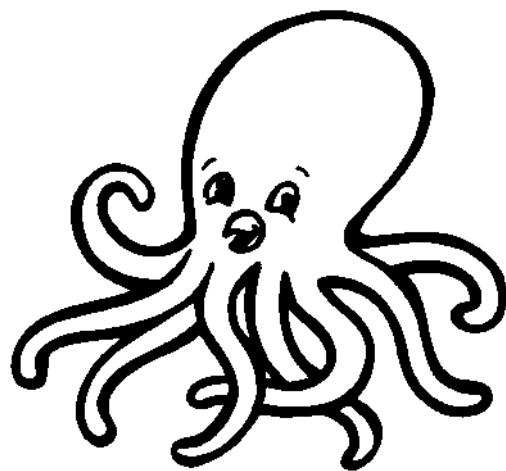
H

S



G

W



O

Z

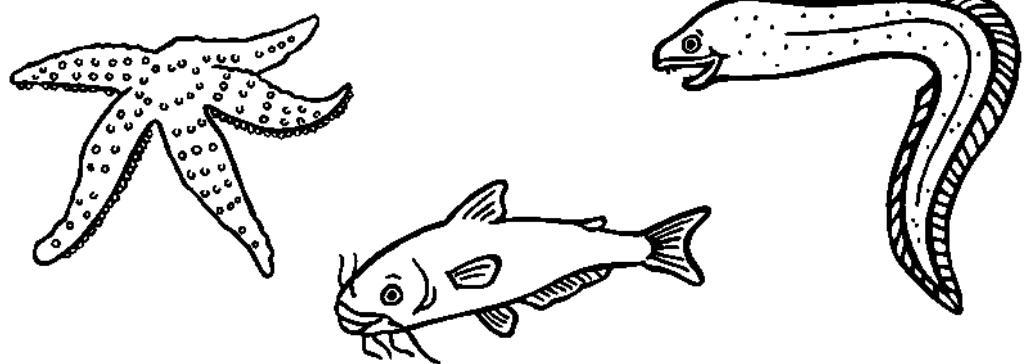
Name _____

INSTRUCTIONS: Ask the student to circle the image that starts with the letter to the left of the pictures.

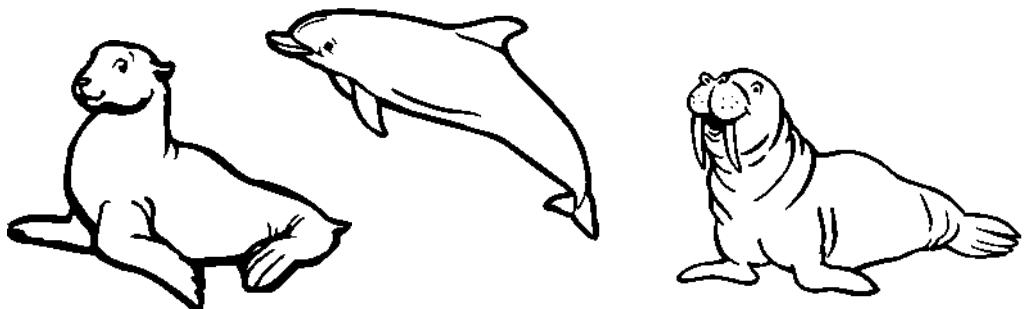
Ff



Ss

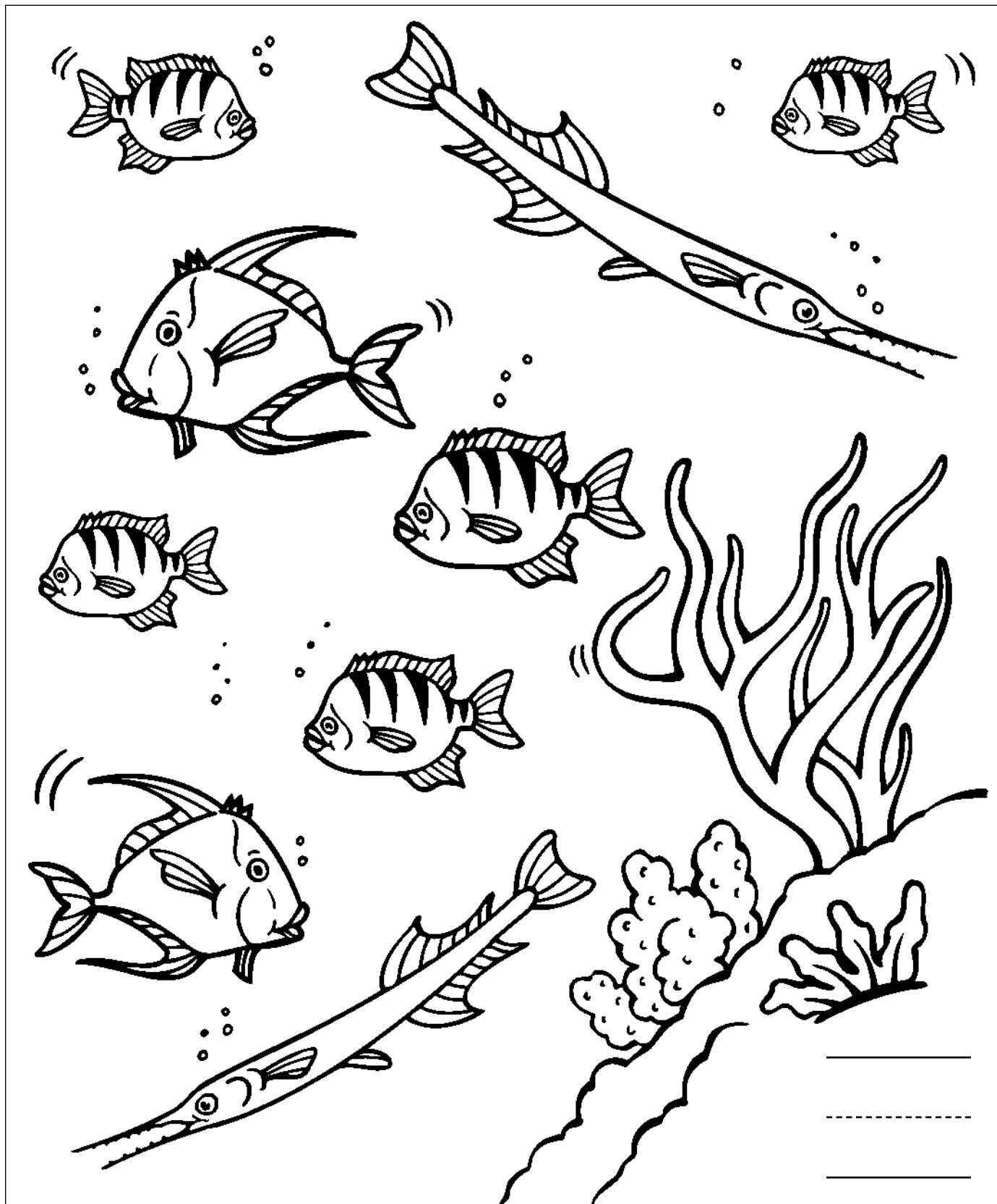


Dd



Name _____

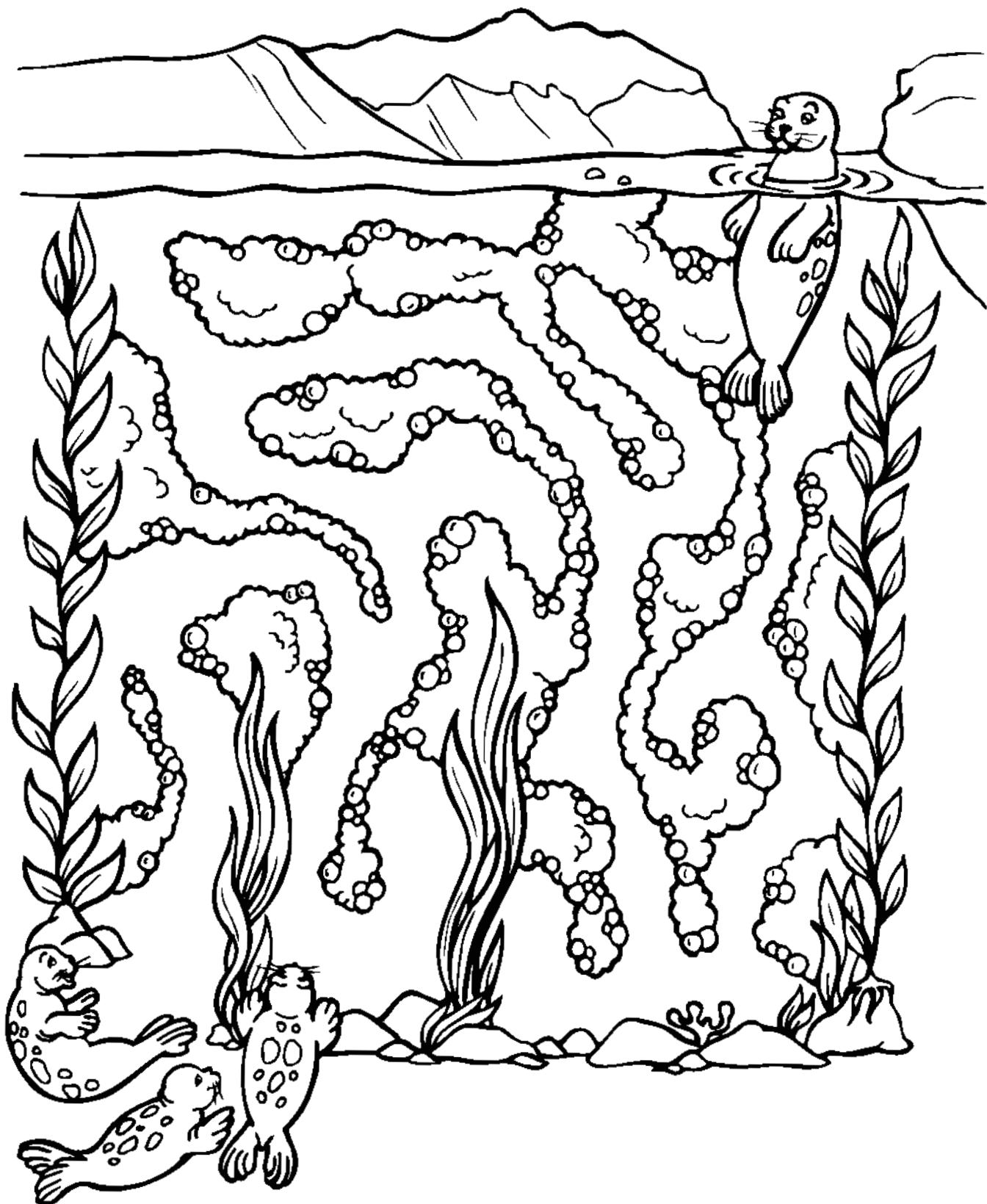
INSTRUCTIONS: Ask the student to color all of the fish in the picture below. Then have the student count all of the fish and write the number in the space provided.



SKILL: COUNT AND COLOR

Name _____

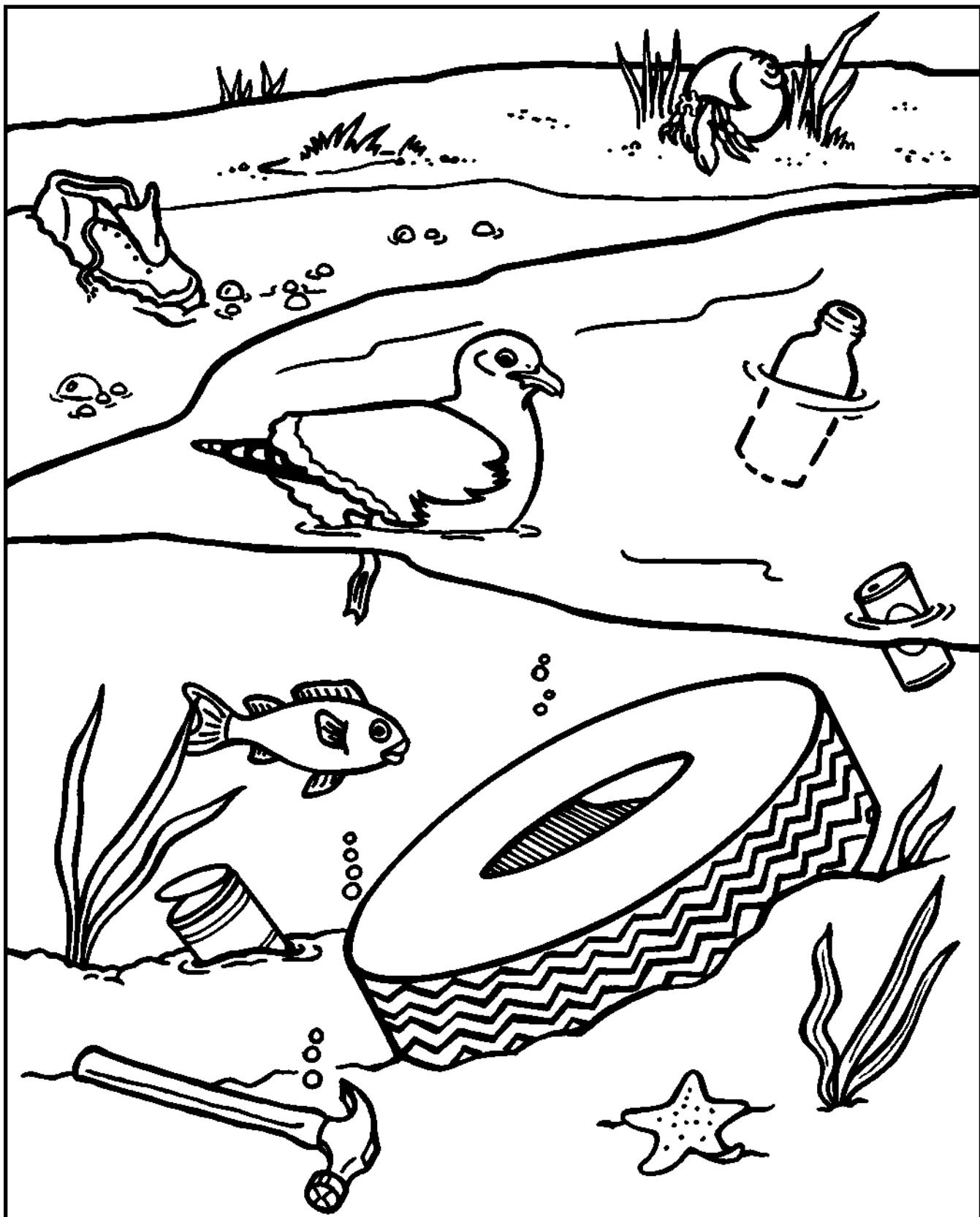
INSTRUCTIONS: Ask the student to start at the top right and help the baby seal find his way back to the other seals.



SKILL: VISUAL PERCEPTION

Name _____

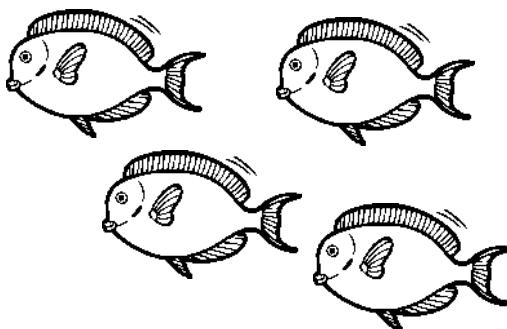
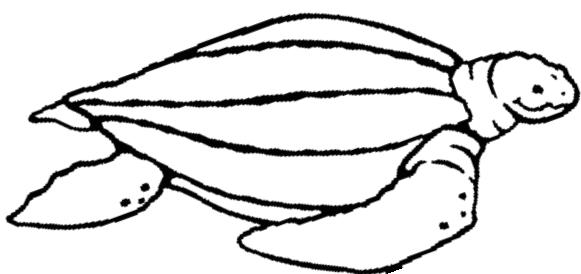
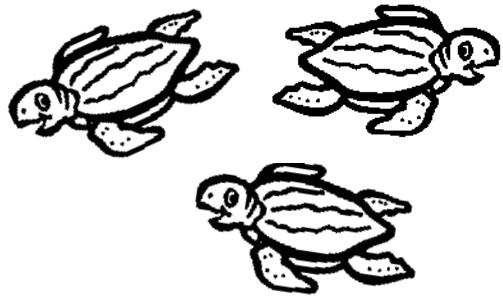
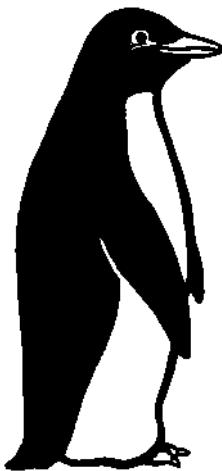
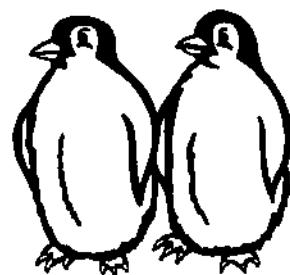
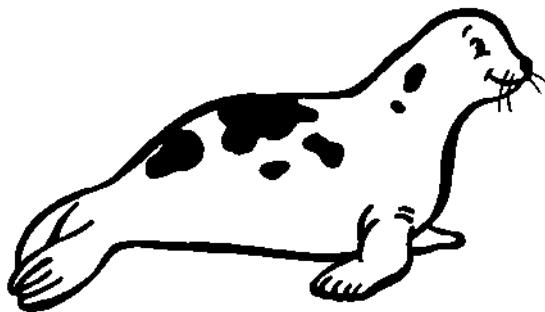
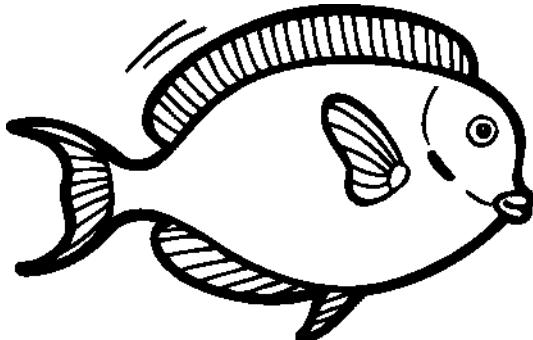
INSTRUCTIONS: Ask the student to circle all of the items that do not belong in the ocean picture below.



SKILL: WHAT DOESN'T BELONG

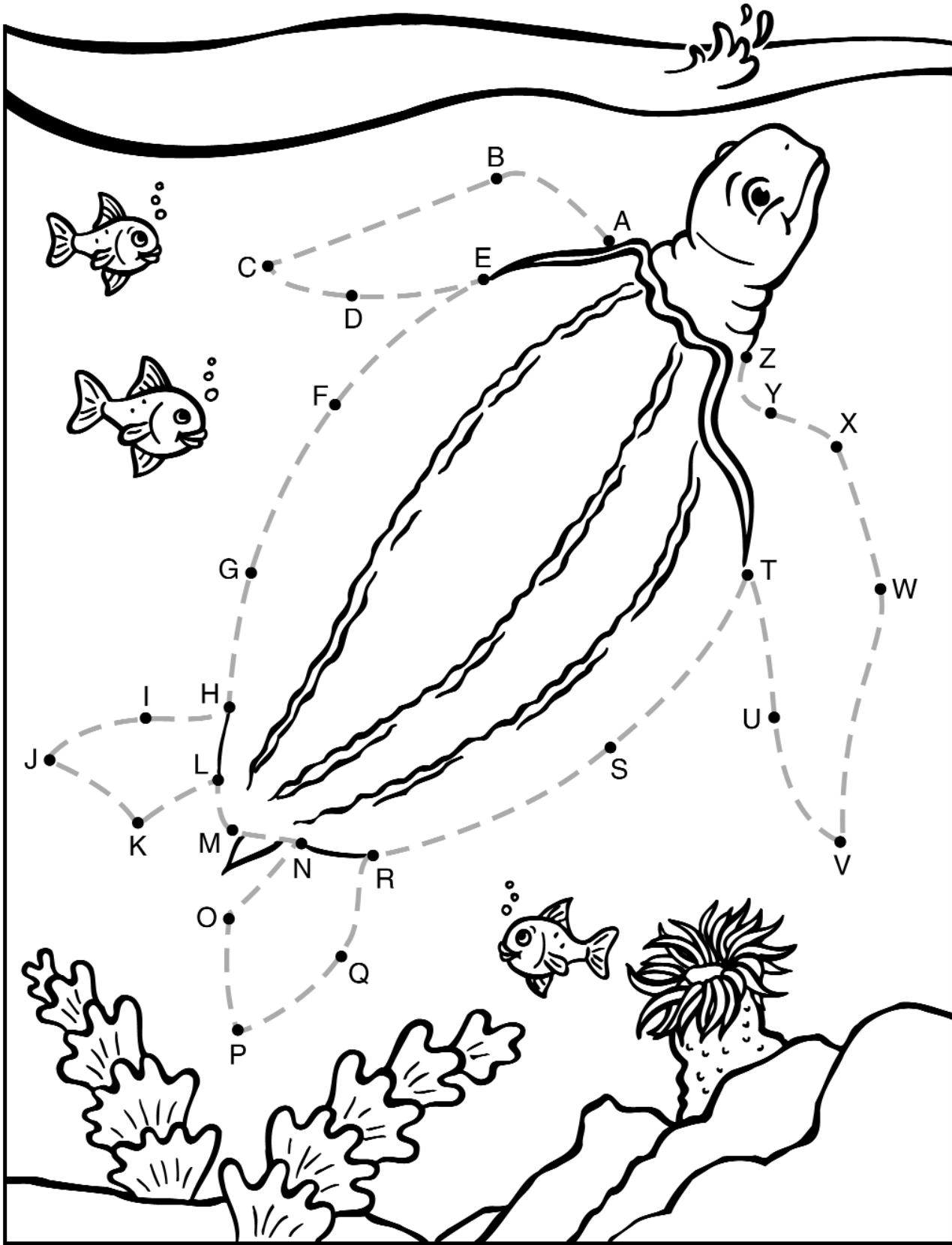
Name _____

INSTRUCTIONS: Ask the student to draw a line connecting each mother with her babies.



Name _____

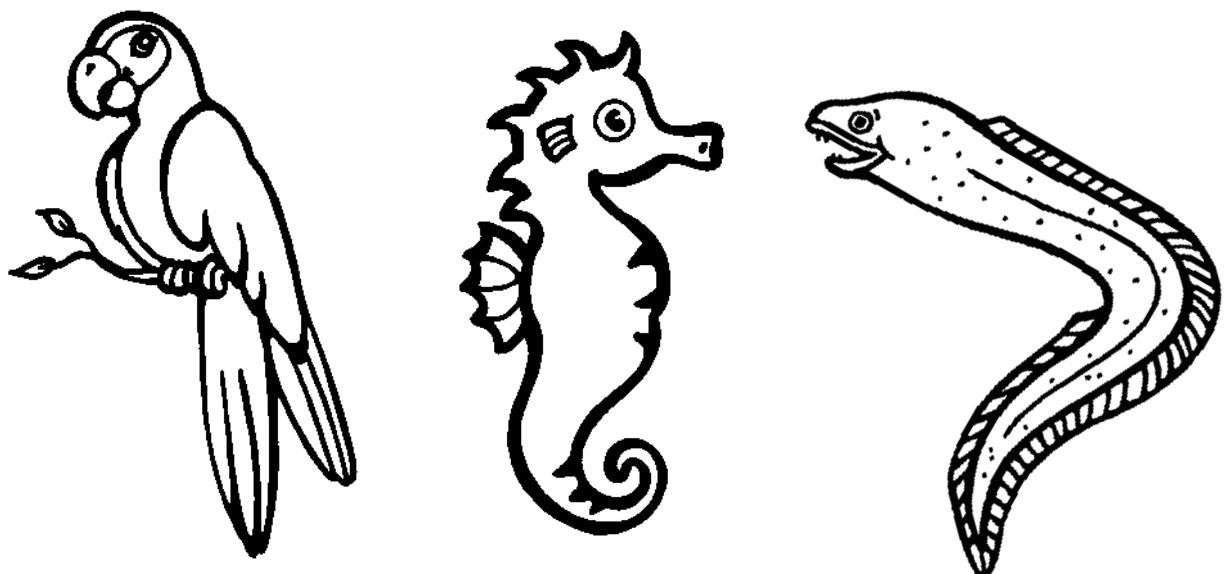
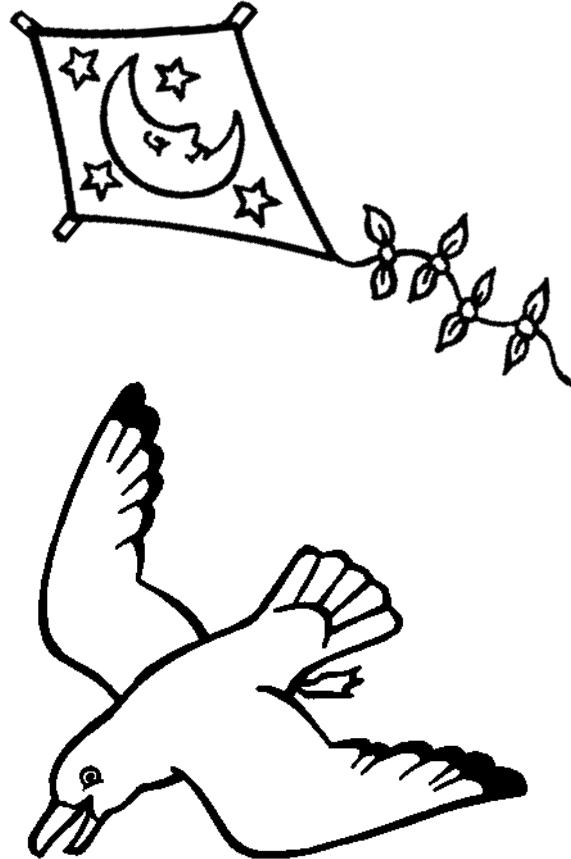
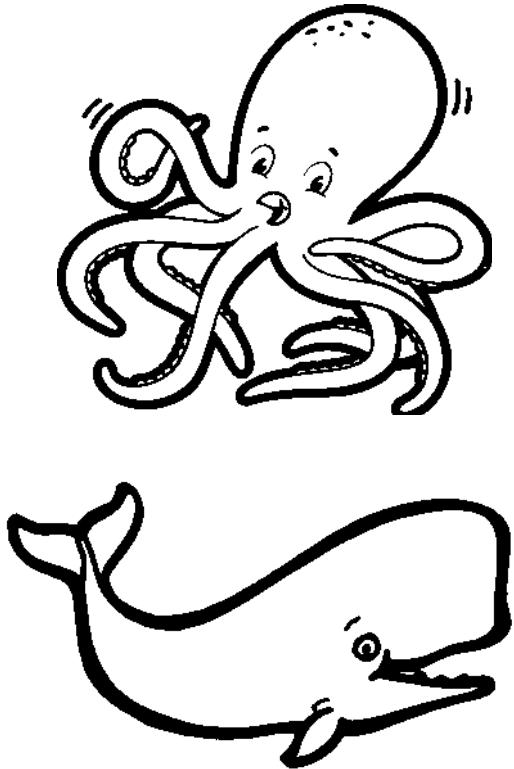
INSTRUCTIONS: Ask the student to trace the dashed lines and connect the dots to complete the picture below. Follow the letters A-Z. Then color the picture.



SKILL: CONNECT THE DOTS A-Z

Name _____

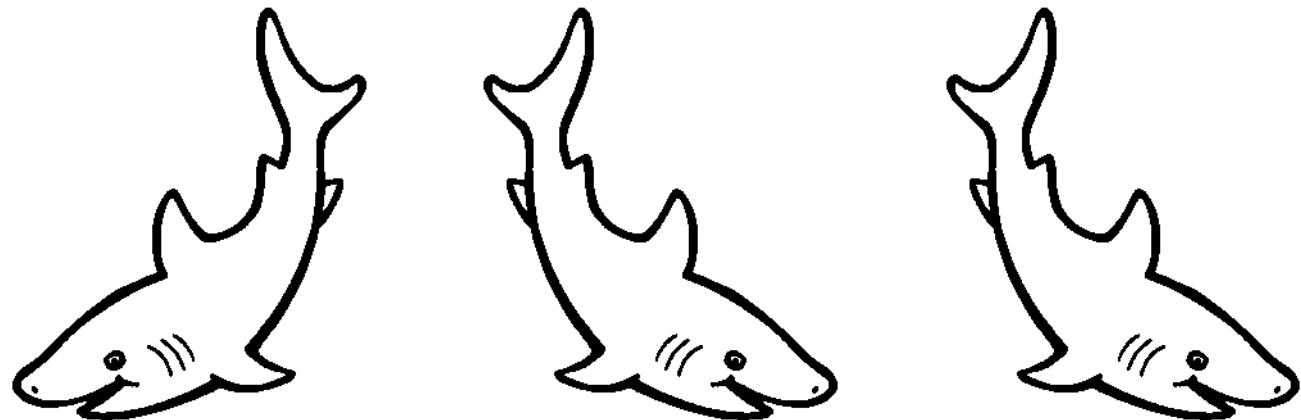
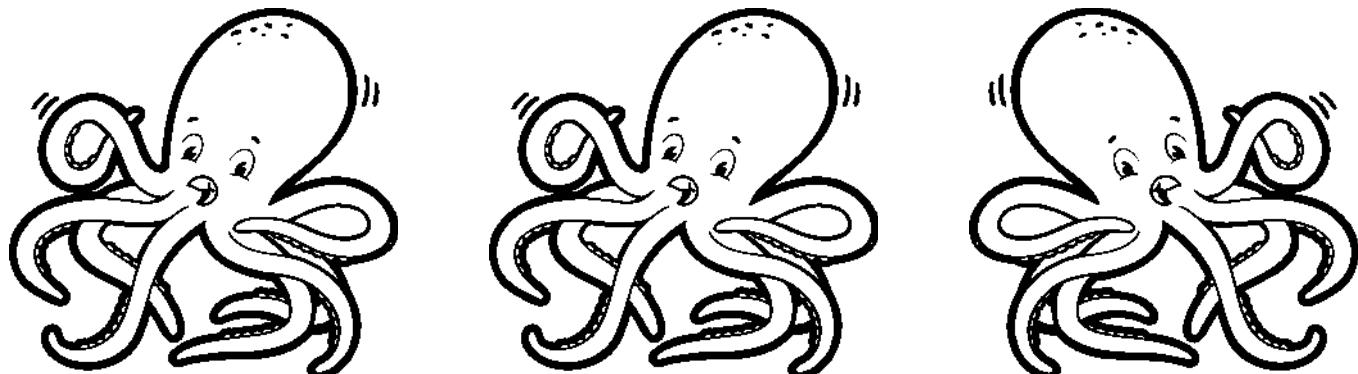
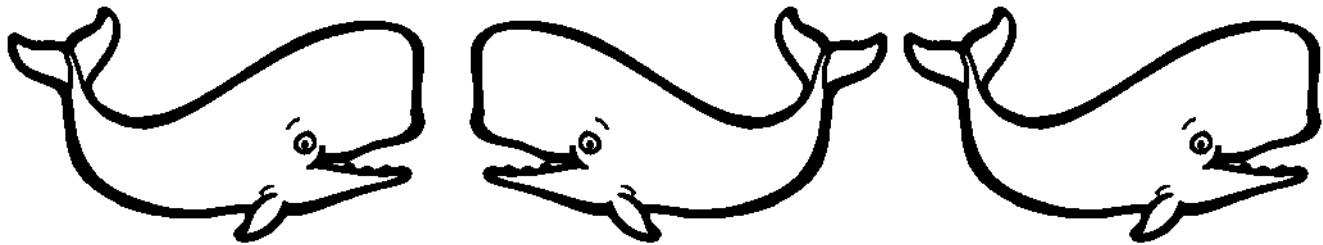
INSTRUCTIONS: Ask the students to look at the pictures below. Then have the students circle the pictures that belong in the air, and color the pictures that belong underwater.



SKILL: IDENTIFY HABITATS (AIR AND WATER)

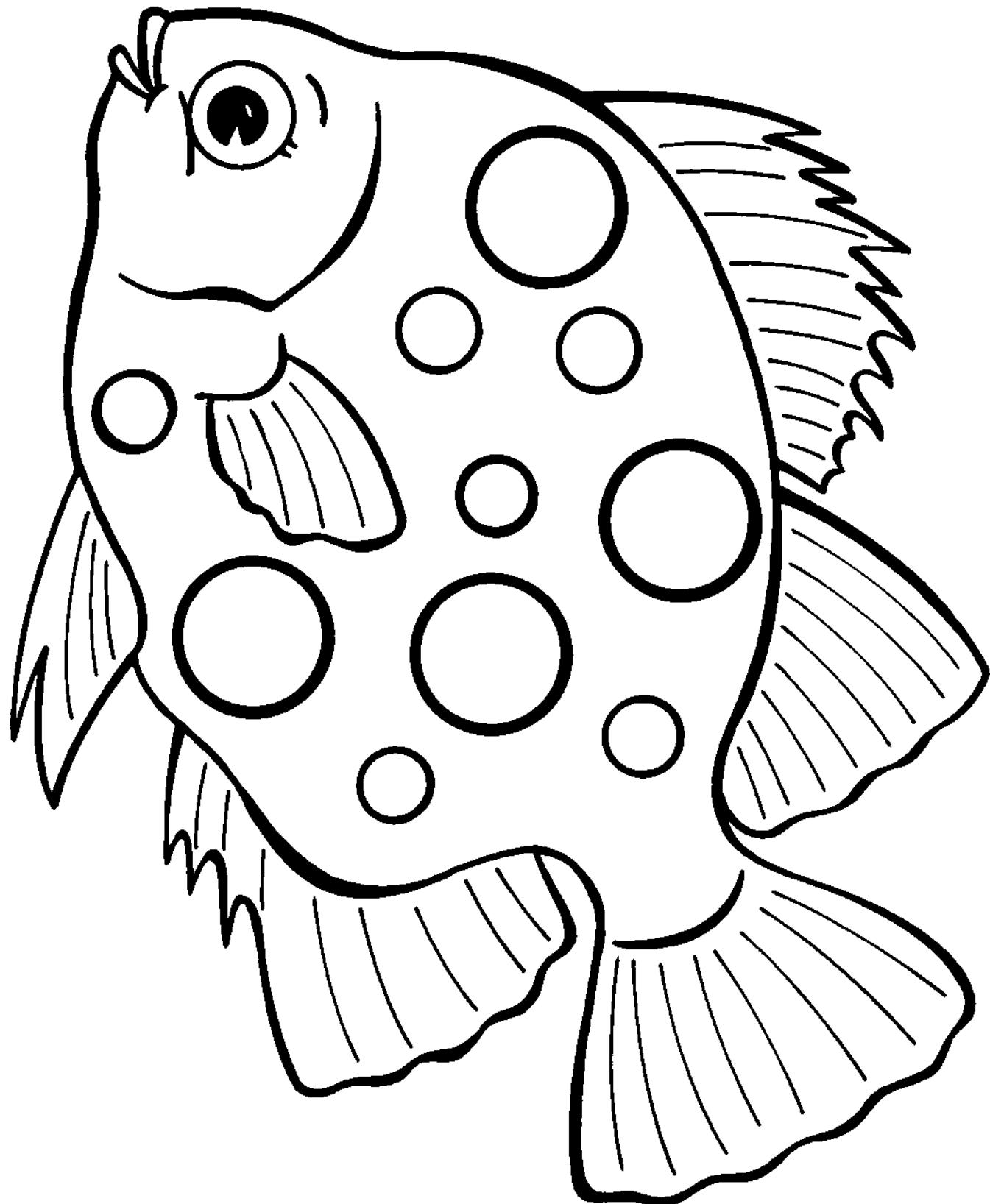
Name _____

INSTRUCTIONS: Ask the student to look at the pictures in each row. Circle the picture that goes in a different direction.



Name _____

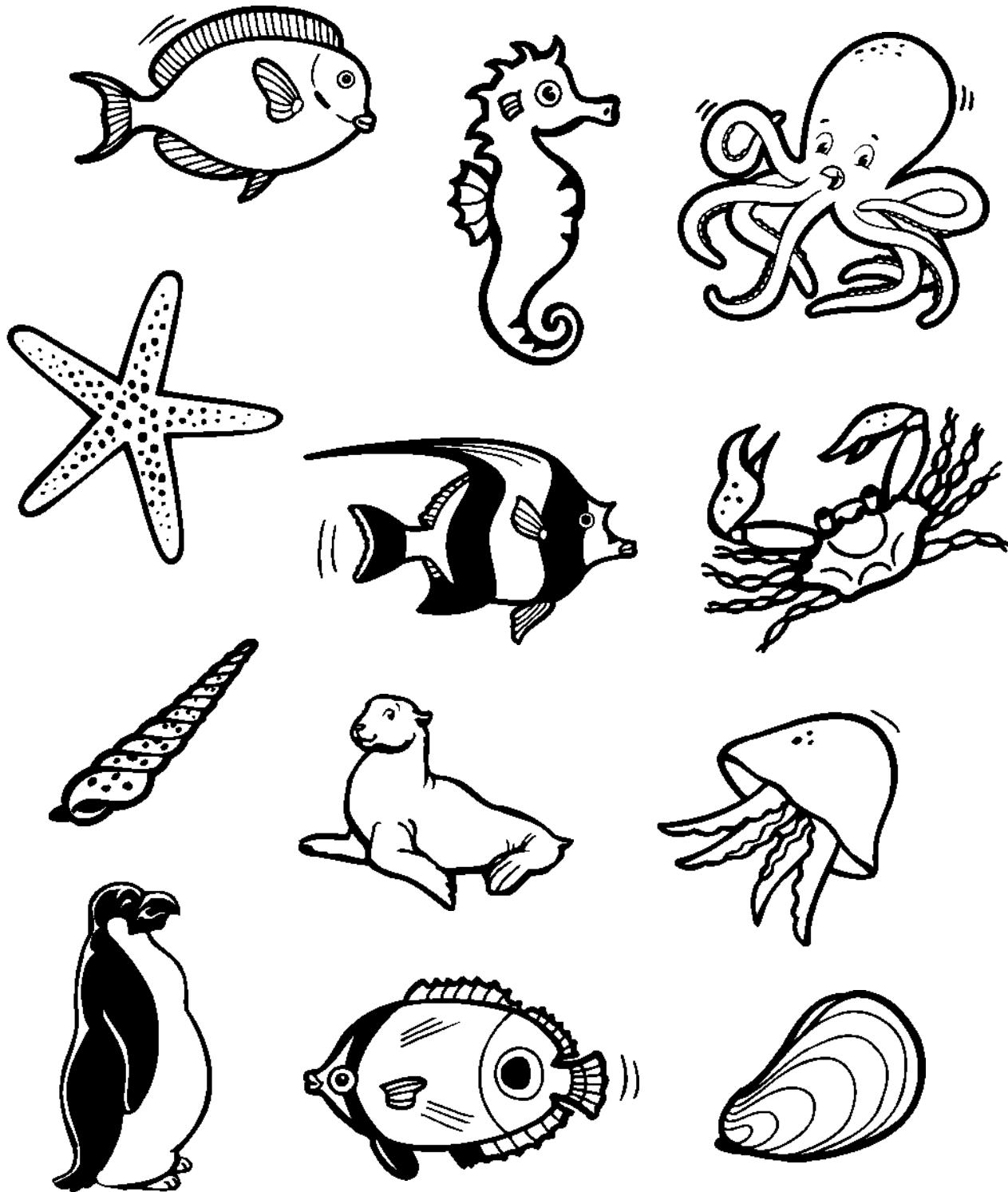
INSTRUCTIONS: Ask the student to look at the picture and color the big circles red and color the small circles green.



SKILL: IDENTIFY LARGE AND SMALL

Name _____

INSTRUCTIONS: Ask the student to look at the pictures below of creatures they may find in the ocean. Then have the student color the pictures that begin with the letter S.

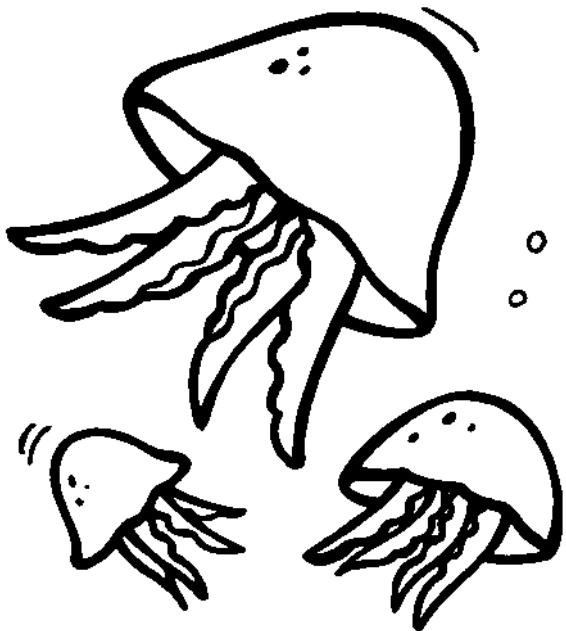


SKILL: IDENTIFY OCEAN CREATURES AND BEGINNING SOUND S

PRESCHOOL • OCEANS • FUNDAMENTALS • 035

Name _____

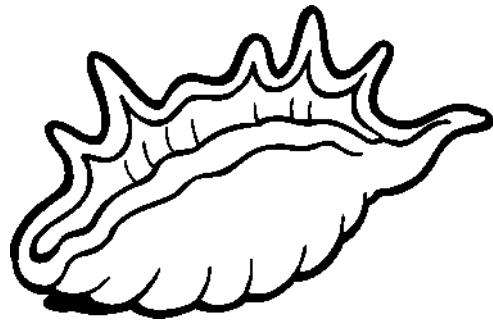
INSTRUCTIONS: Ask the student to circle the letter that is the first letter for each picture shown below.



b

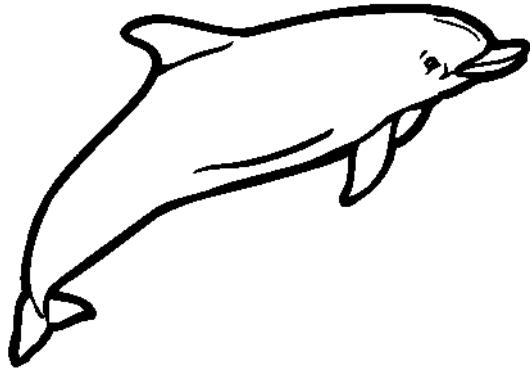


j



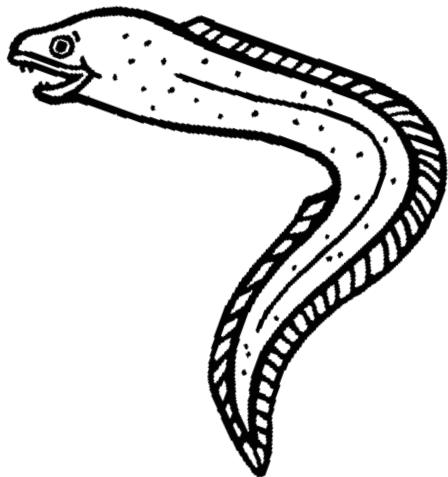
f

s



d

g

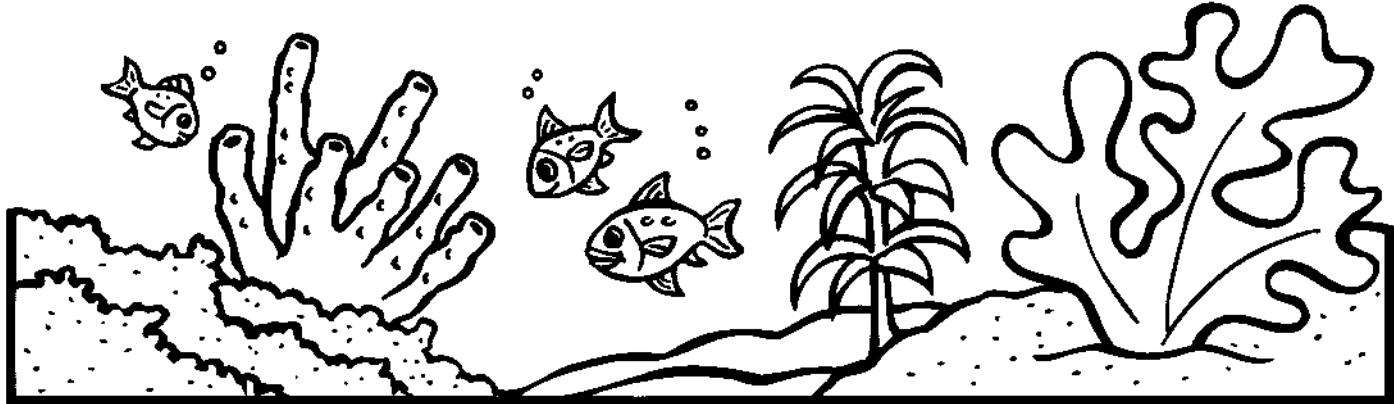
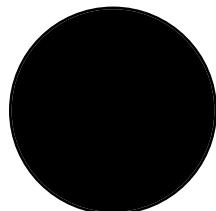
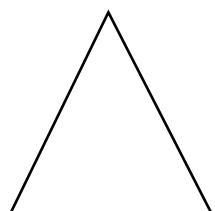
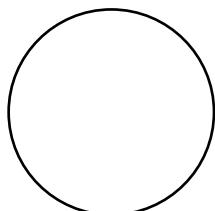
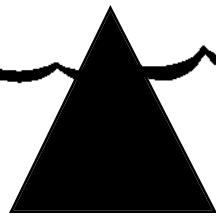
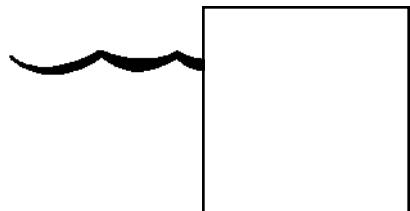


e

m

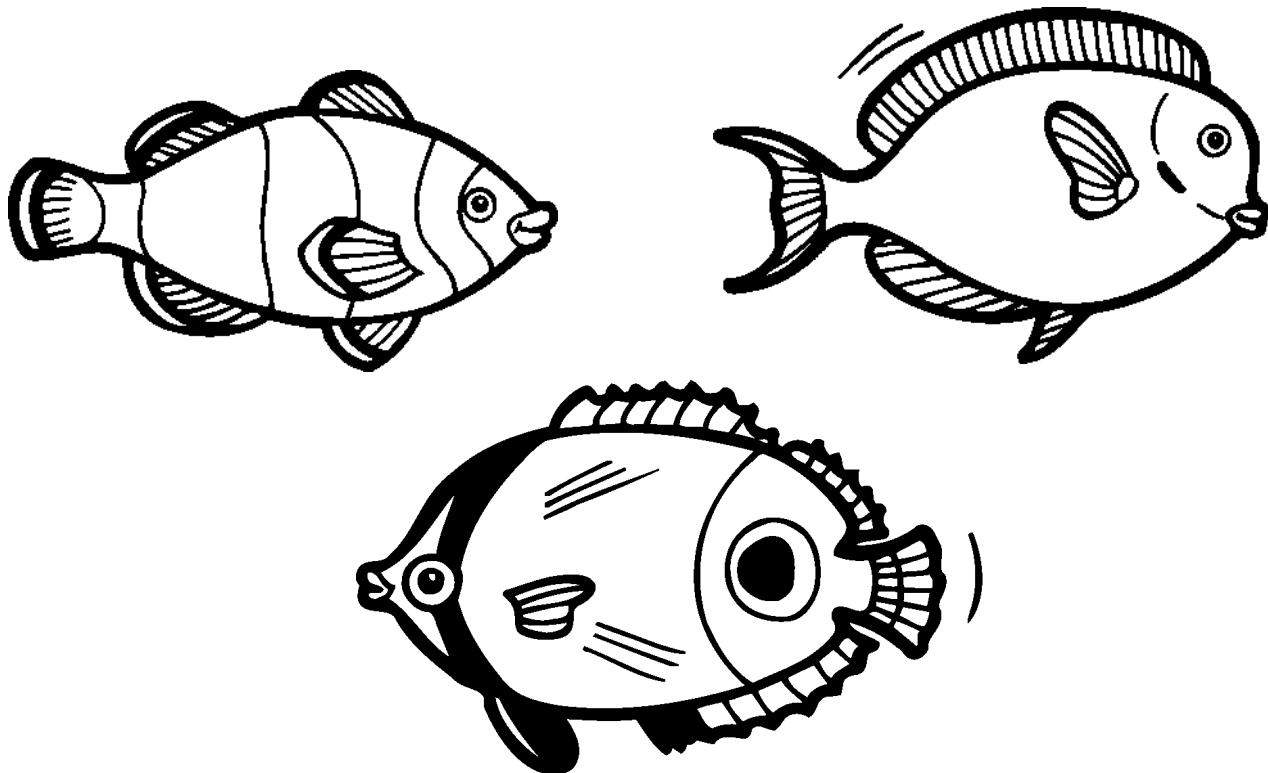
Name _____

INSTRUCTIONS: Ask the student to draw lines connecting the matching shapes.



Name _____

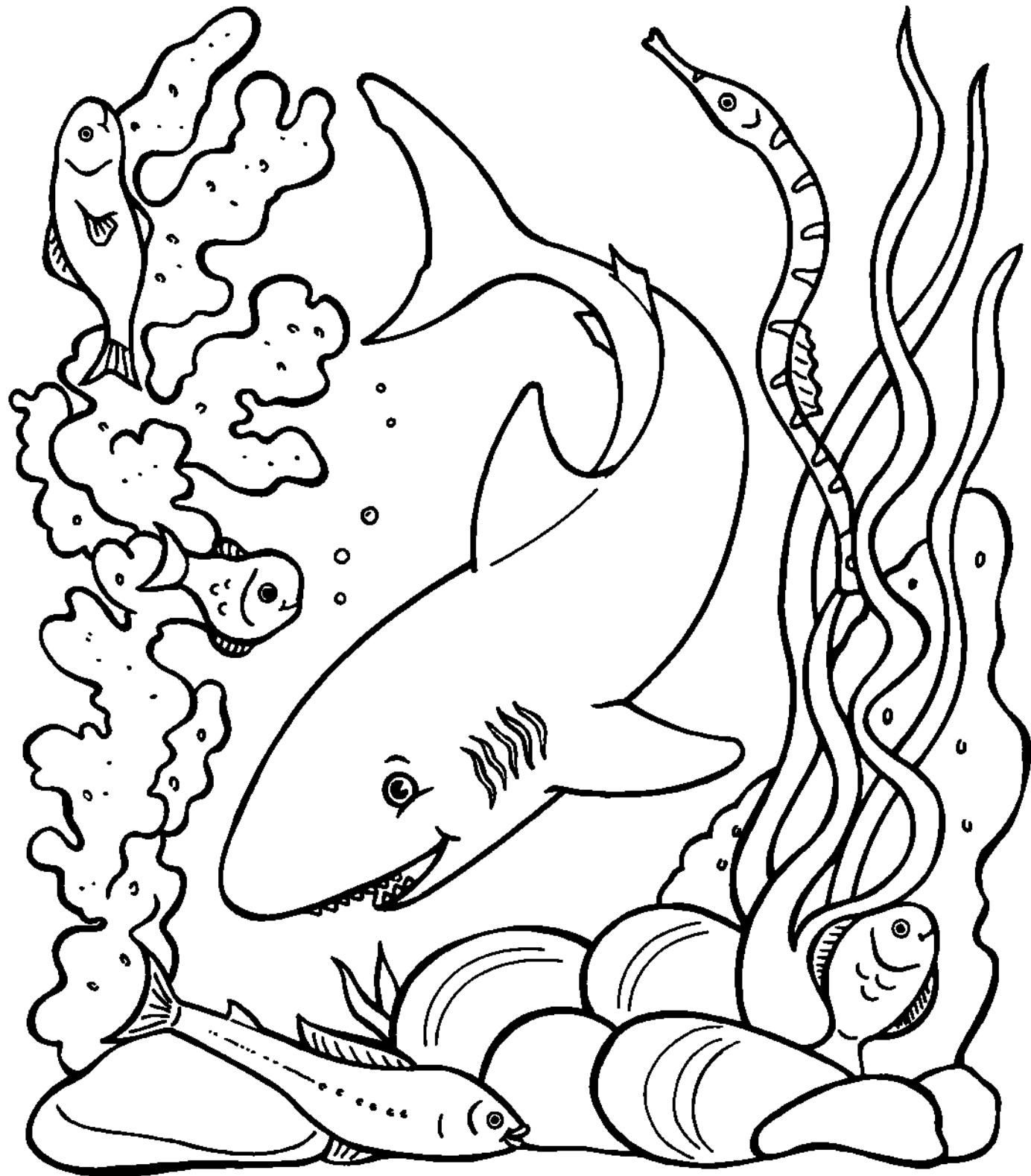
INSTRUCTIONS: Ask the student to color 2 of the fish and then to color 3 of the seahorses.



SKILL: COUNT 2 AND 3

Name _____

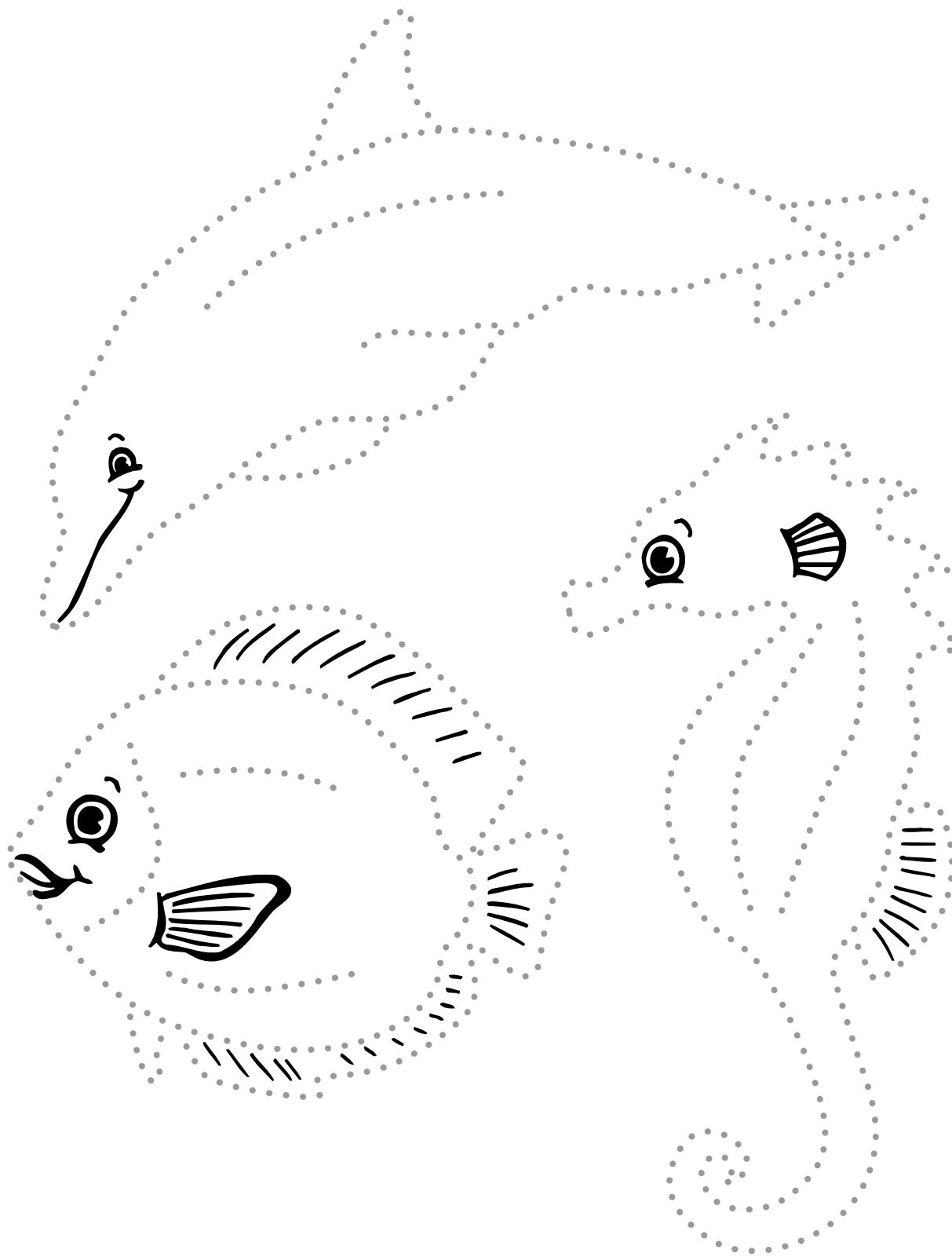
INSTRUCTIONS: Ask the student to find 6 fish in this picture. Then color 3 of them red and 3 of them blue.



SKILL: FIND HIDDEN CREATURES, COUNT 2 AND 3

Name _____

INSTRUCTIONS: Ask the student to trace the dots and complete the pictures. Then have the student color the picture.

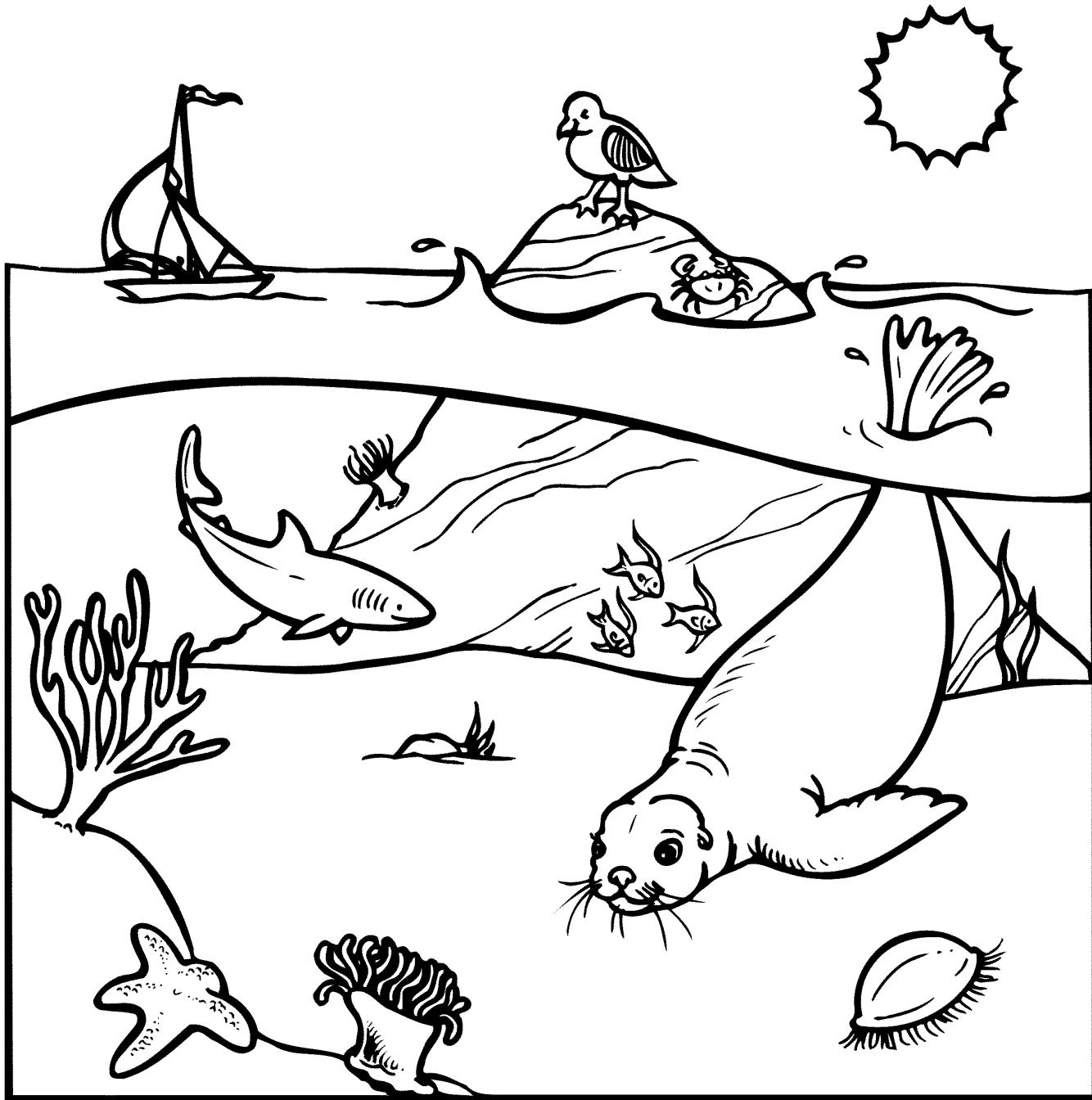


SKILL: CONNECT THE DOTS

Name _____

The ocean is a wonderful place.

Color the picture below, and circle
5 items that begin with the letter s.

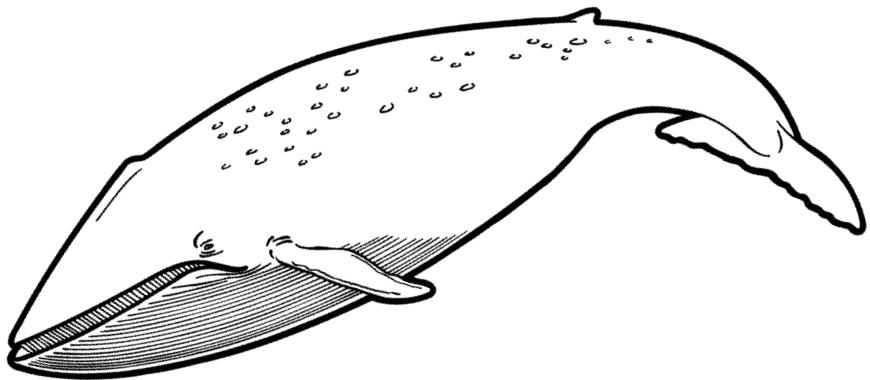


Name _____

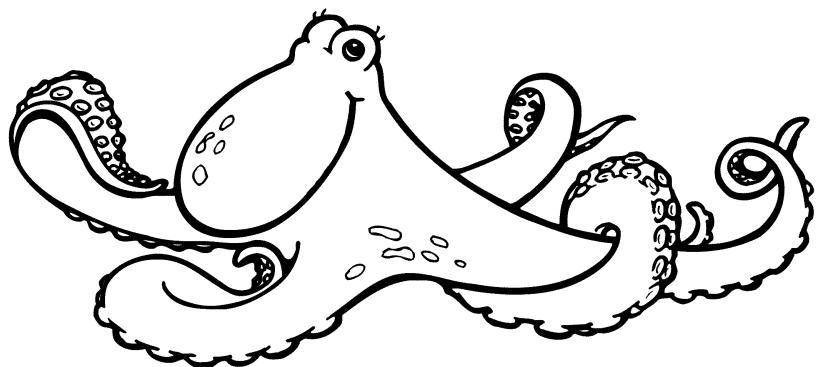
Draw a line from each ocean

creature to its beginning letter sound.

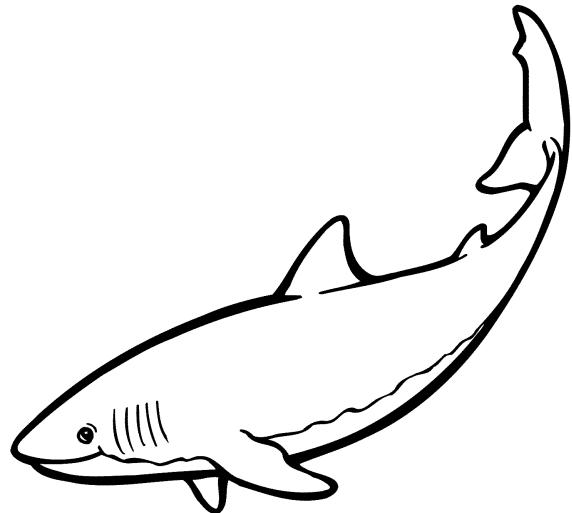
Oo



Ss

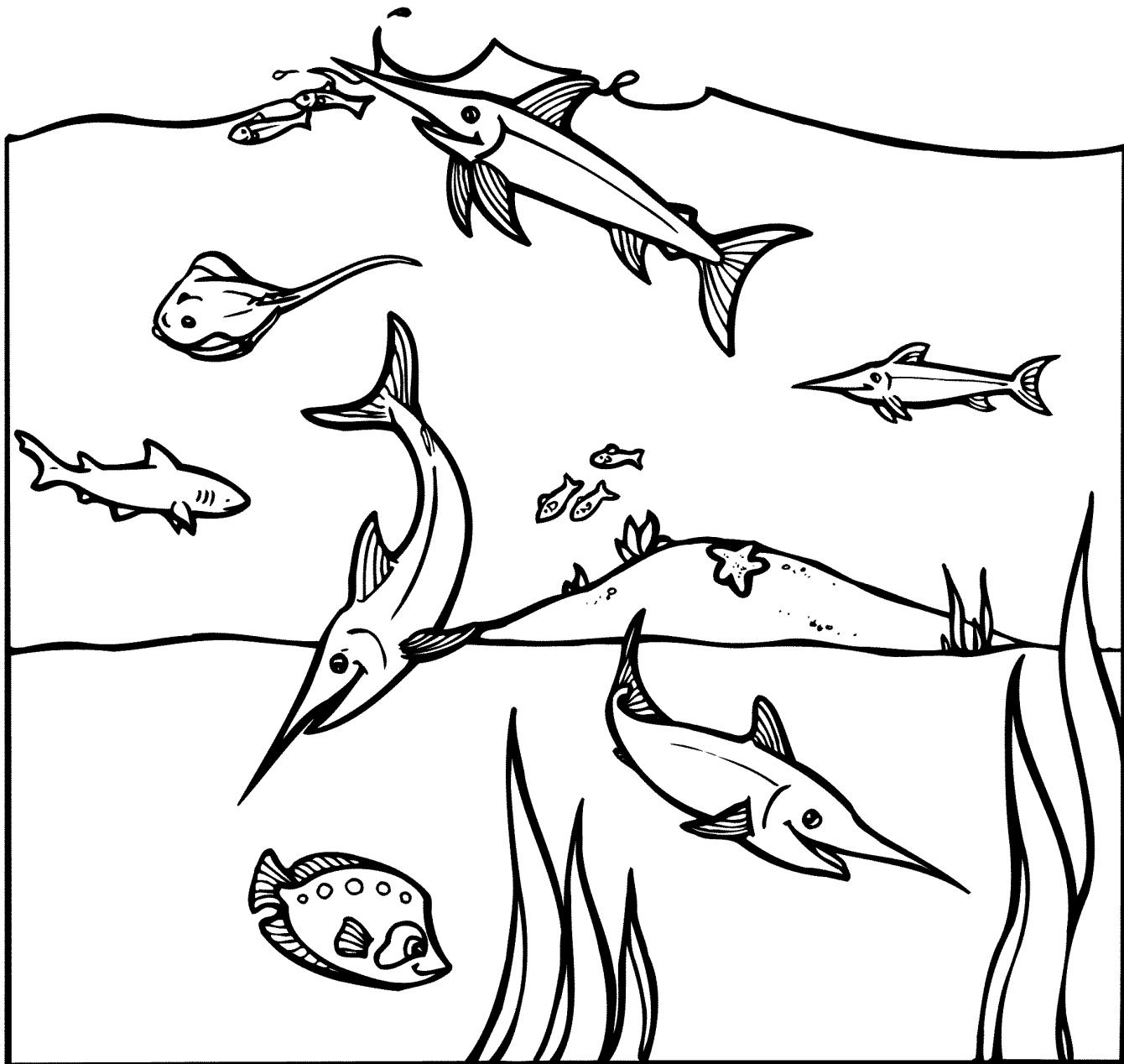


Ww



Name _____

Swordfish have a long, sharp beak
that makes them look different from
other fish. Circle the swordfish below.



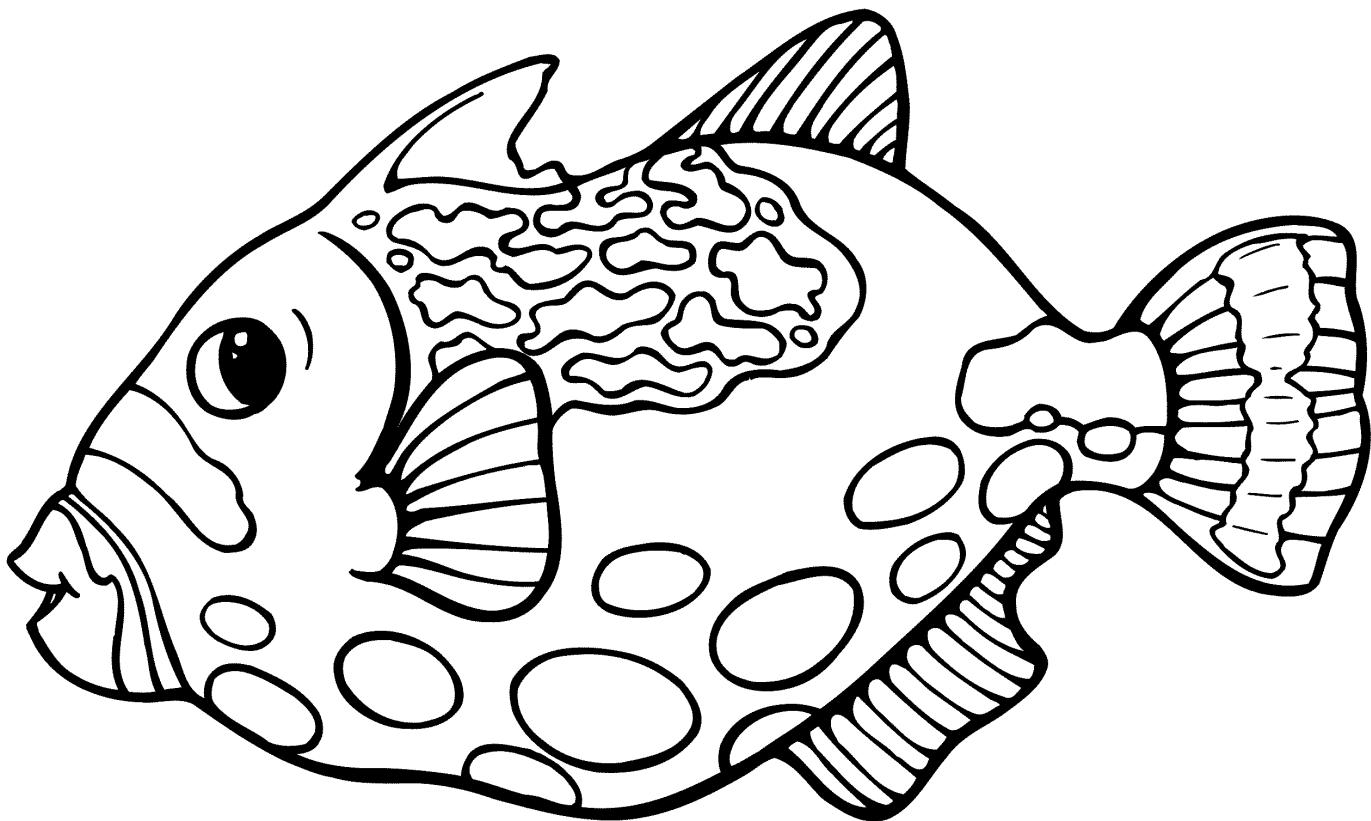
SKILL: CLASSIFY SWORDFISH

Name _____

Many ocean fish are very colorful.

Color the tail of the fish blue. Color

the spots orange. Color the fins green.



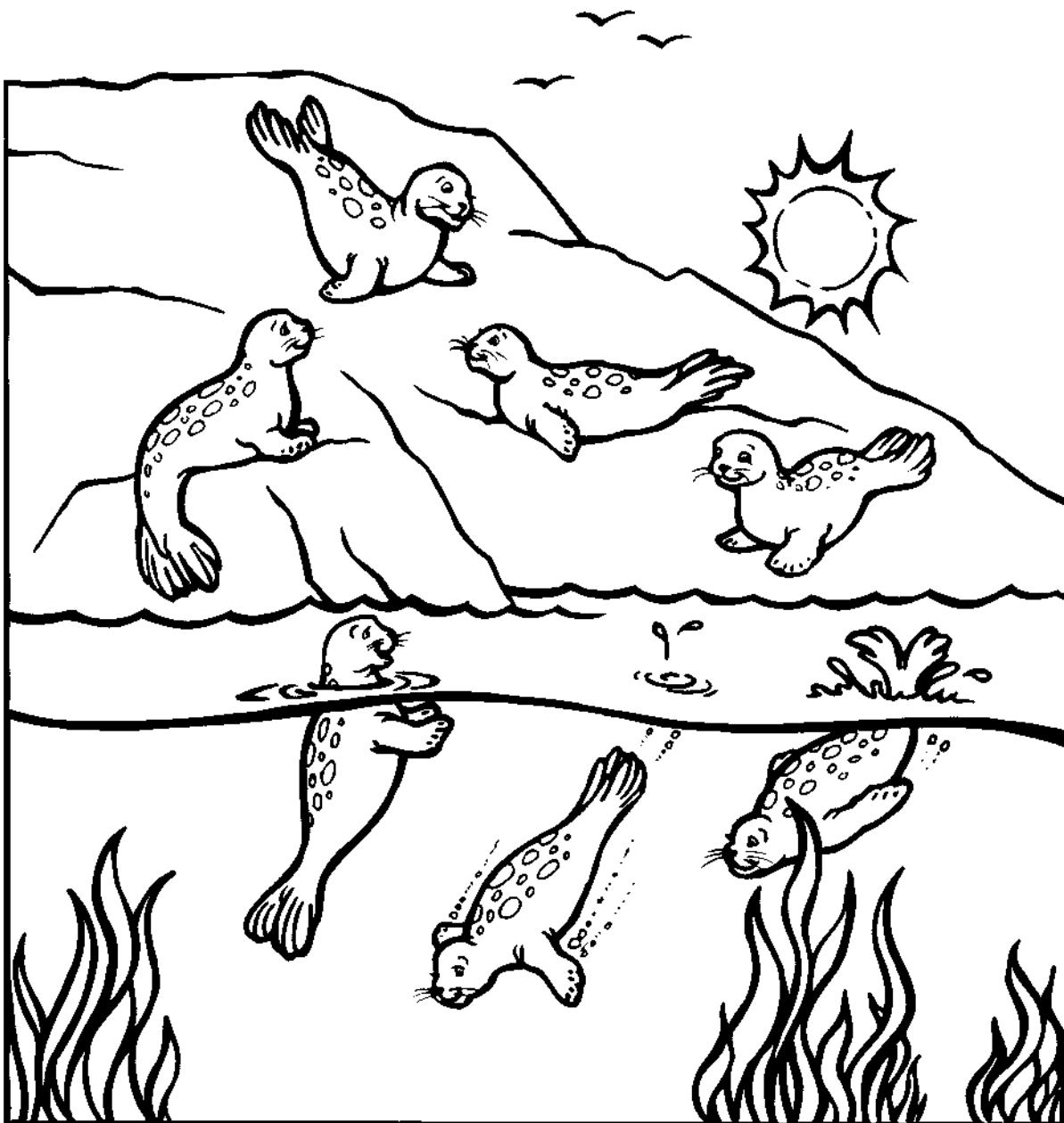
SKILL: FOLLOW DIRECTIONS

Name _____

Seals are ocean mammals that

spend part of their lives on land.

Draw an X on the seals that are on land and circle the seals in the water.

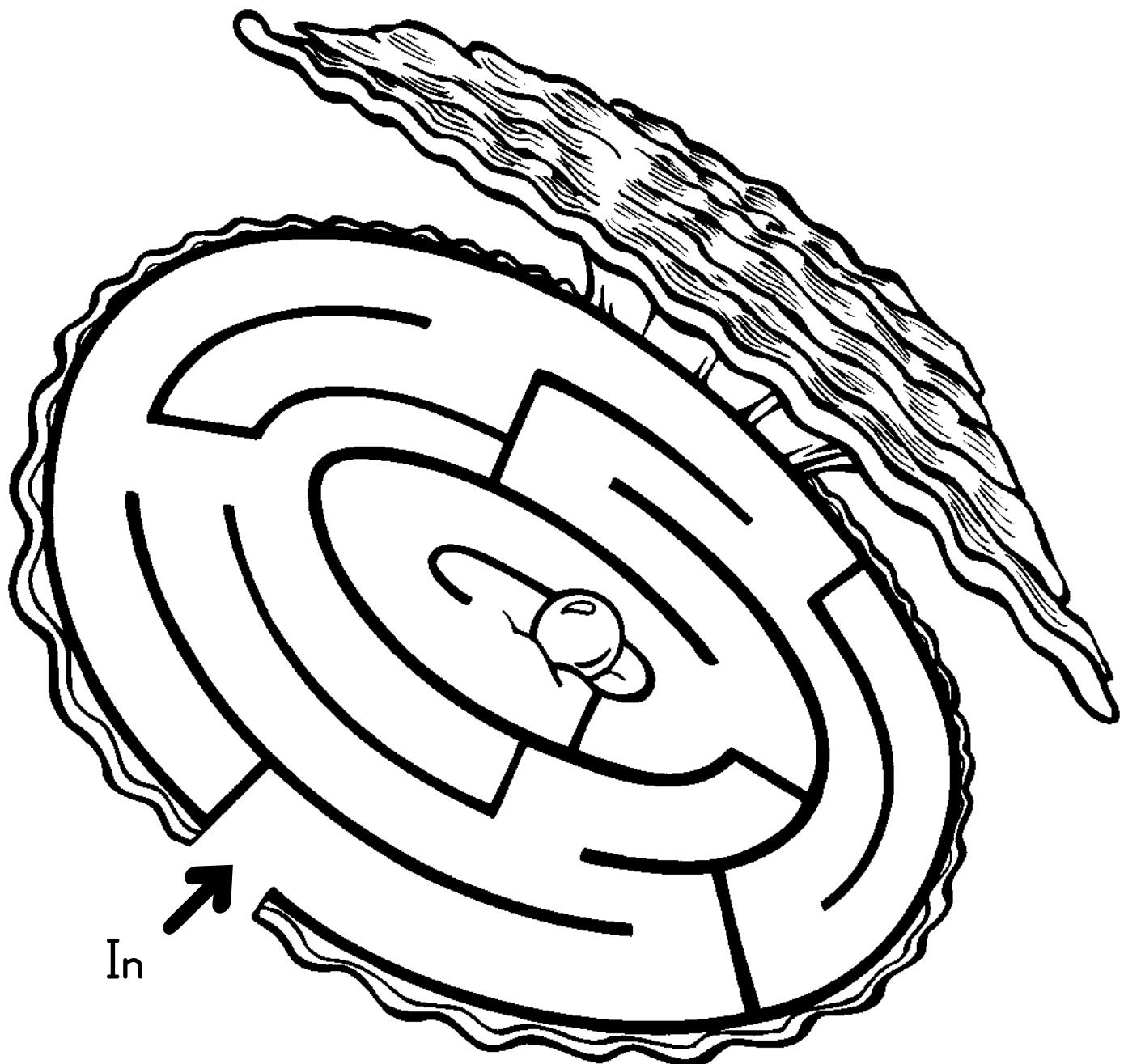


SKILL: FOLLOW DIRECTIONS AND COMPREHENSION

Name _____

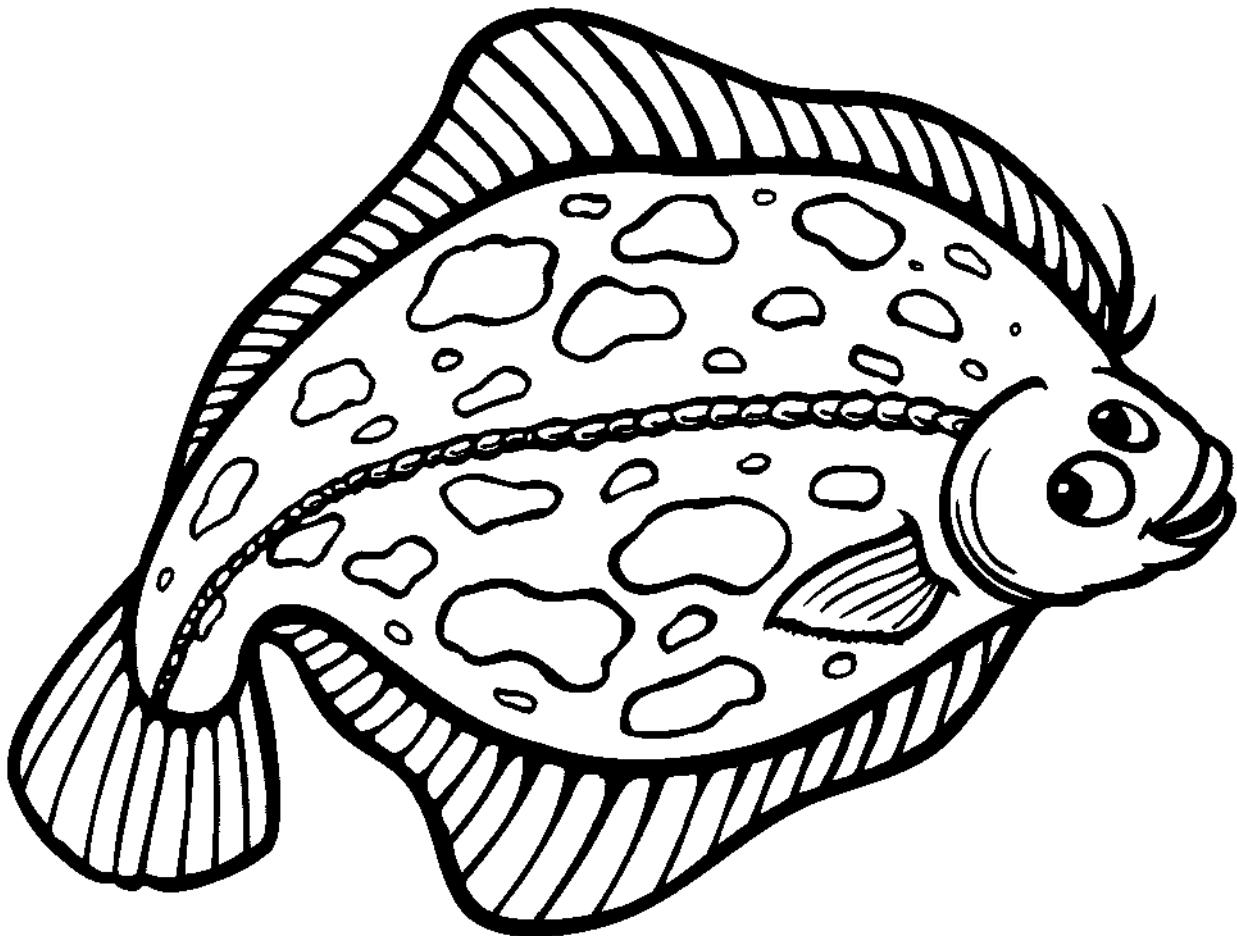
Sometimes oysters make pearls.

Find your way to the pearl in the center of this maze.



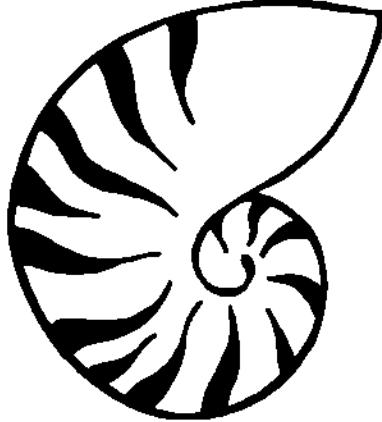
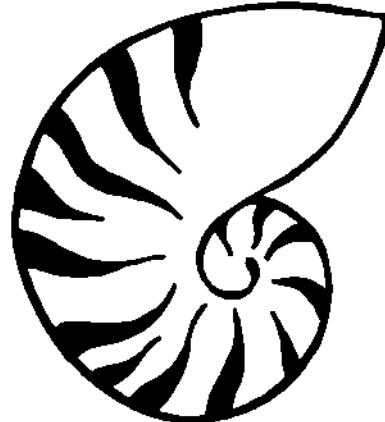
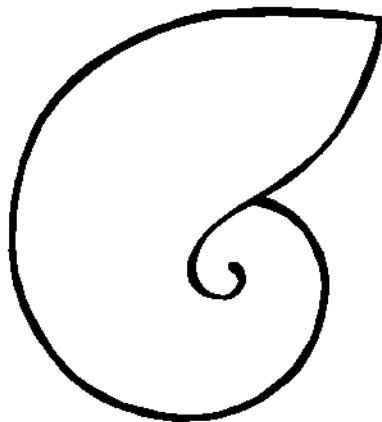
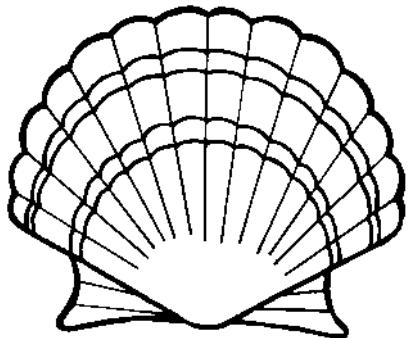
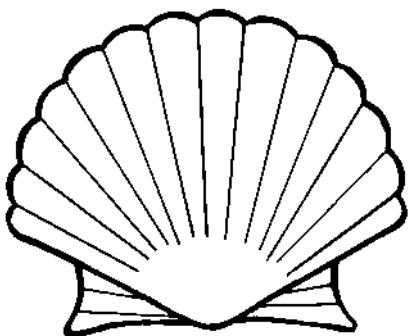
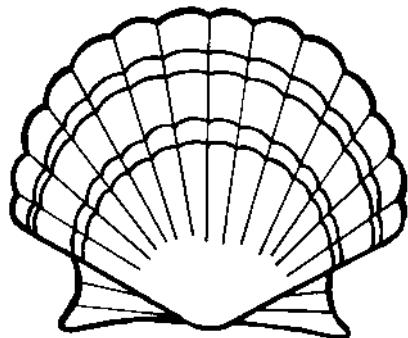
Name _____

Flounders are flatfish that live at the bottom of the ocean. These fish have both eyes on the same side of their head. Color the flounder below.



Name _____

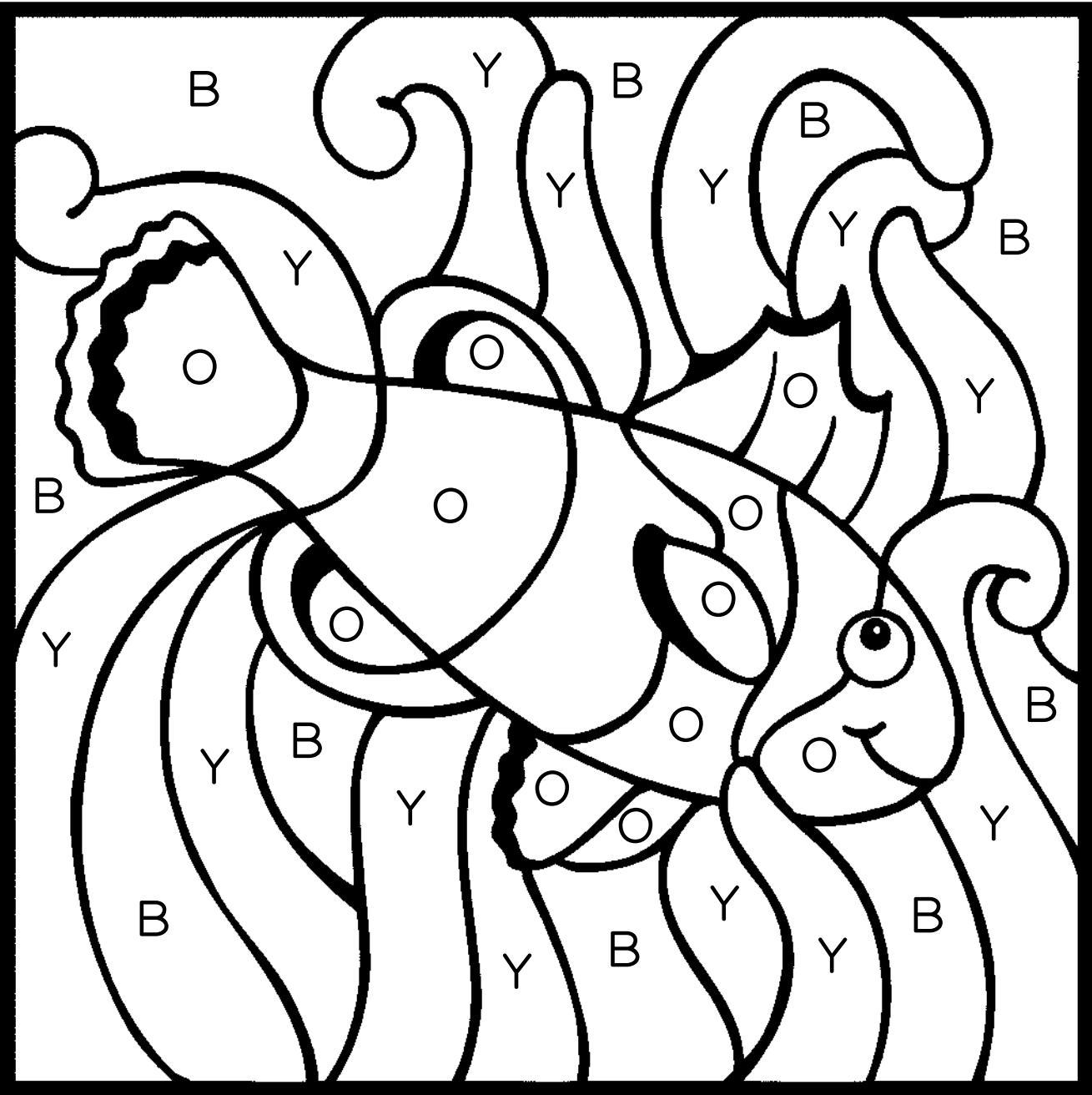
Circle the different shell in each row.



Name _____

Color the shapes filled with O's

orange, the shapes filled with B's black,
and the shapes filled with Y's yellow.

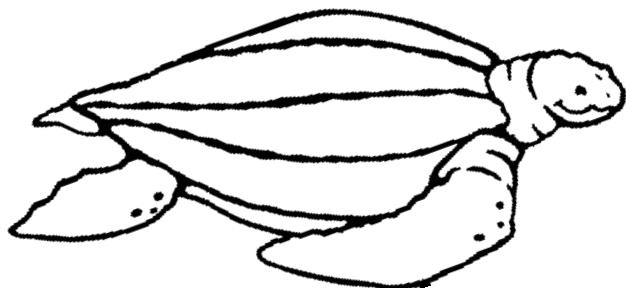


Name _____

Write the letters below. Draw a line
from the letter to the ocean creature
with the same beginning sound.

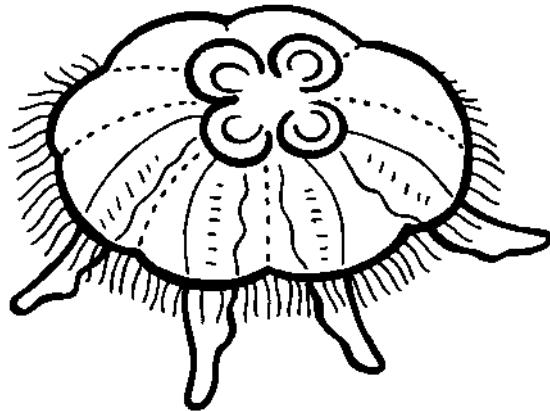
C C

C C



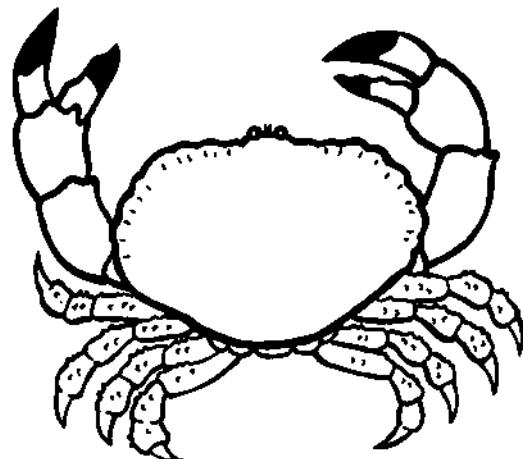
J j

J j



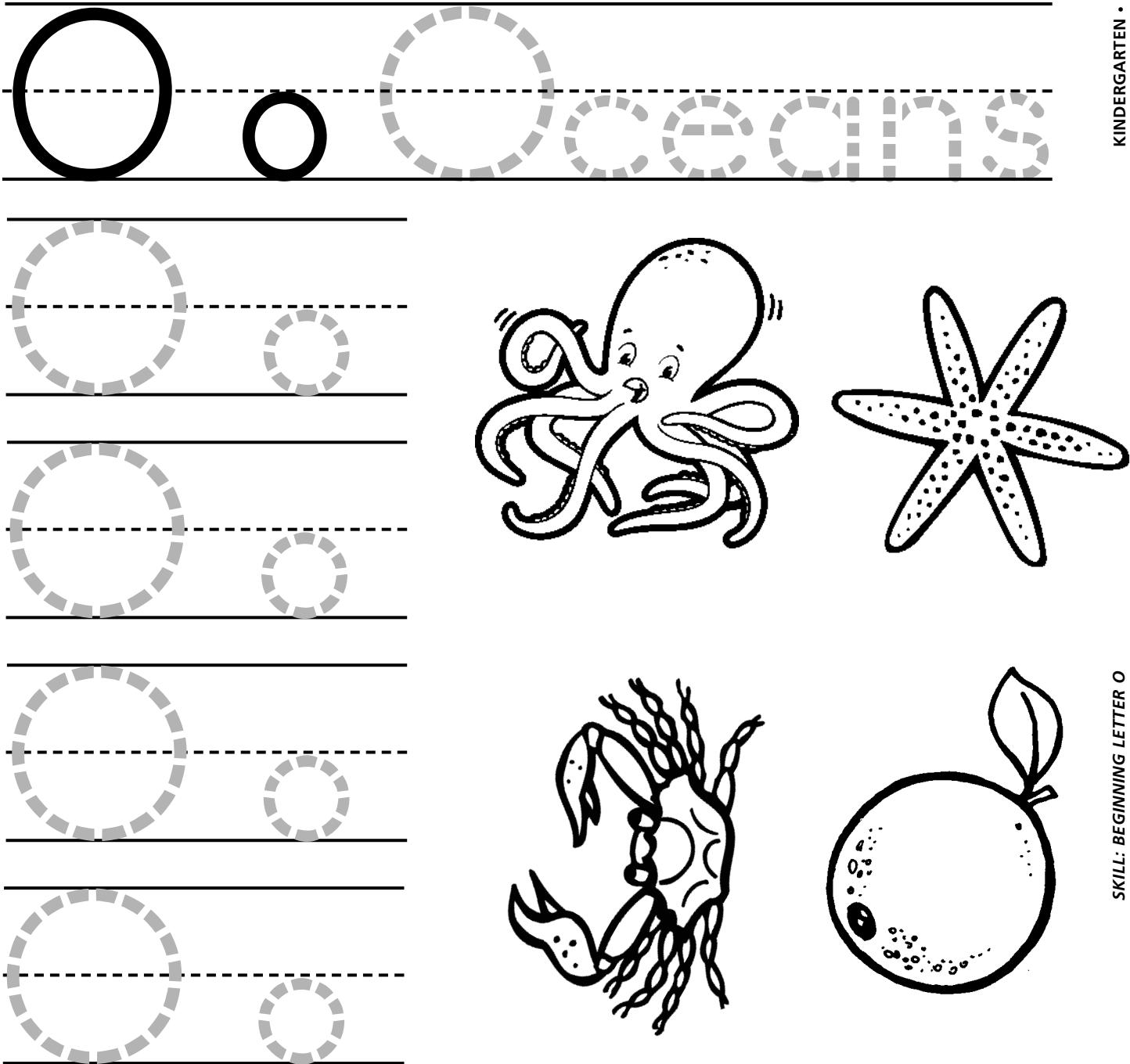
T t

T t



Name _____

Trace the letter Oo and the word oceans. Then say the words and color the pictures that begin with Oo.

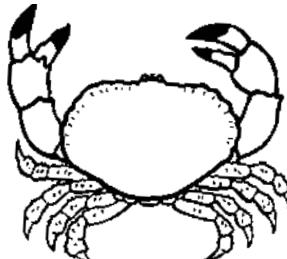


Name _____

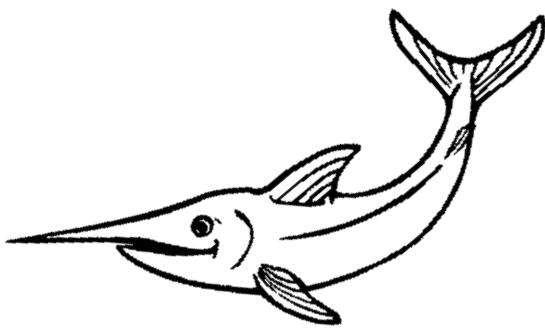
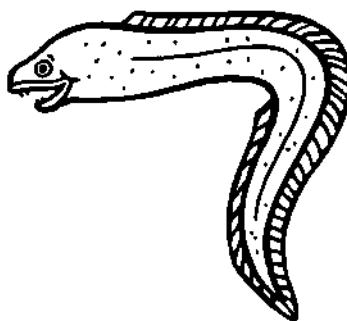
Trace the letter S s.

Circle the ocean object in each row
that begins with the Ss sound.

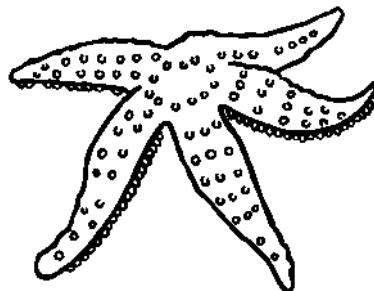
S s



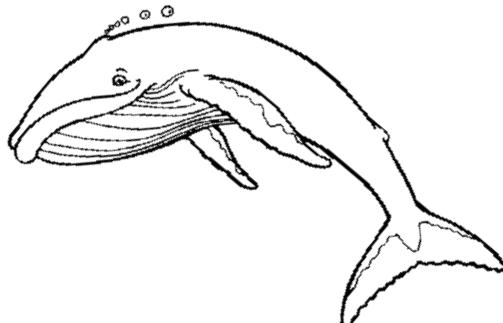
S s



S s

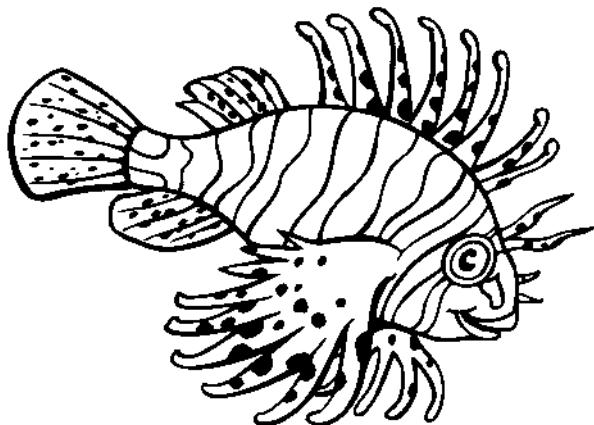


S s



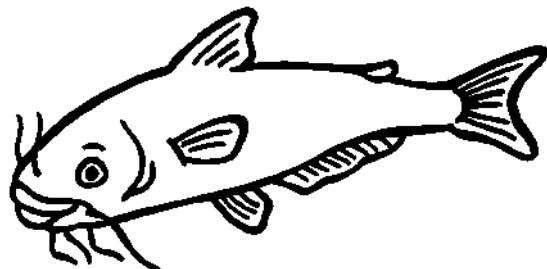
Name _____

Many fish are named after other
animals. Write the following fish names.



lionfish

catfish



zebra pipefish

Name _____

Fill in the missing letters. Then
write the word by yourself.

fish

fish

seal

turtle

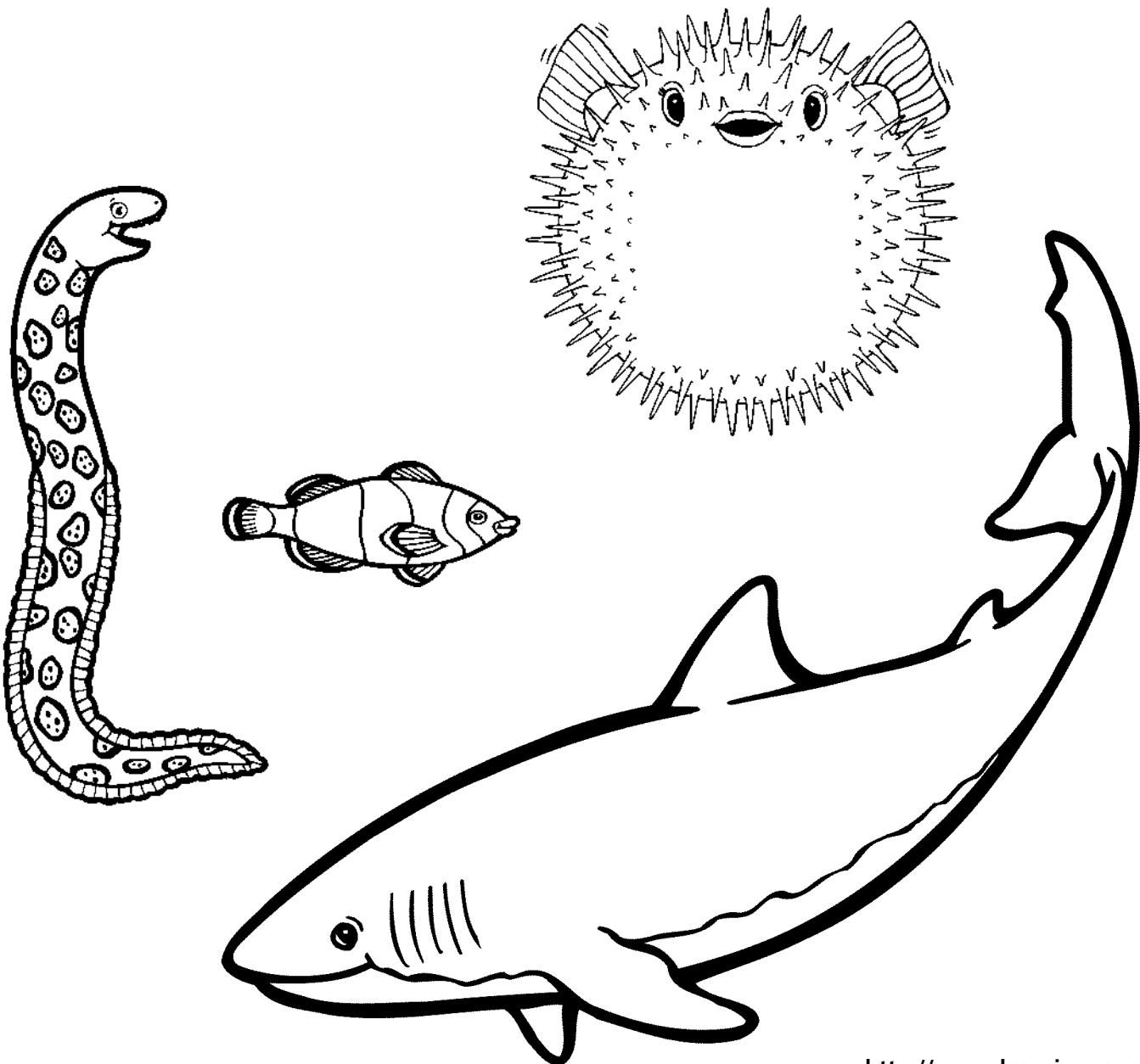
whale



Name _____

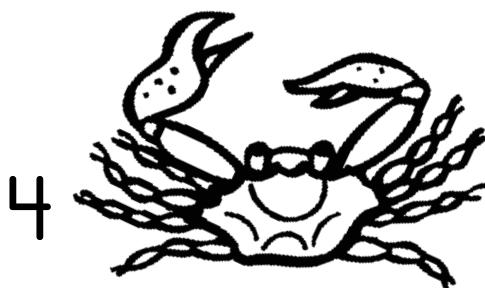
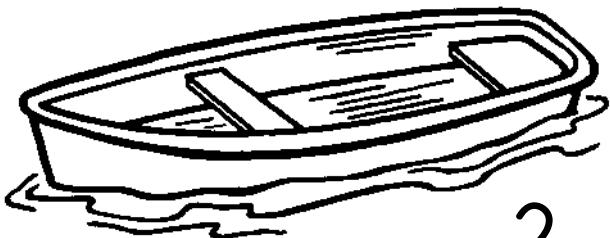
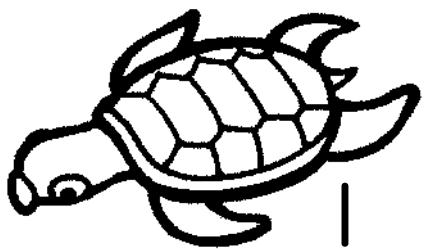
Fish come in many shapes and sizes.

Color the big fish blue. Color the round
fish green. Color the long fish yellow.
Color the small fish orange.



SKILL: RECOGNIZE AND COMPARE SHAPES

Name _____



Which picture has the same beginning sound as clam? _____

Which picture has the same beginning sound as starfish? _____

Which picture has the same beginning sound as beach? _____

Which picture has the same beginning sound as tail? _____

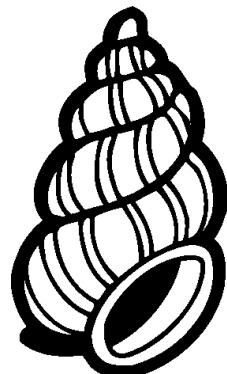
Name _____

Draw a line from the word to the picture that rhymes with it.

bell



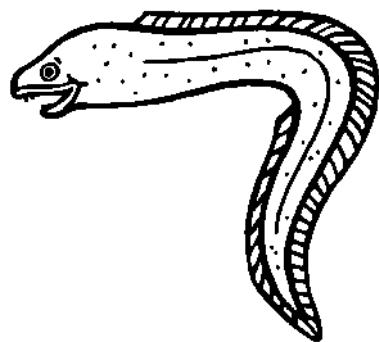
seal



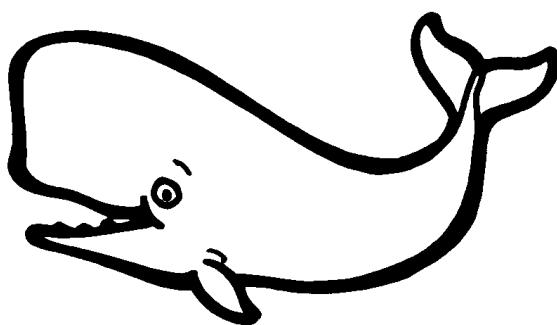
pail



fish



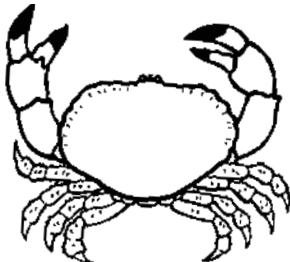
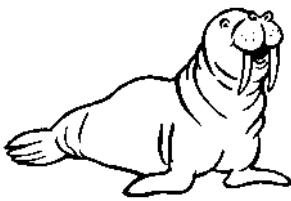
coat



Name _____

Trace the letters in each row, then
circle the picture that has the same
beginning sound.

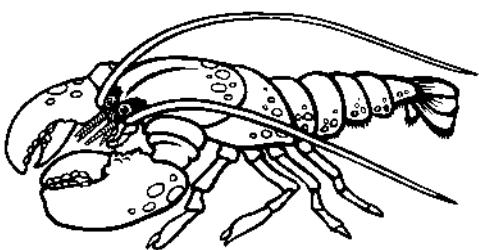
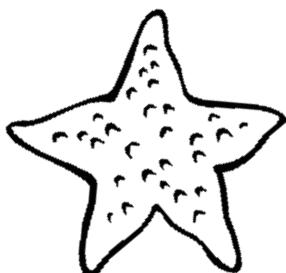
C C



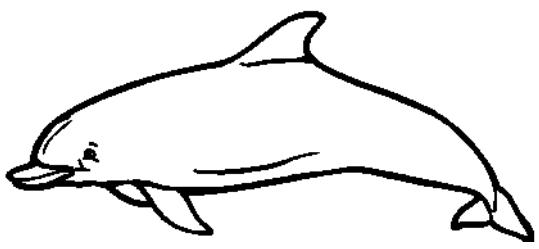
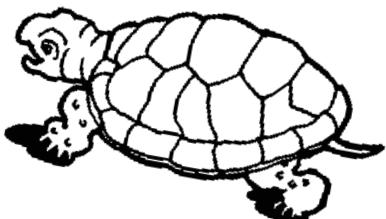
U J



L L



D d



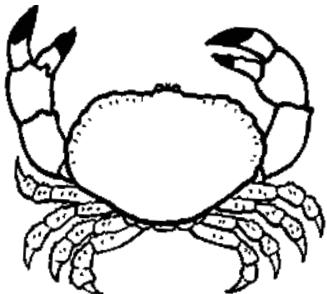
Name _____

Finish the words by writing the

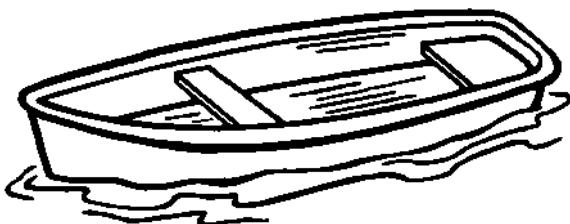
letter that ends each word.

Choose from the letters below.

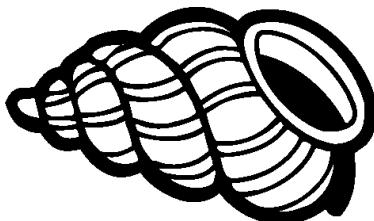
I	b	t
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cra



boa



shel

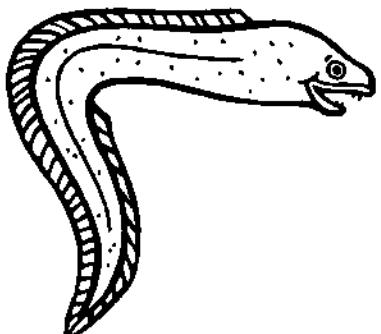
Name _____

Finish the words by writing the

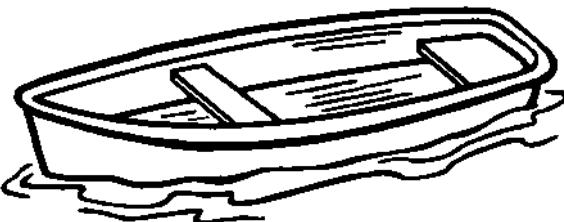
letter that starts each word.

Choose from the letters below.

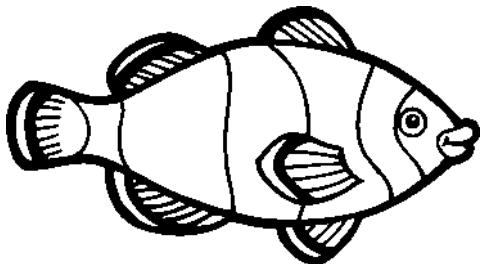
f	e	b
---	---	---



e l



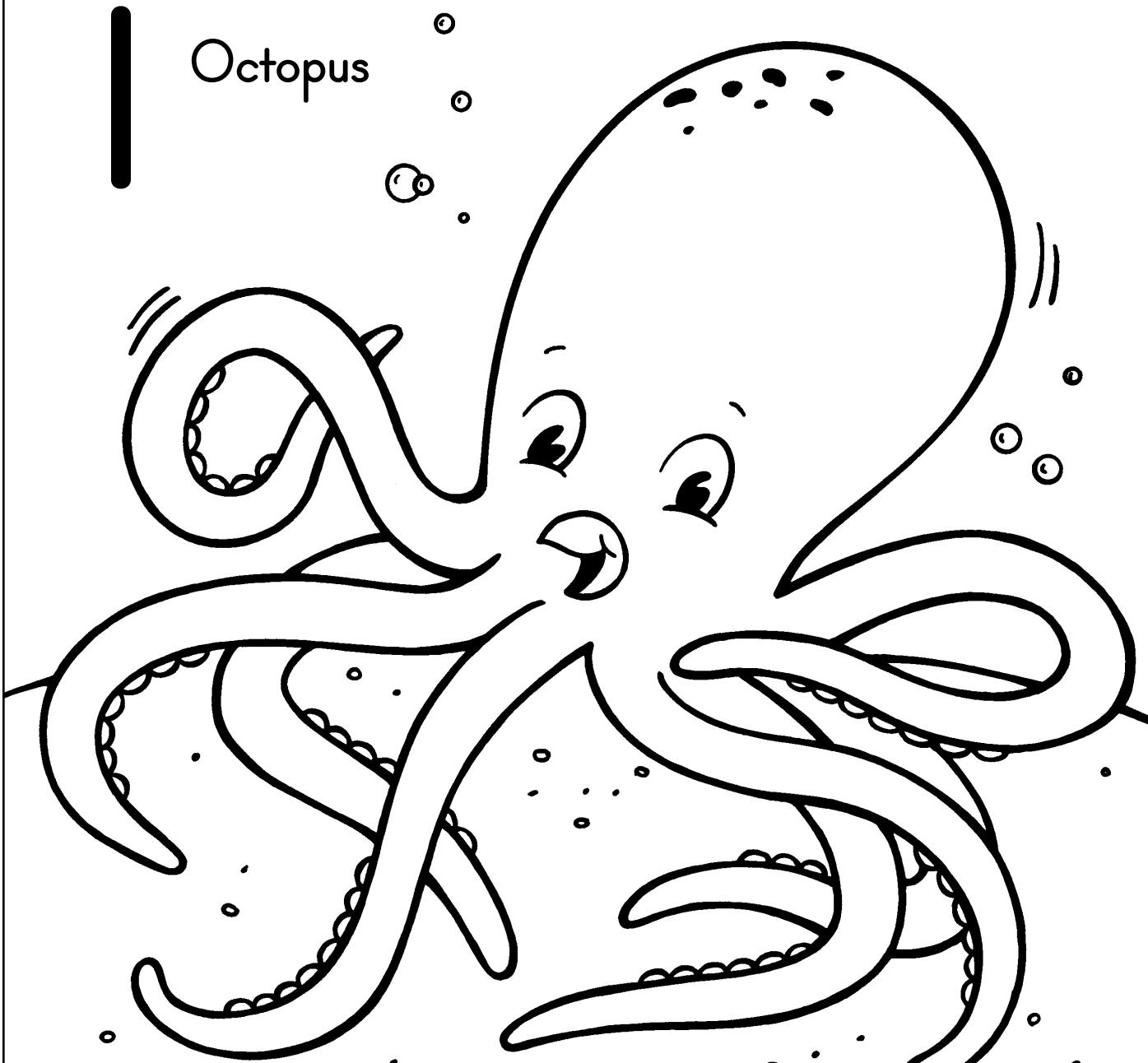
o a t



i s h

Name _____

Octopus



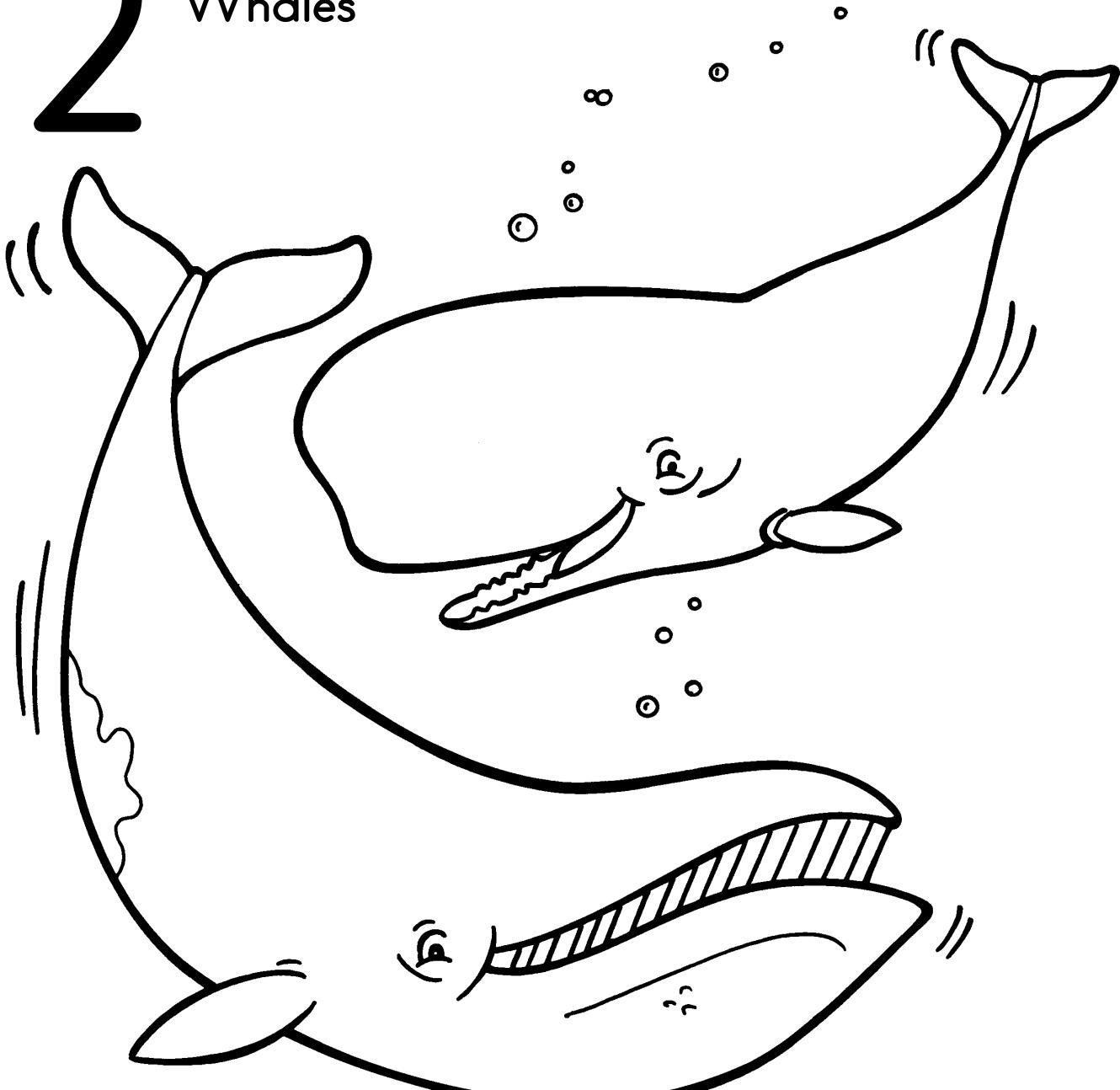
SKILL: COUNT AND WRITE 1

KINDERGARTEN • OCEANS • MATH • 001

Name _____

2

Whales



2

2

2

2

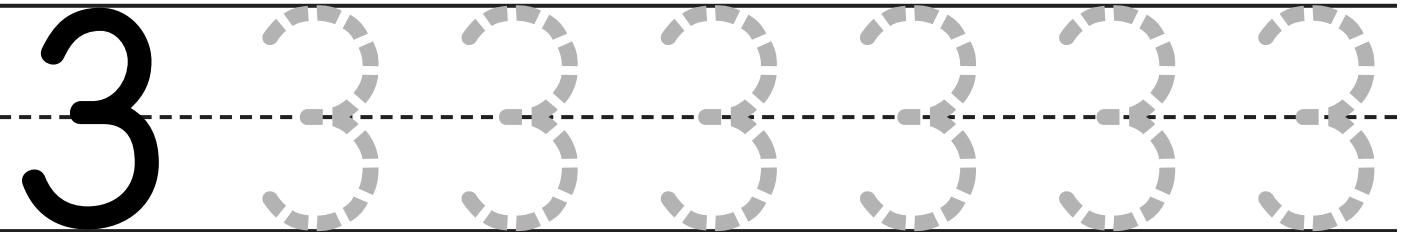
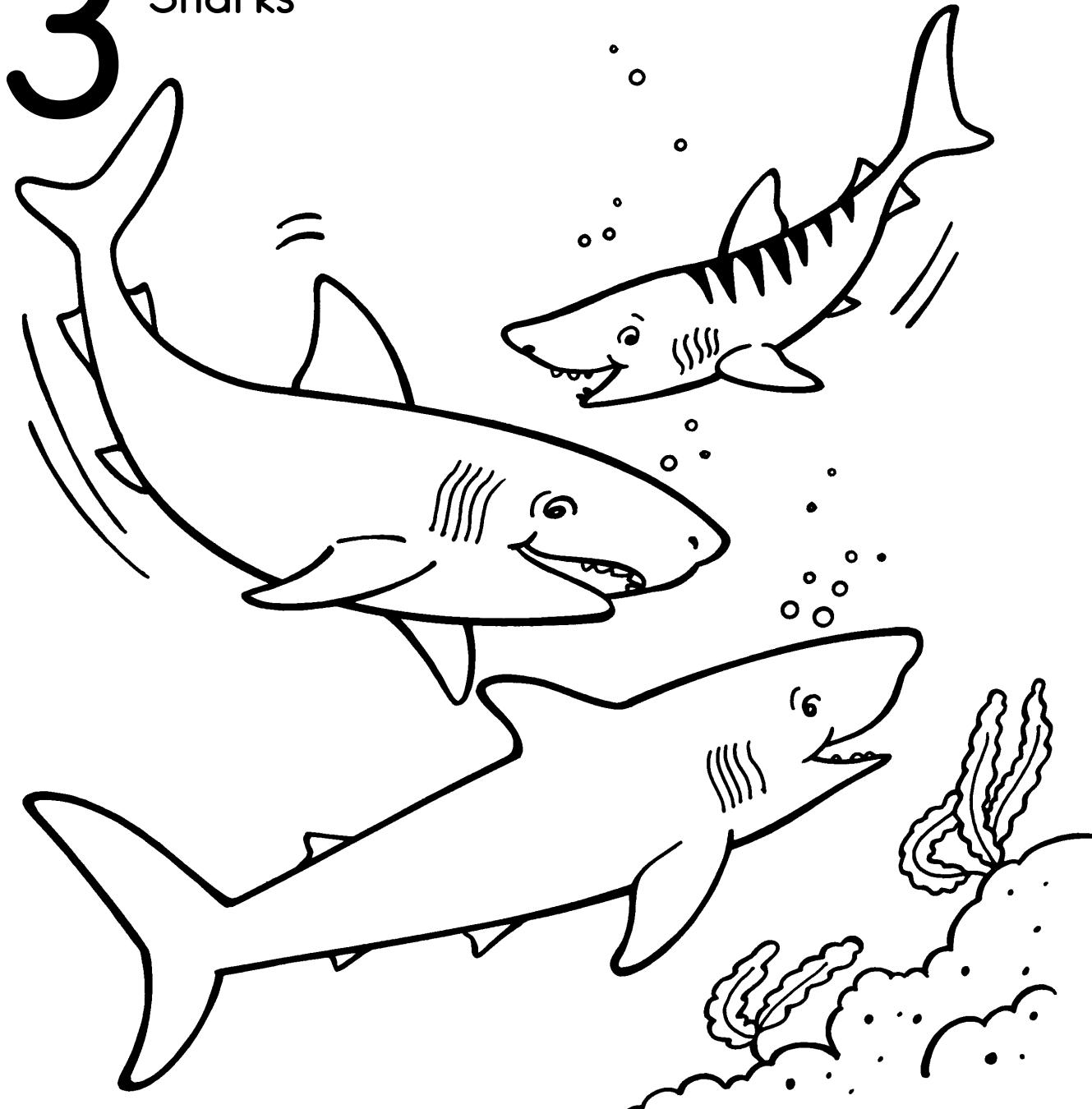
2

2

2

Name _____

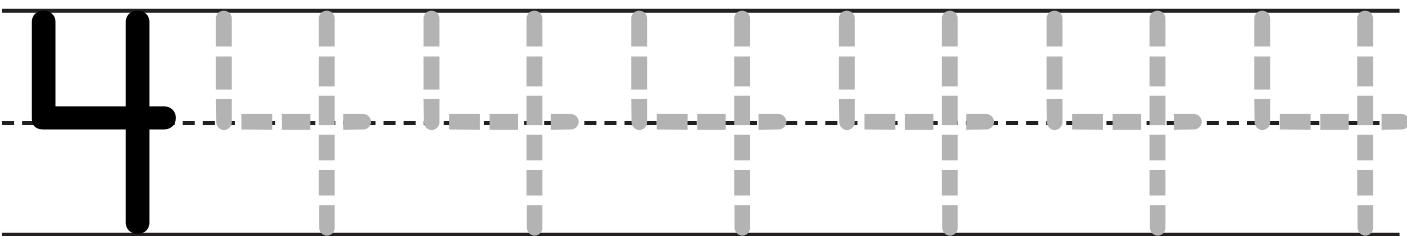
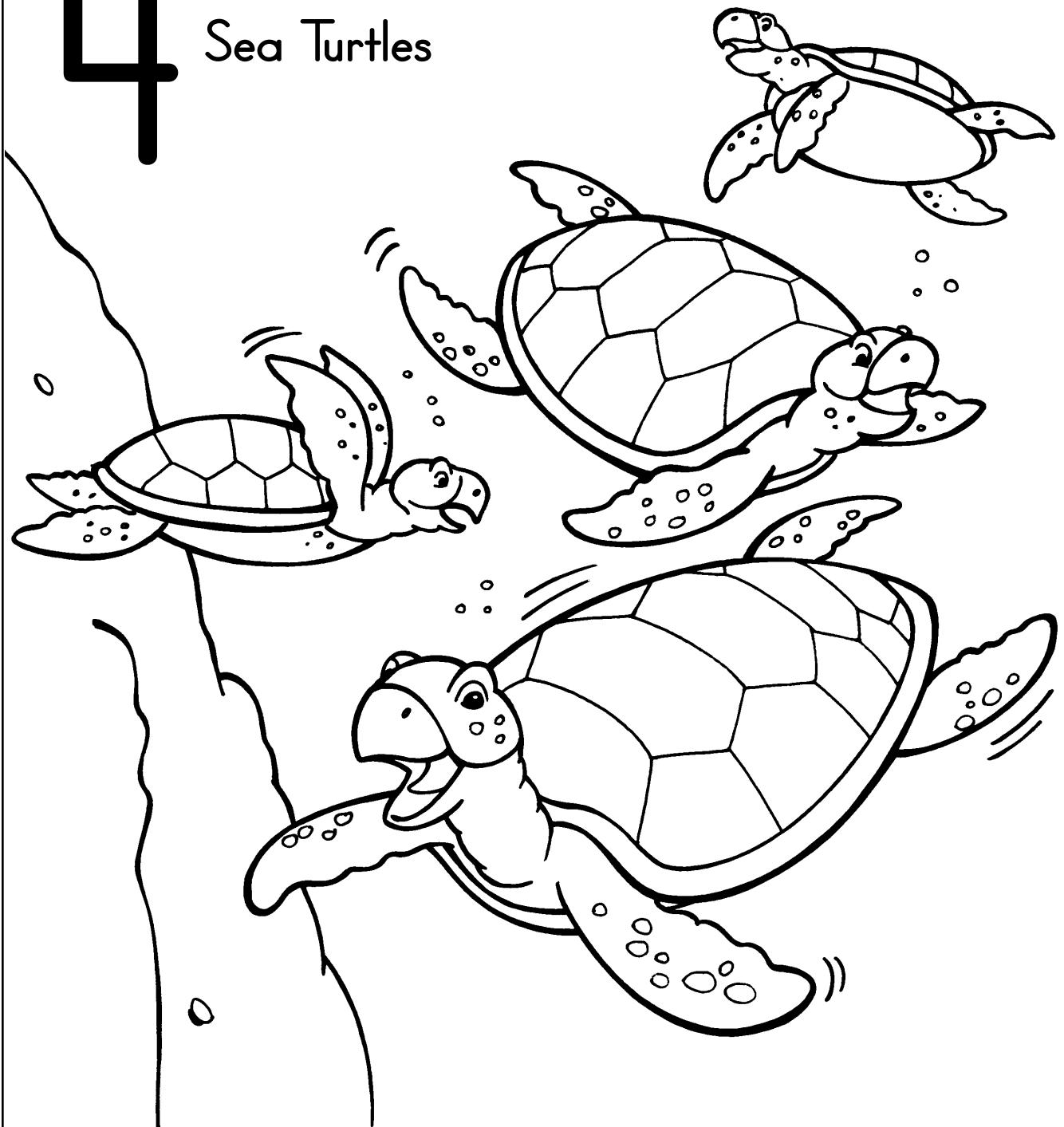
3 Sharks



Name _____

4

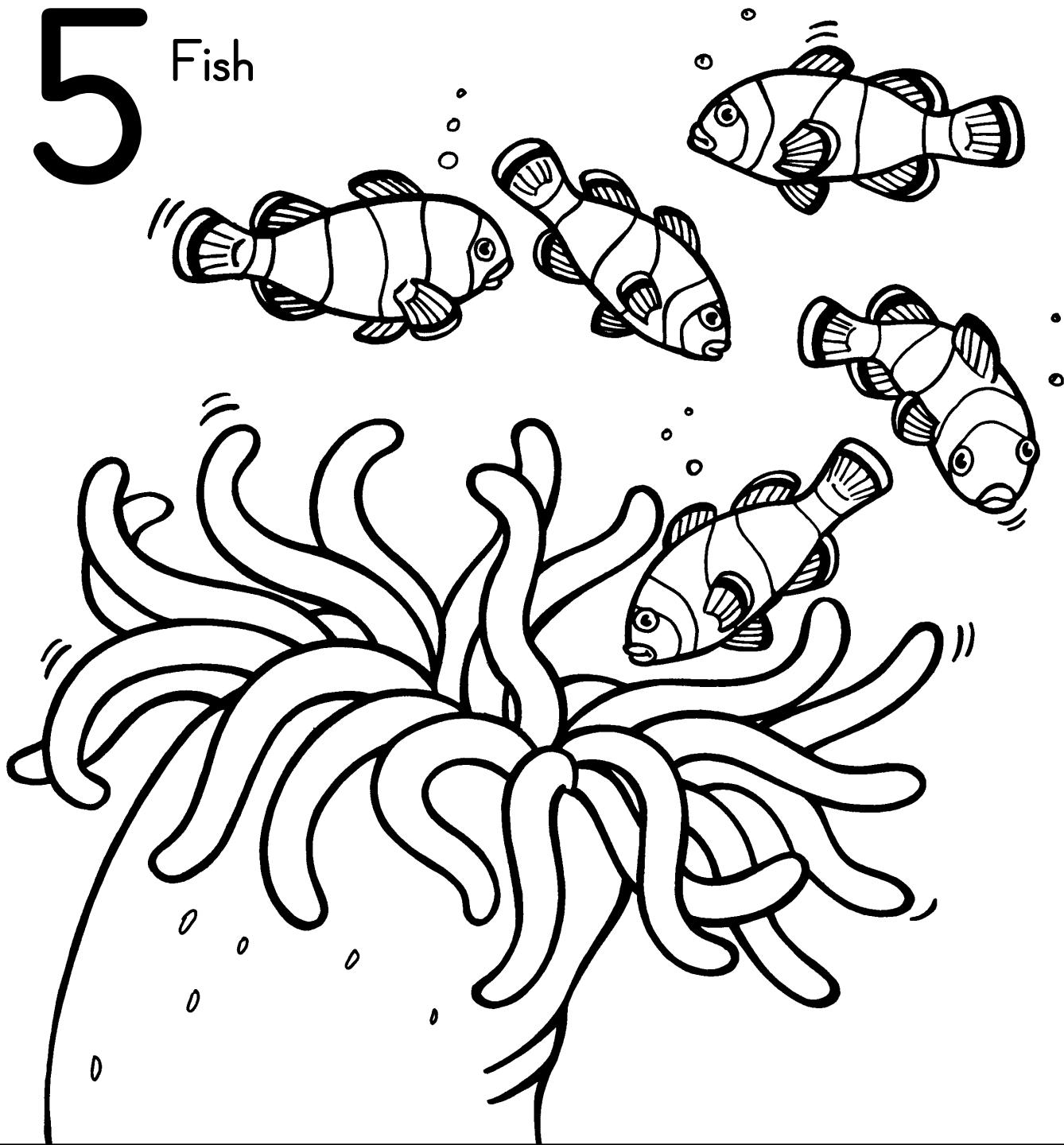
Sea Turtles



Name _____

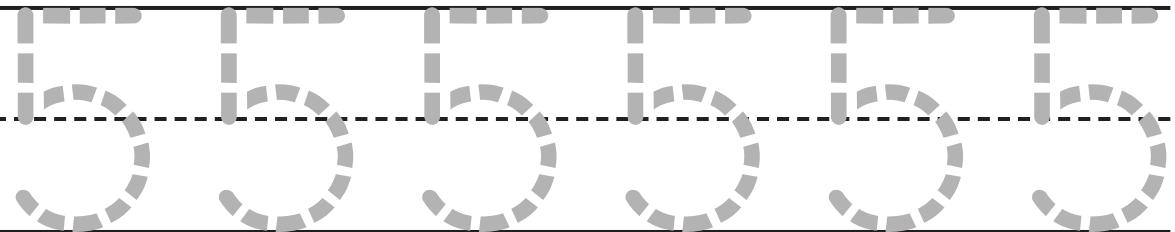
5

Fish



SKILL: COUNT AND WRITE 5

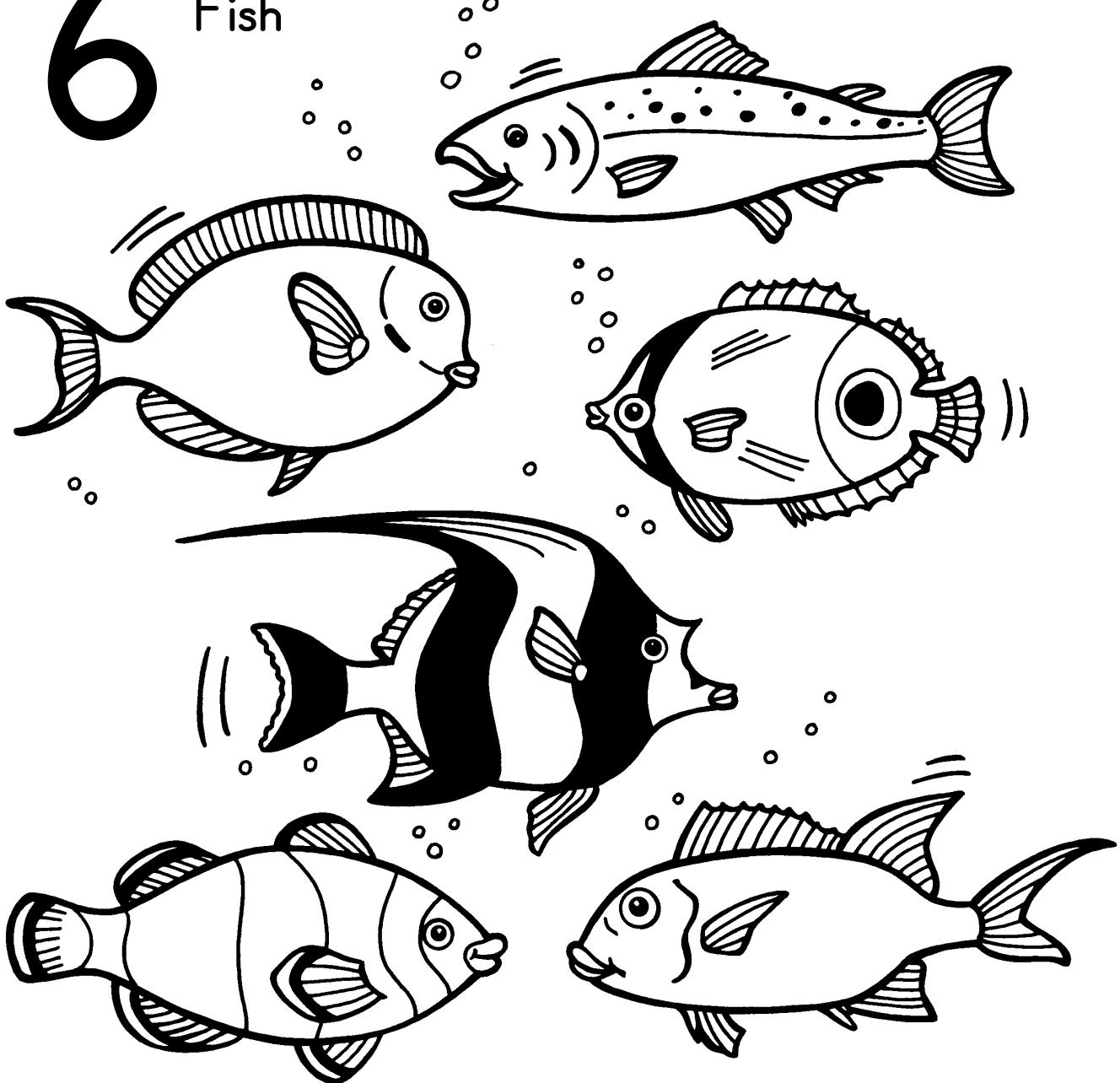
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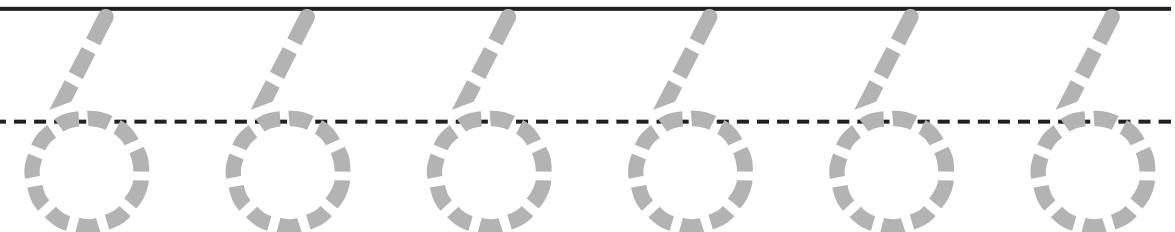
Name _____

6

Fish



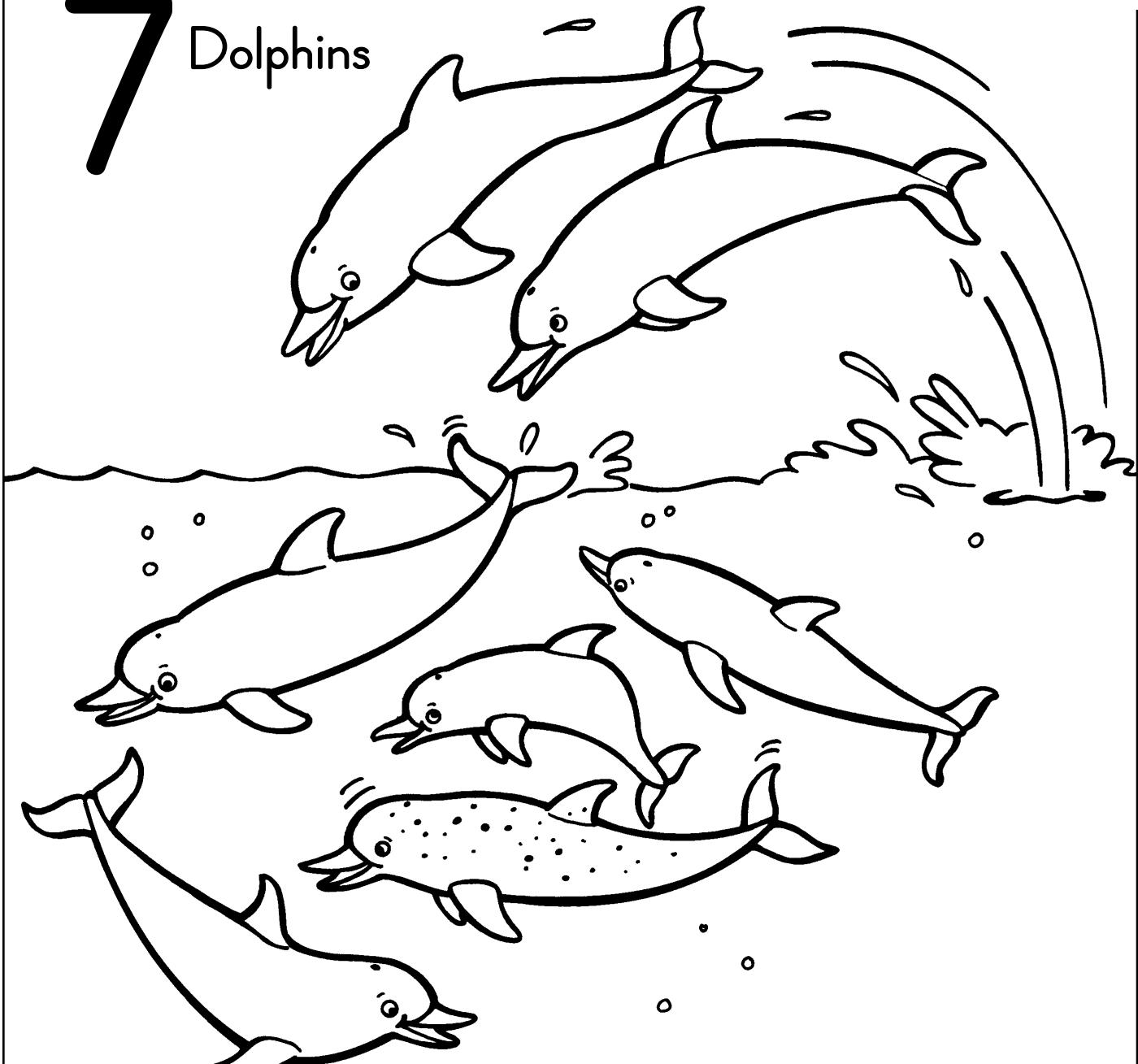
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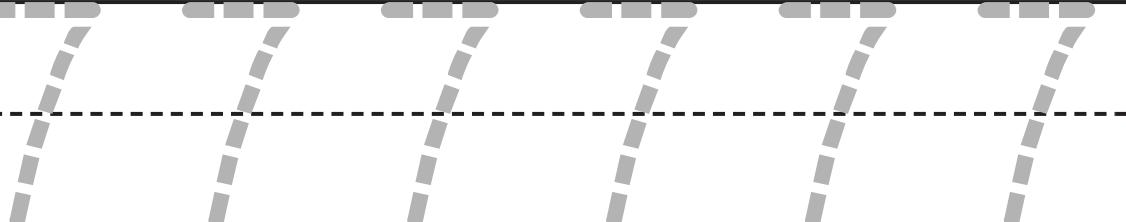
Name _____

7

Dolphins



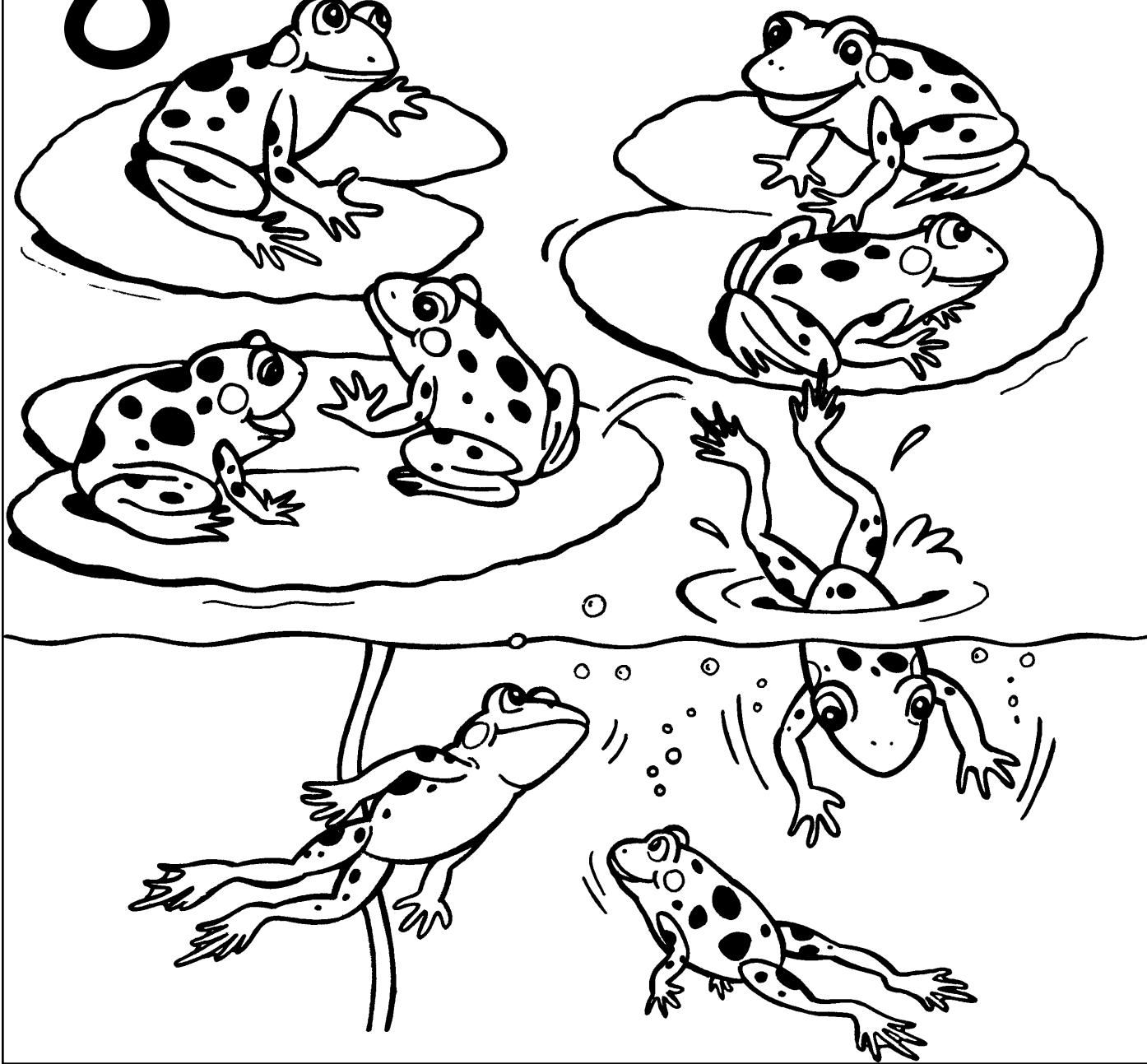
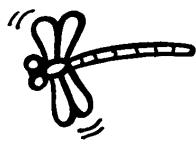
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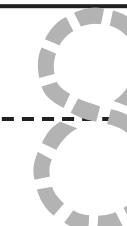
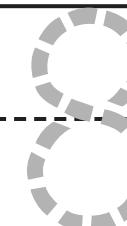
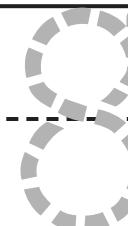
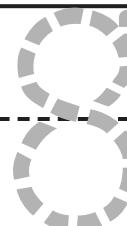
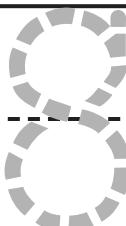
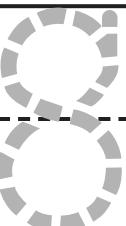
Name _____

8

Frogs



8

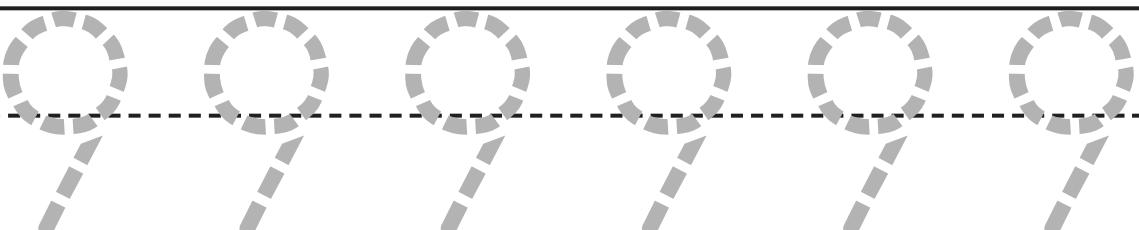


Name _____

q Seashells



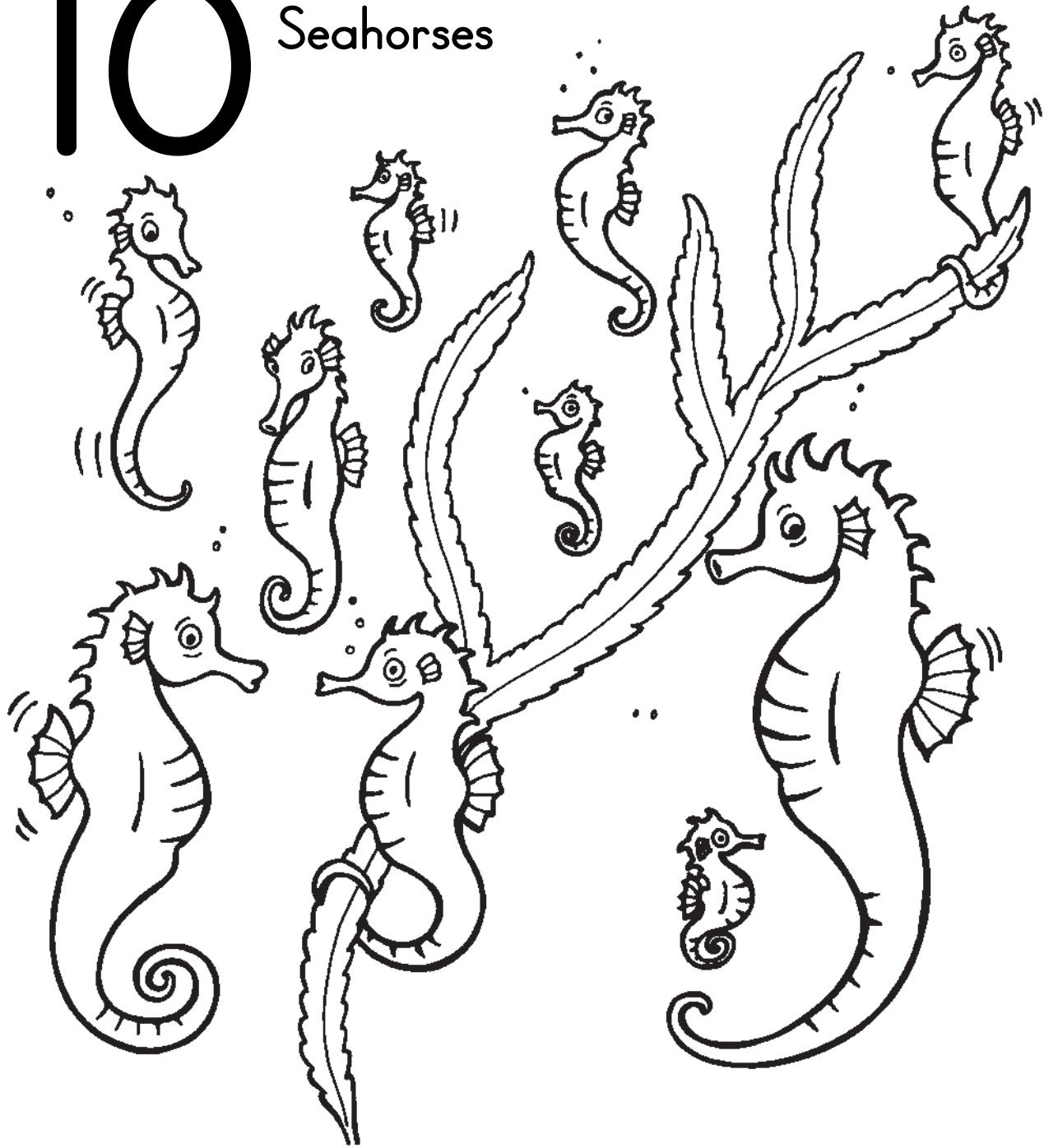
q



Name _____

10

Seahorses



SKILL: COUNT AND WRITE 10

10

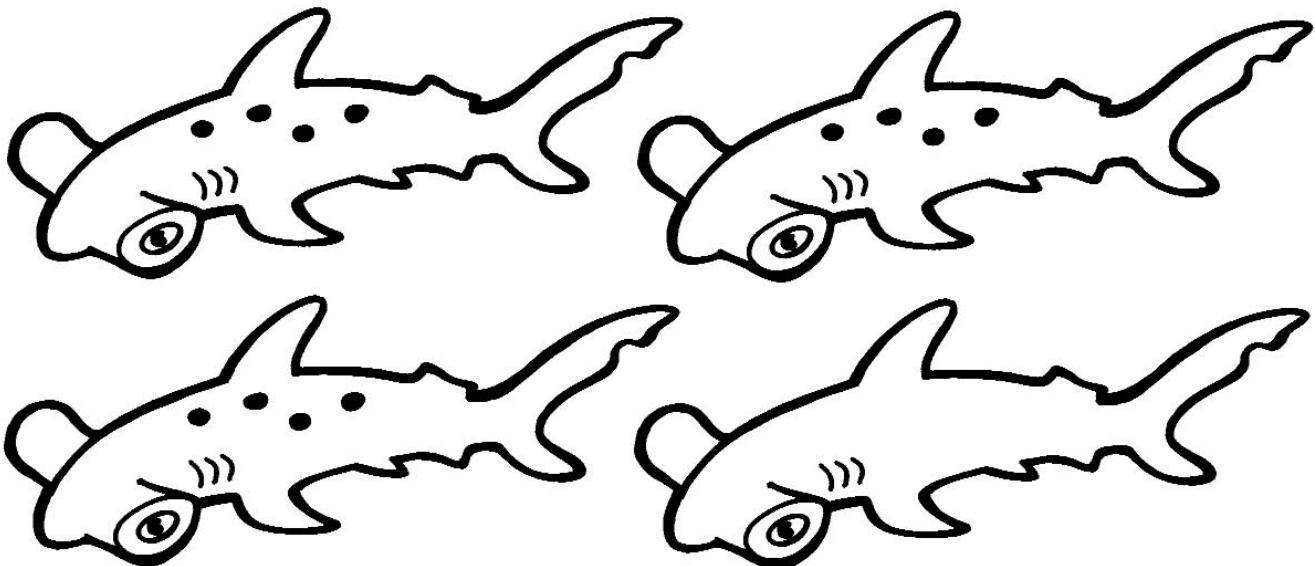
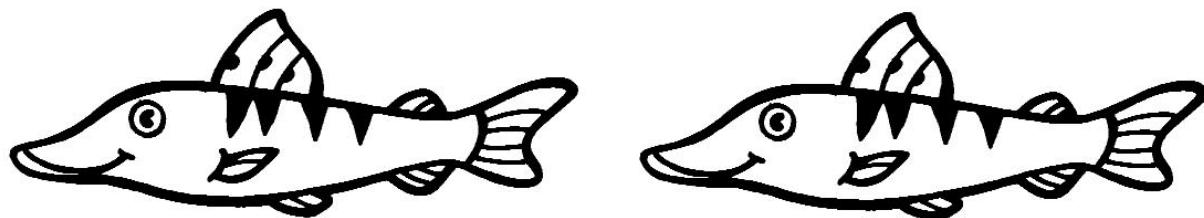
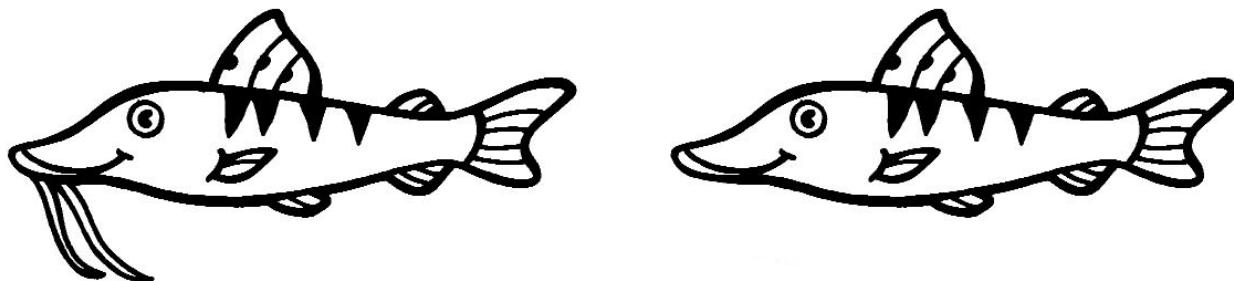
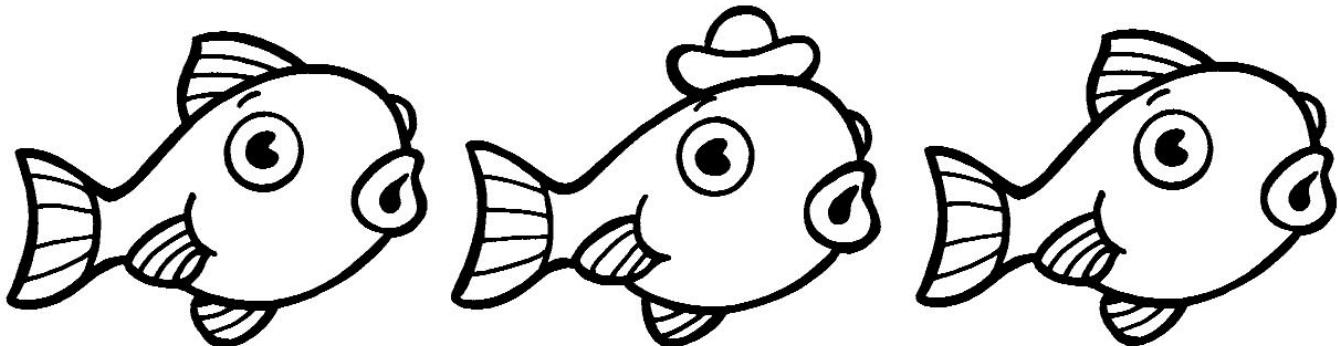
10

10

10

Name _____

Put an X on the one that is different.



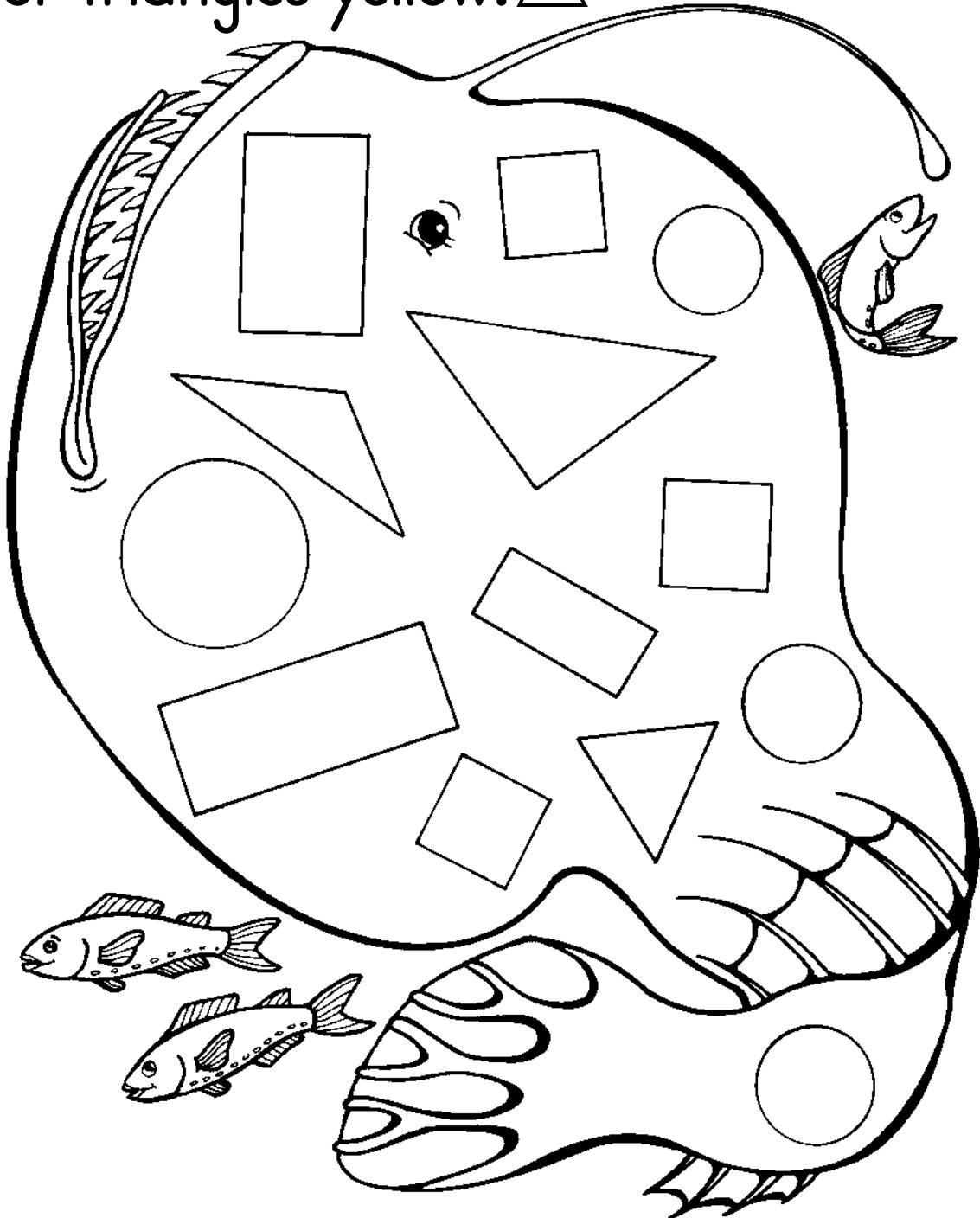
Name _____

Color squares green.

Color circles blue.

Color rectangles red.

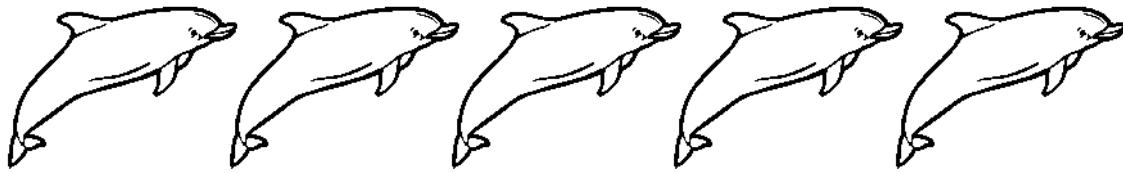
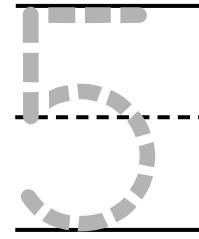
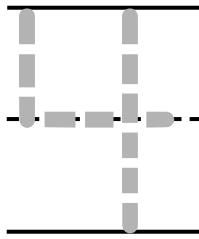
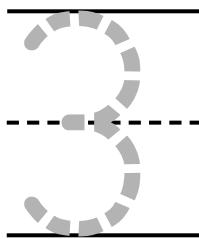
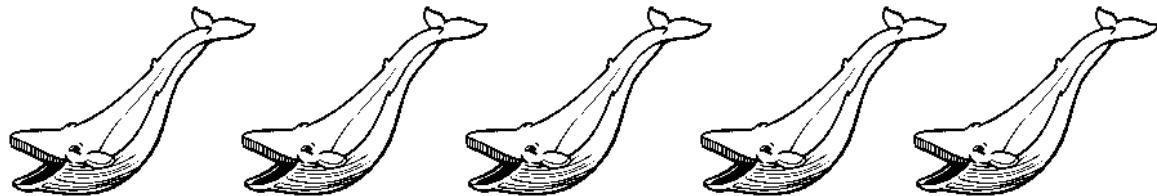
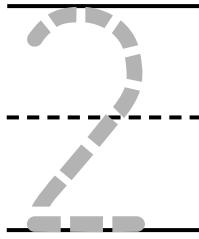
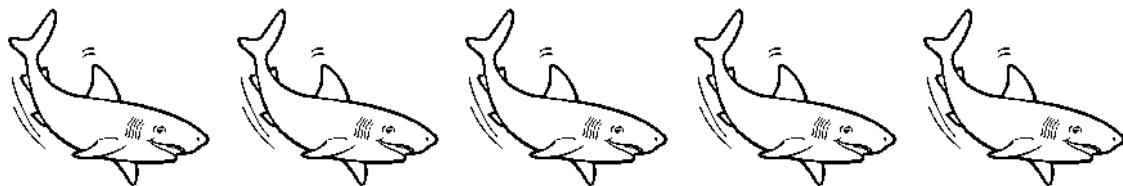
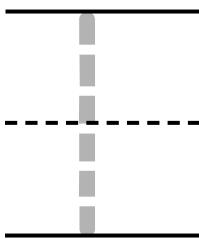
Color triangles yellow.



SKILL: MATCH AND COLOR THE SHAPES

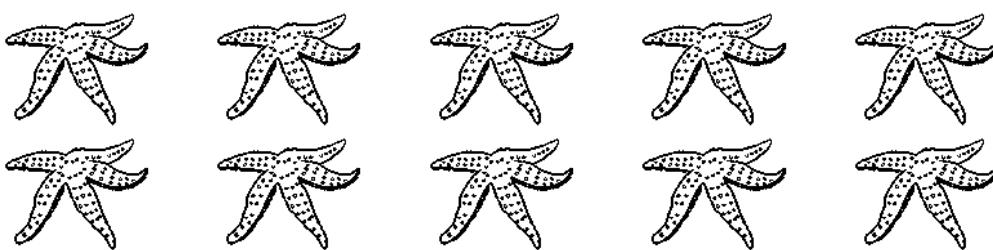
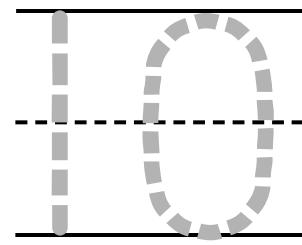
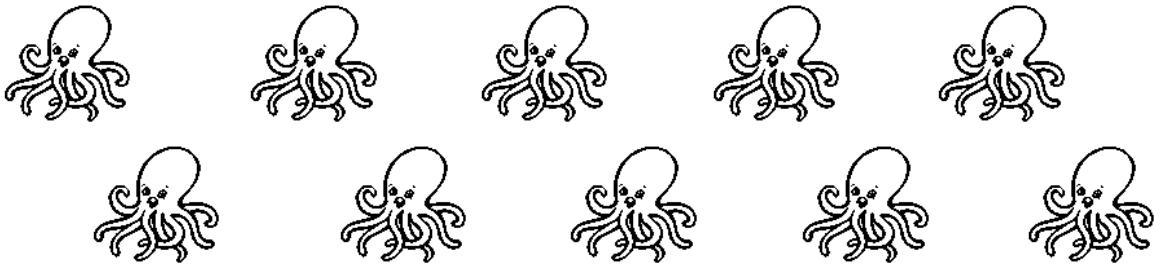
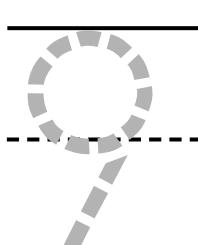
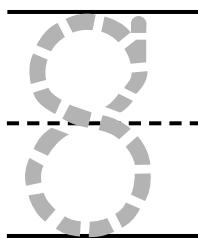
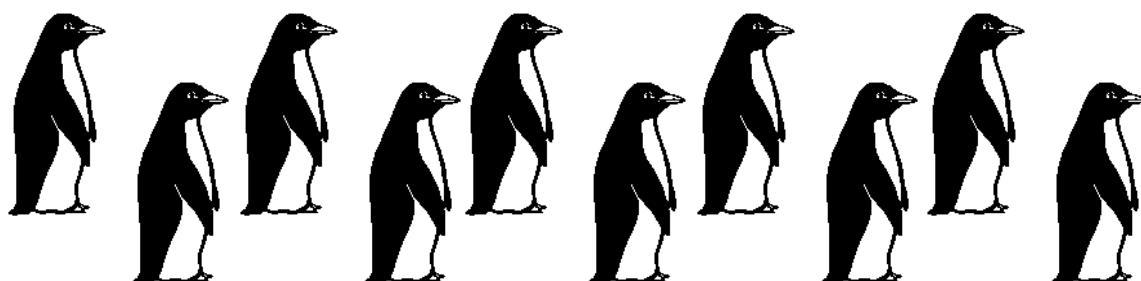
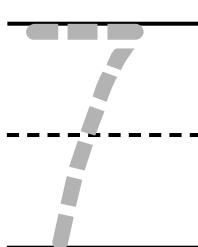
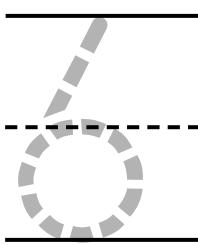
Name _____

Trace the numbers. Circle the correct number of ocean objects in each row.



Name _____

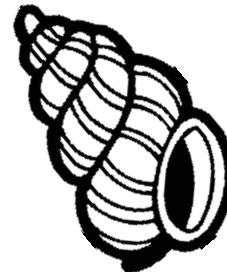
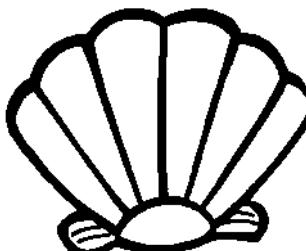
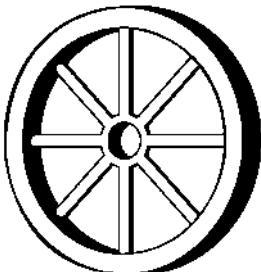
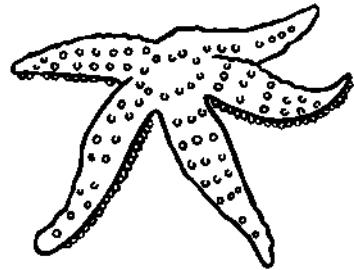
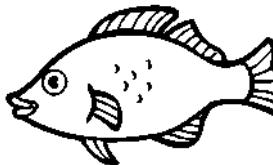
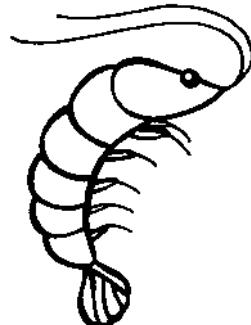
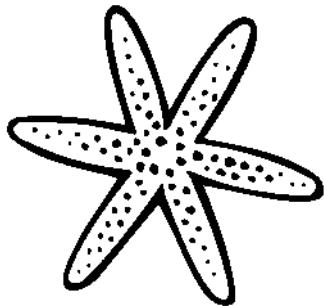
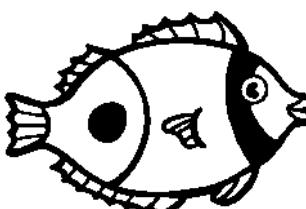
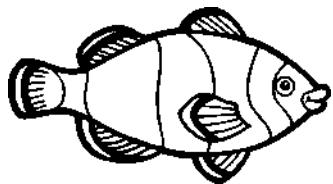
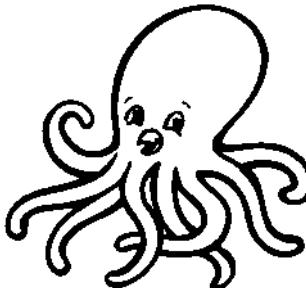
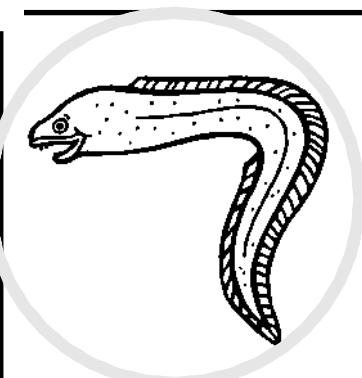
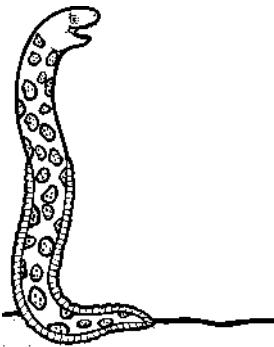
Trace the numbers. Circle the correct
number of ocean objects in each row.



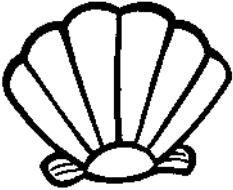
Name _____

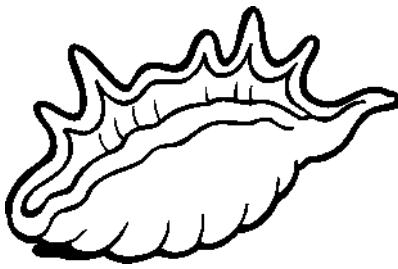
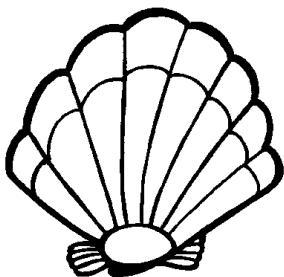
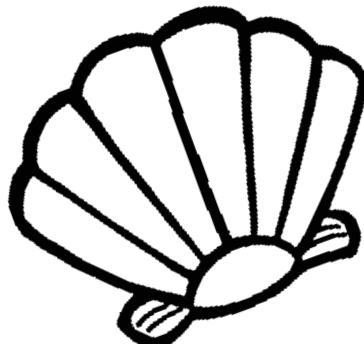
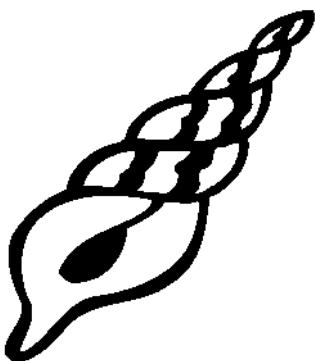
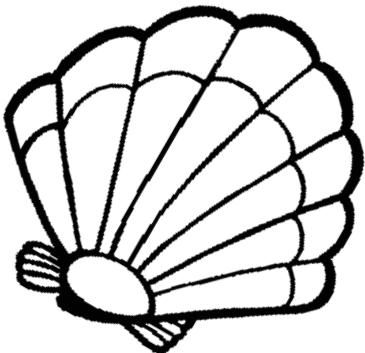
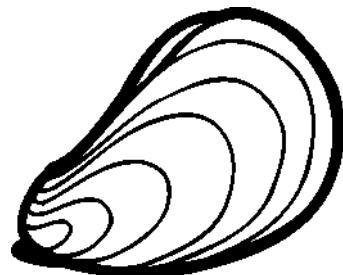
Circle the ocean object in each row

that's the same shape as the first one.



Name _____

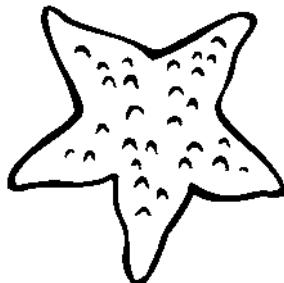
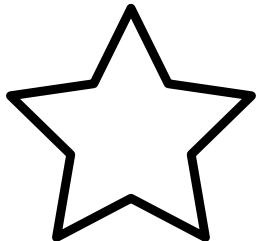
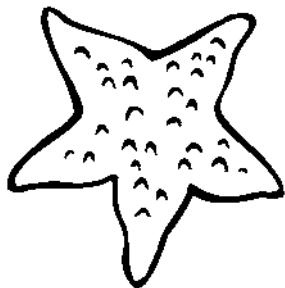
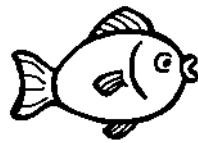
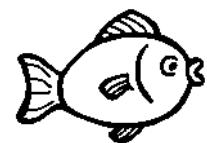
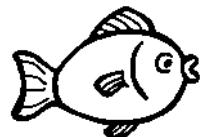
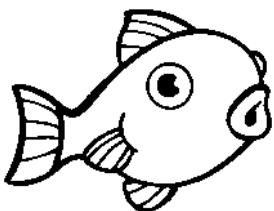
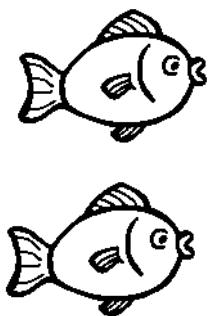
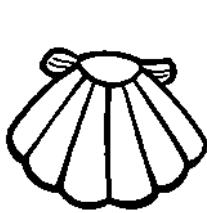
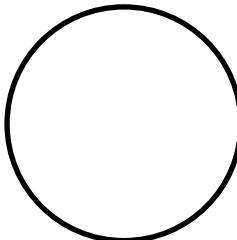
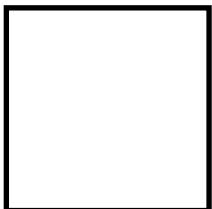
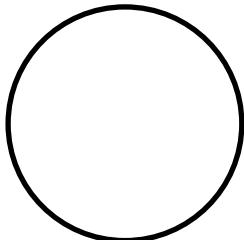
Find the shells that look like
this one:  and color them pink.



How many shells are pink? _____

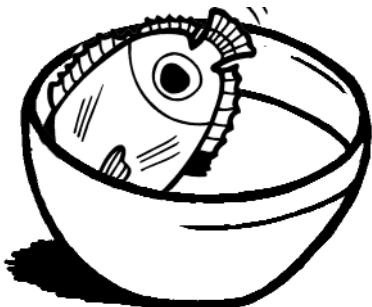
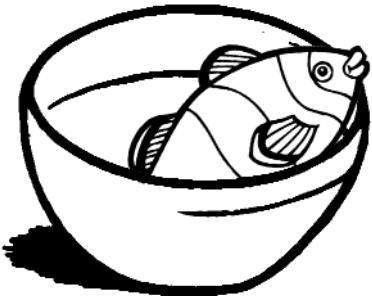
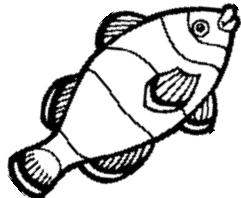
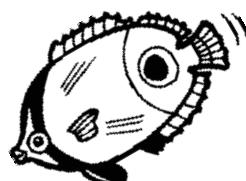
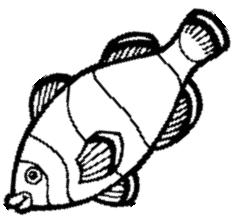
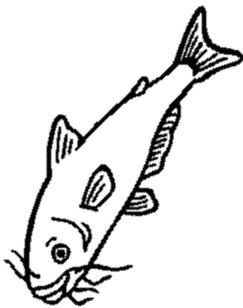
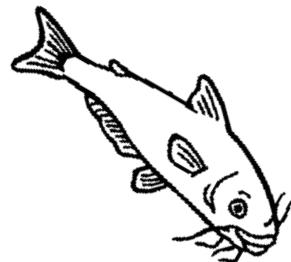
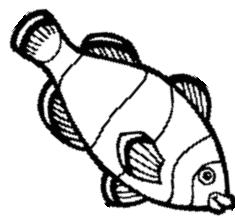
Name _____

Draw what comes next in each row.



Name _____

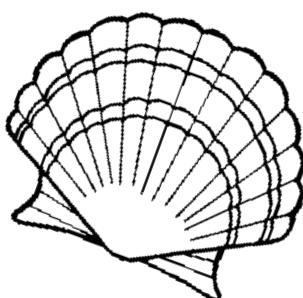
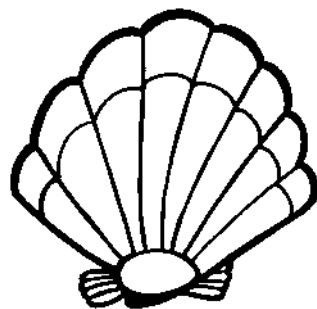
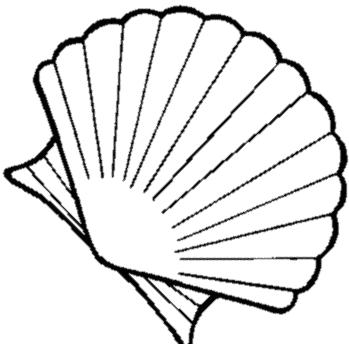
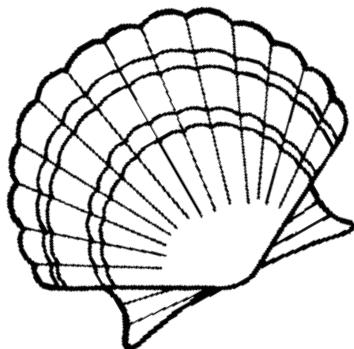
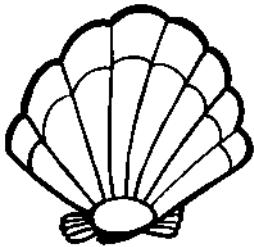
Draw a line from the fish to the
correct bowl.



Name _____

Bill found five (5) shells.

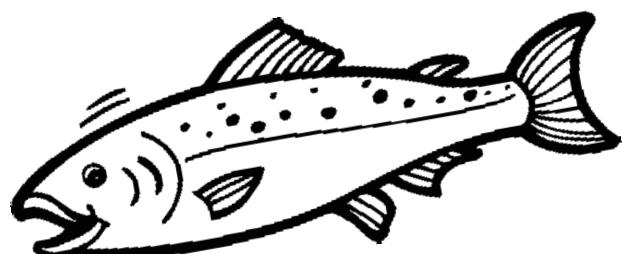
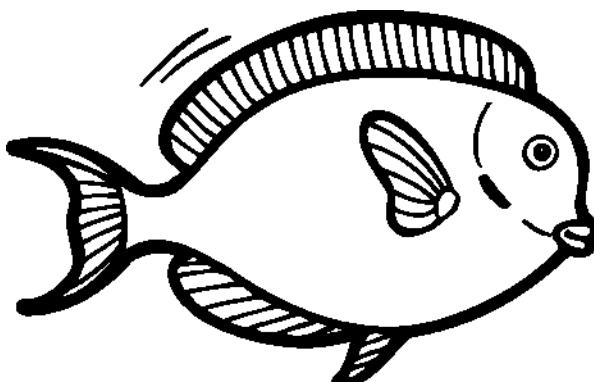
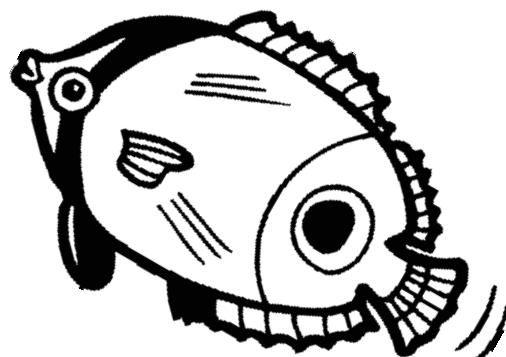
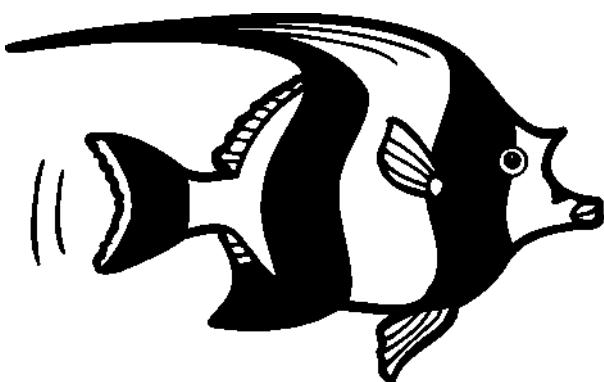
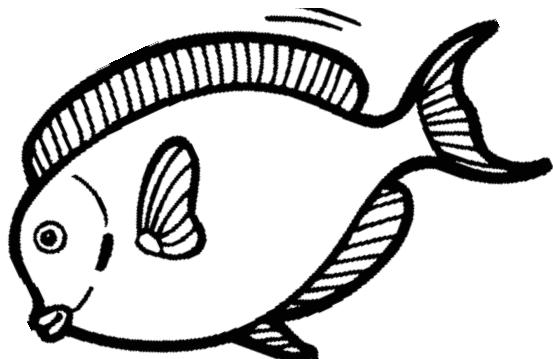
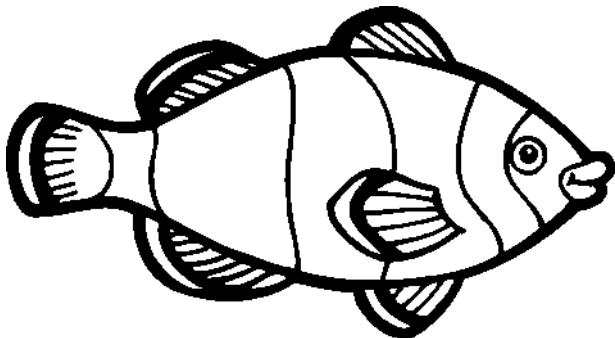
Color how many shells Bill found.



Name _____

Mary saw three (3) fish.

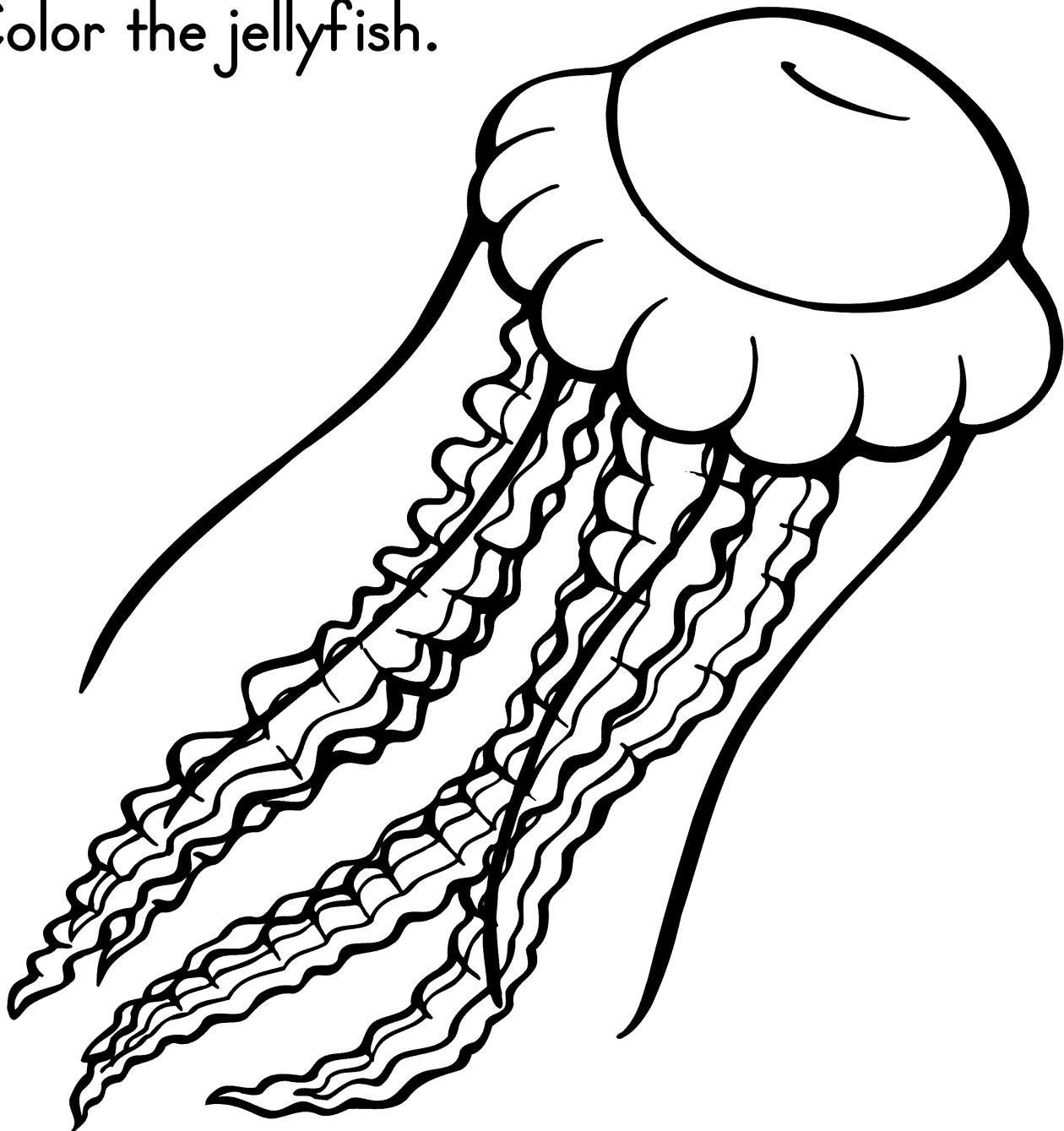
Color how many fish Mary saw.



Name _____

Jellyfish have fish in their name,
but they are not fish. Fish have
backbones and jellyfish don't.

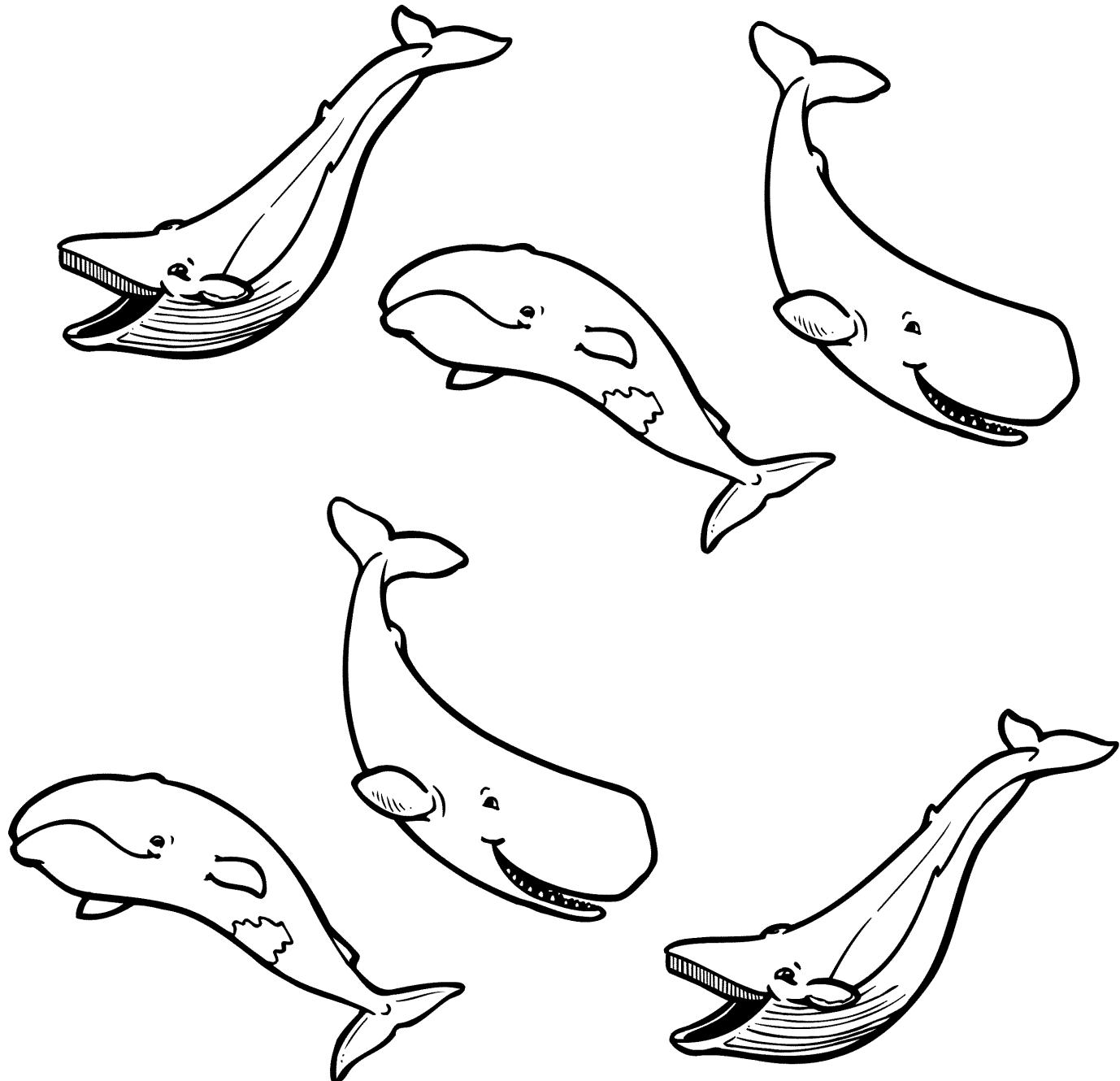
Color the jellyfish.



SKILL: LEARN JELLYFISH FACTS

Name _____

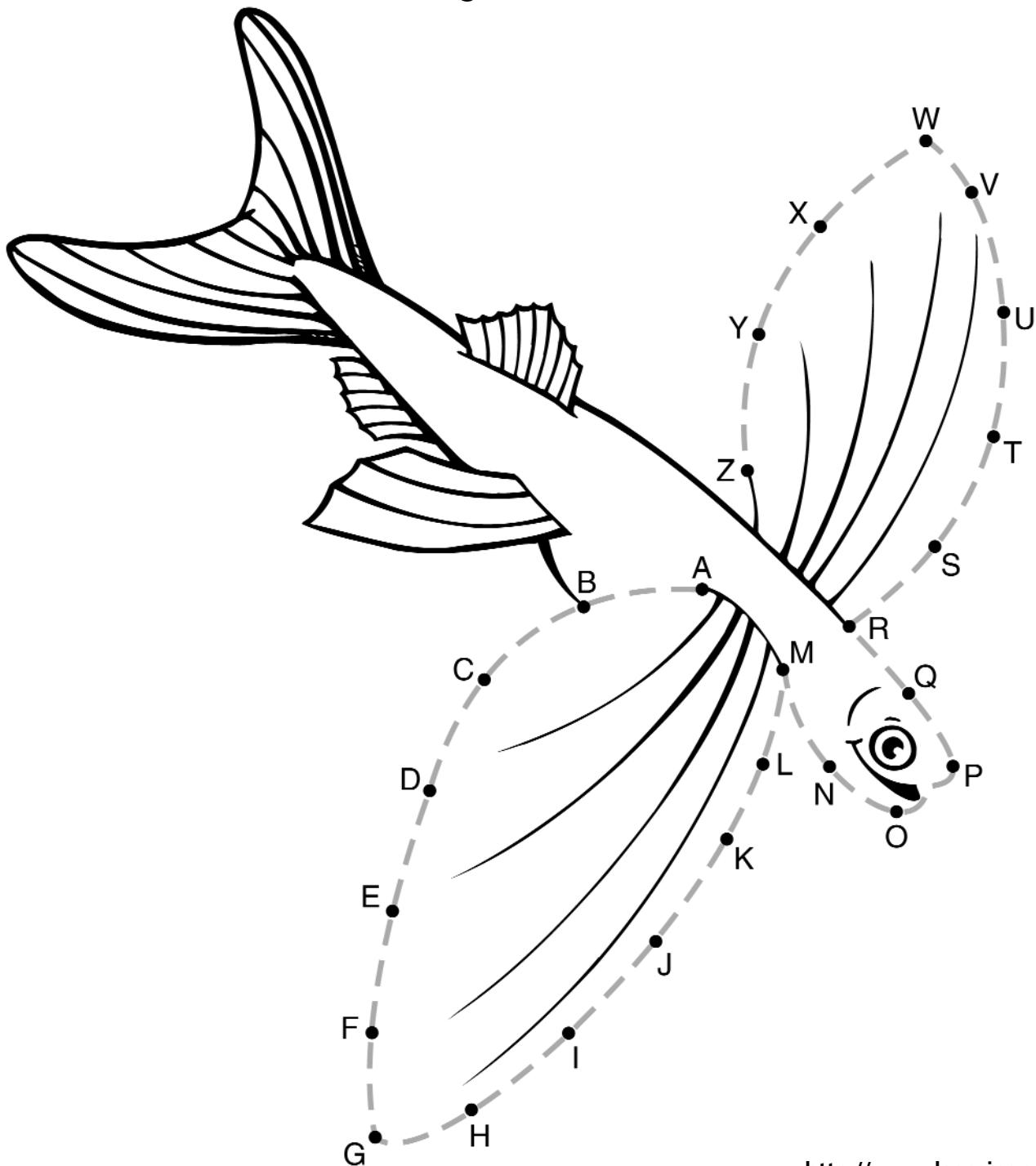
Whales may look like fish, but are
actually mammals. Draw a line
between the matching whales.



SKILL: MATCH WHALE FACTS

Name _____

Flying fish can glide above water for half a minute. Connect the dots below to complete the wings and color.



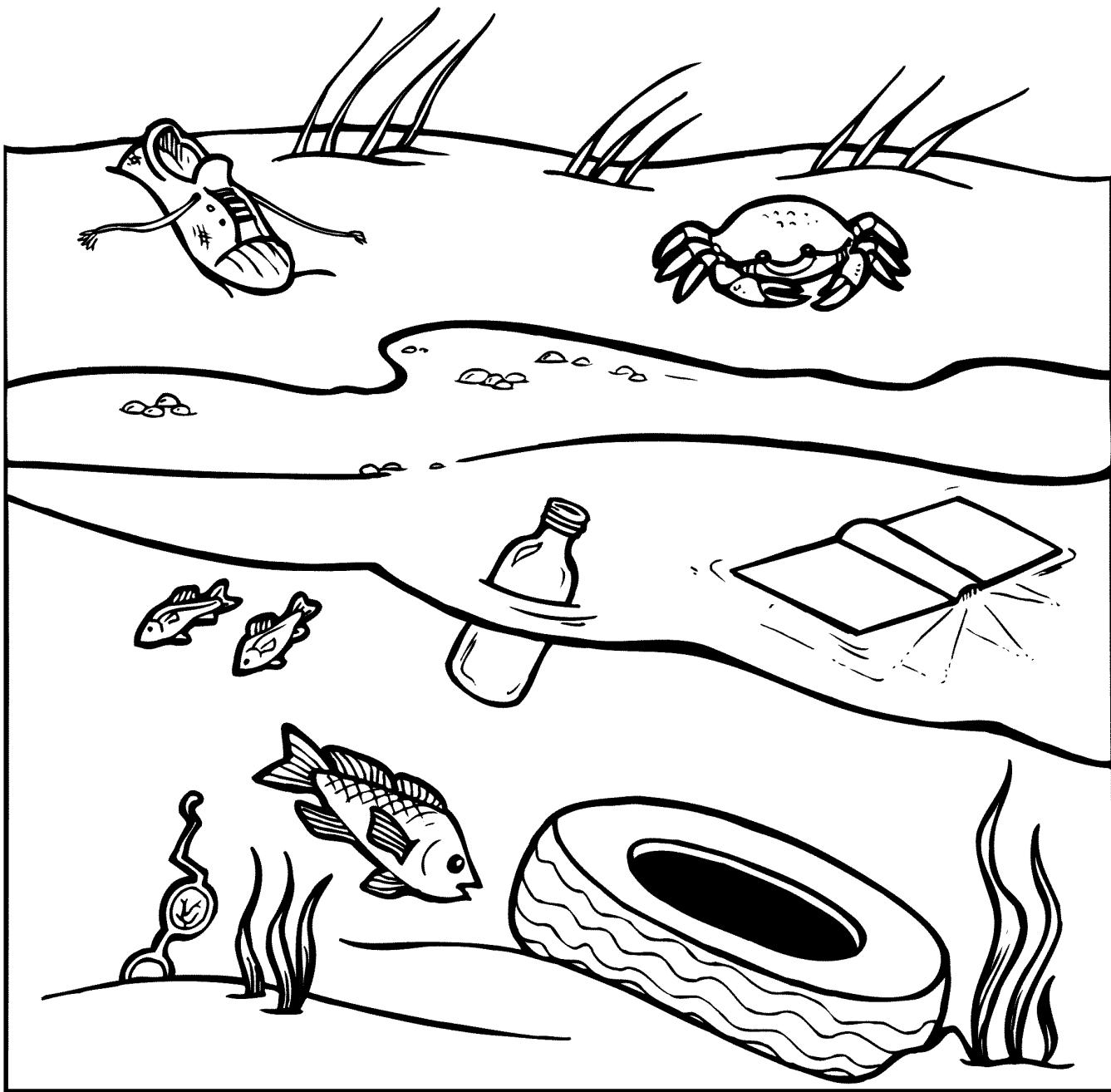
SKILL: CONNECT THE DOTS AND LEARN FLYING FISH FACTS

KINDERGARTEN • OCEANS • SCIENCE • 003

Name _____

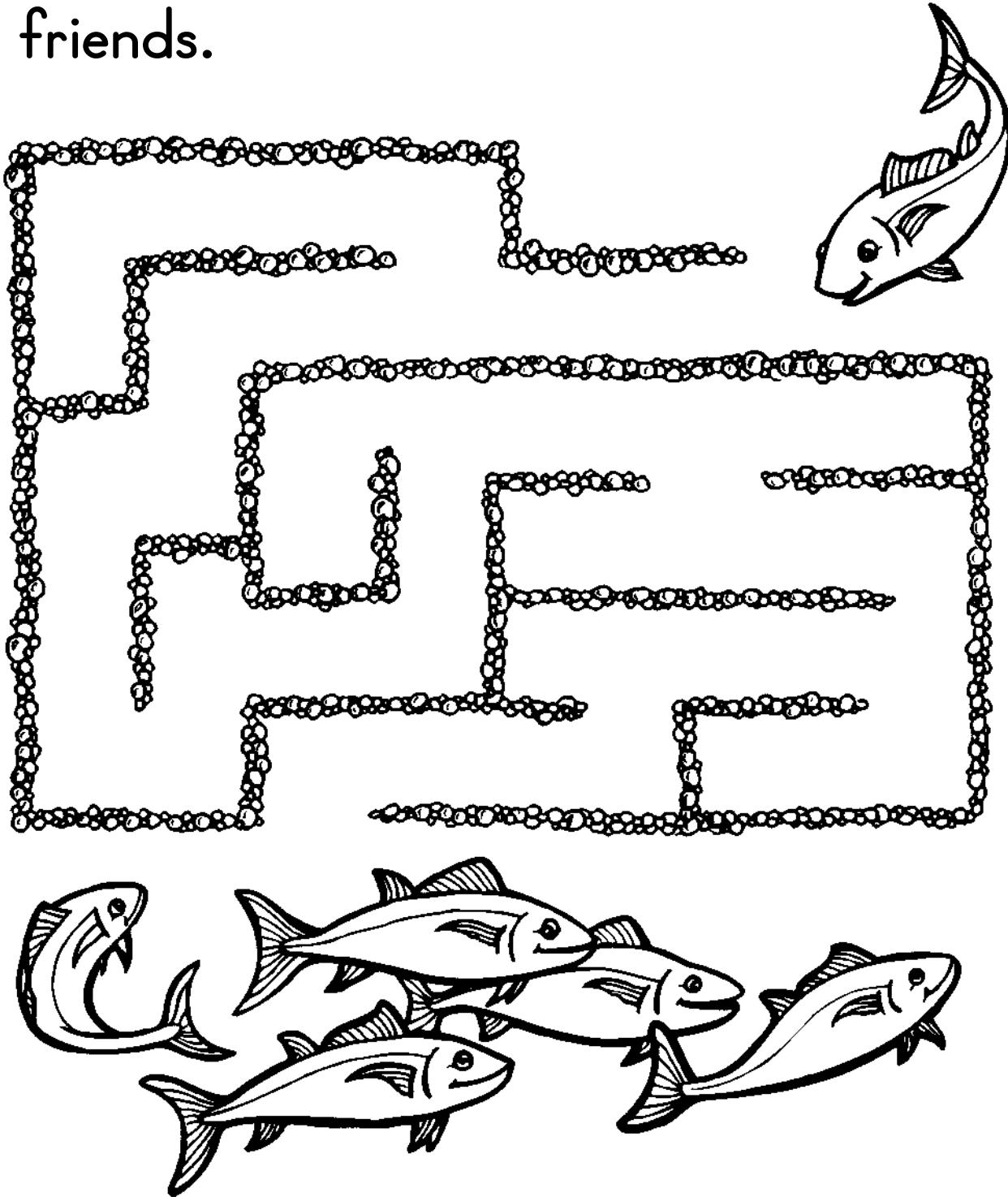
Trash does not belong in the ocean.

Draw an X through the items that do not belong.



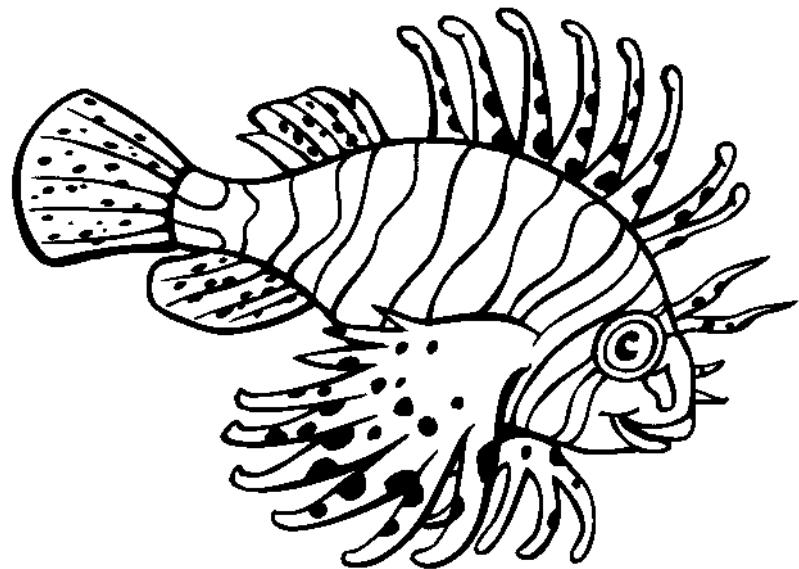
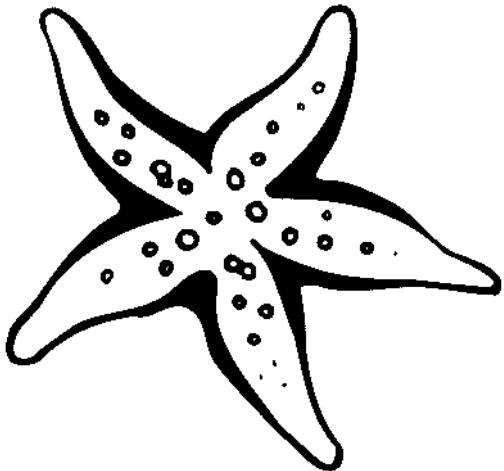
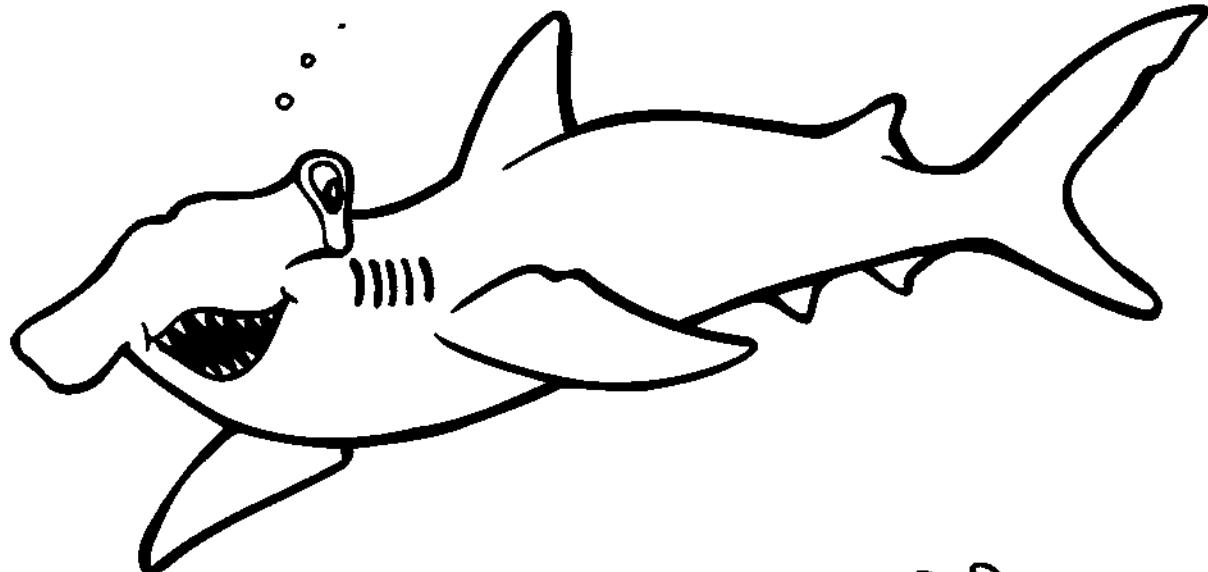
Name _____

Many fish travel in groups called
“schools.” Help the tuna find
his friends.



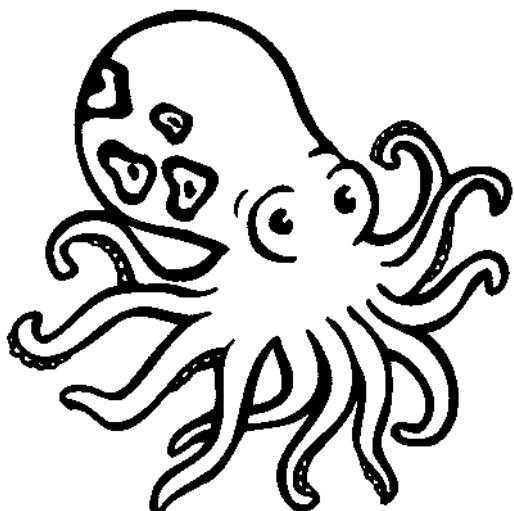
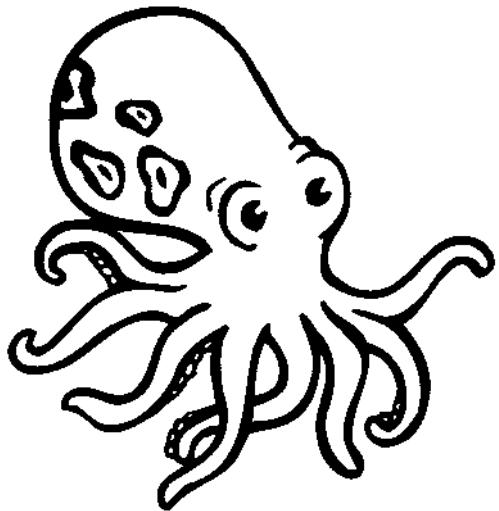
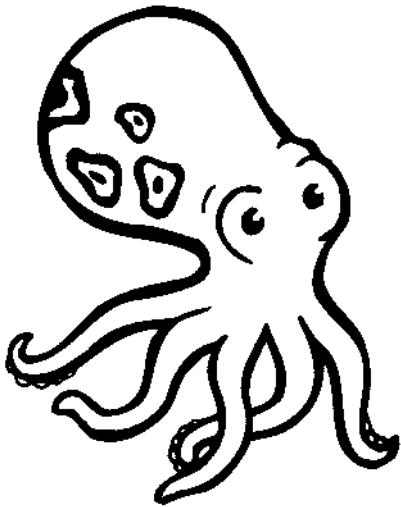
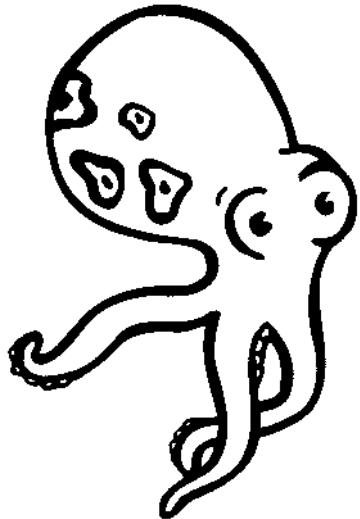
Name _____

Some ocean creatures have funny names. Color the Lionfish. Draw an X on the sea star. Circle the hammerhead shark.



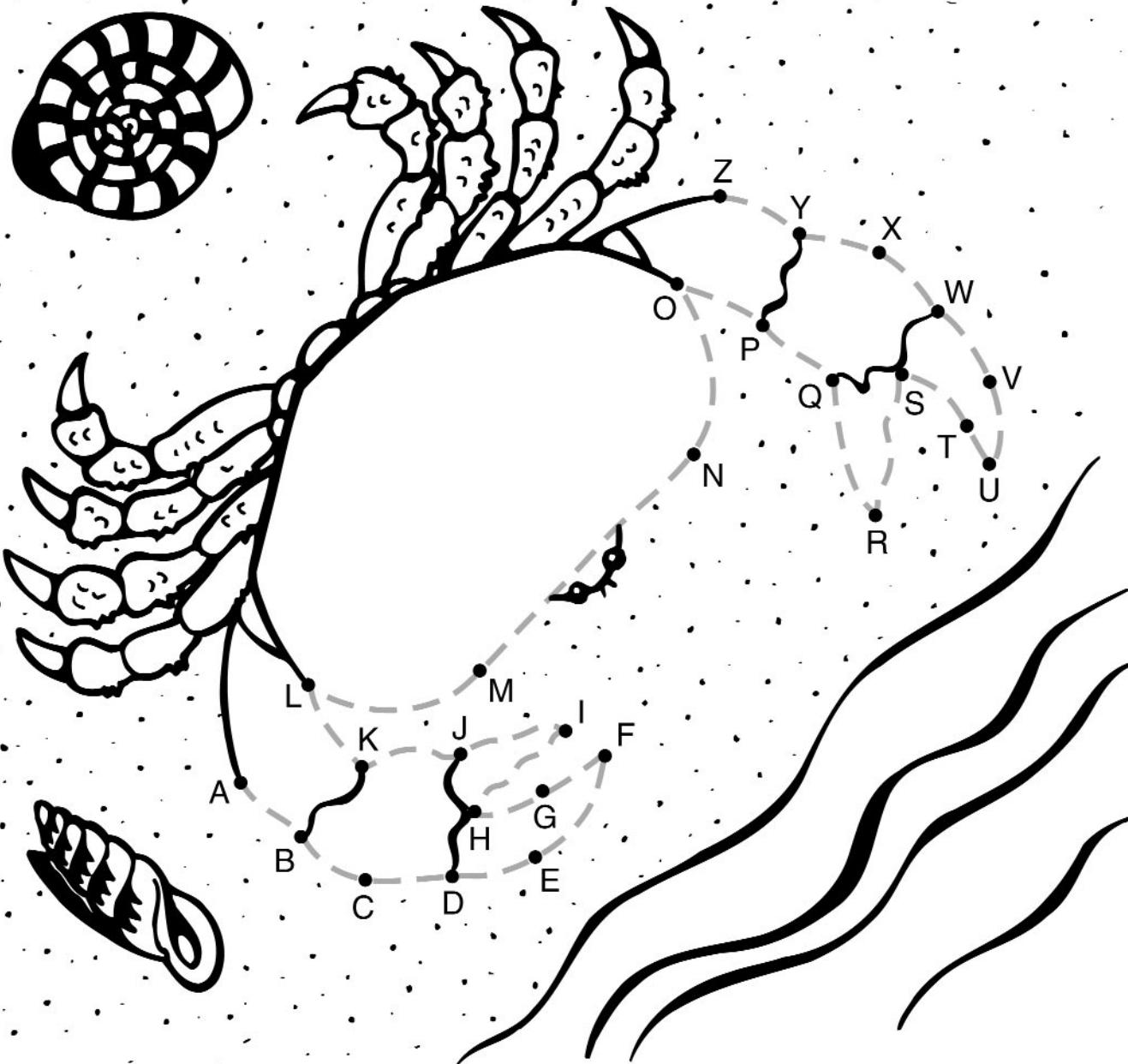
Name _____

An octopus has eight arms called tentacles. Circle the correct octopus.



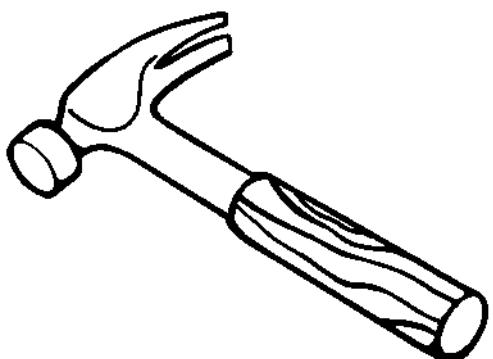
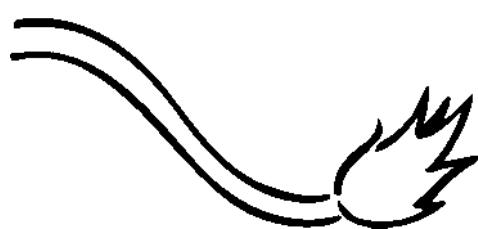
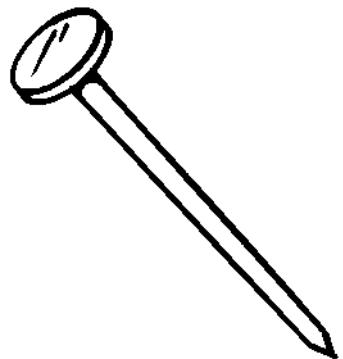
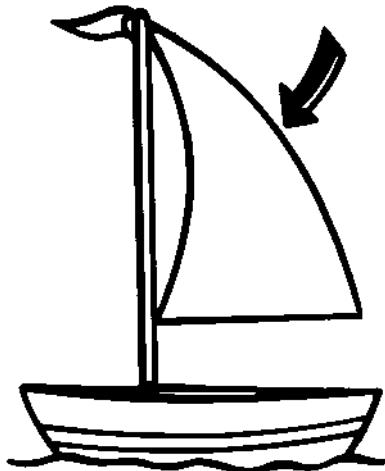
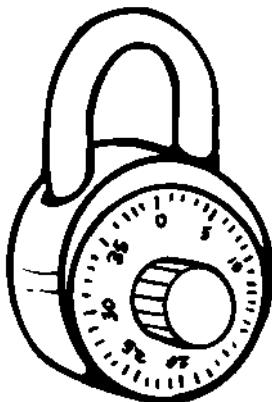
Name _____

Almost all crabs living in the ocean
breathe with their gills. Connect the
dots to complete the crab, then color.



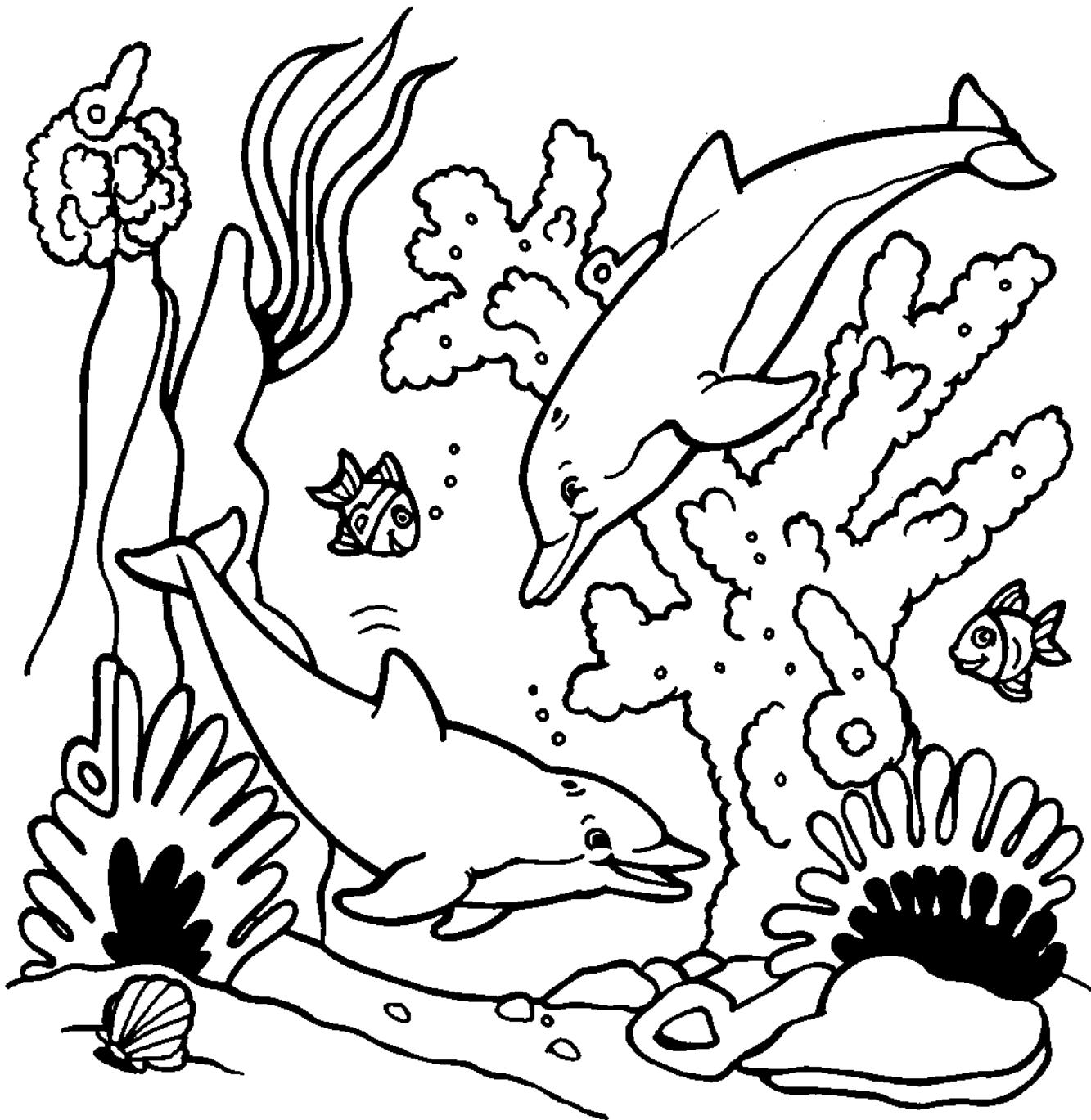
Name _____

The blue whale is the world's biggest animal. Circle the pictures below that rhyme with whale.



Name _____

Dolphins are not fish. They are mammals. Color the six hidden d's in the picture below.

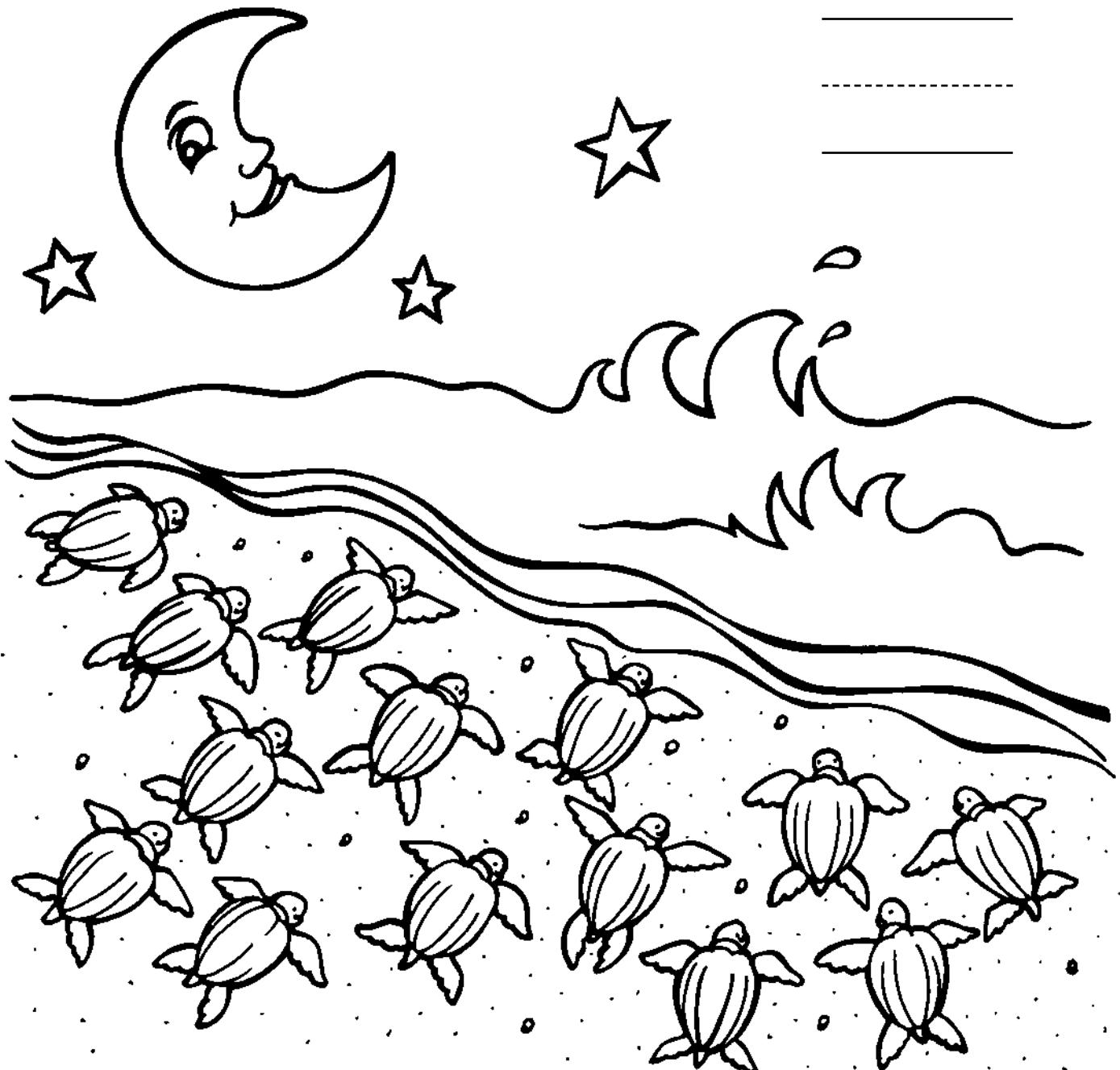


SKILL: FIND HIDDEN D'S

Name _____

All turtles lay their eggs on land.

Count how many baby turtles are
on the beach. Write the number.

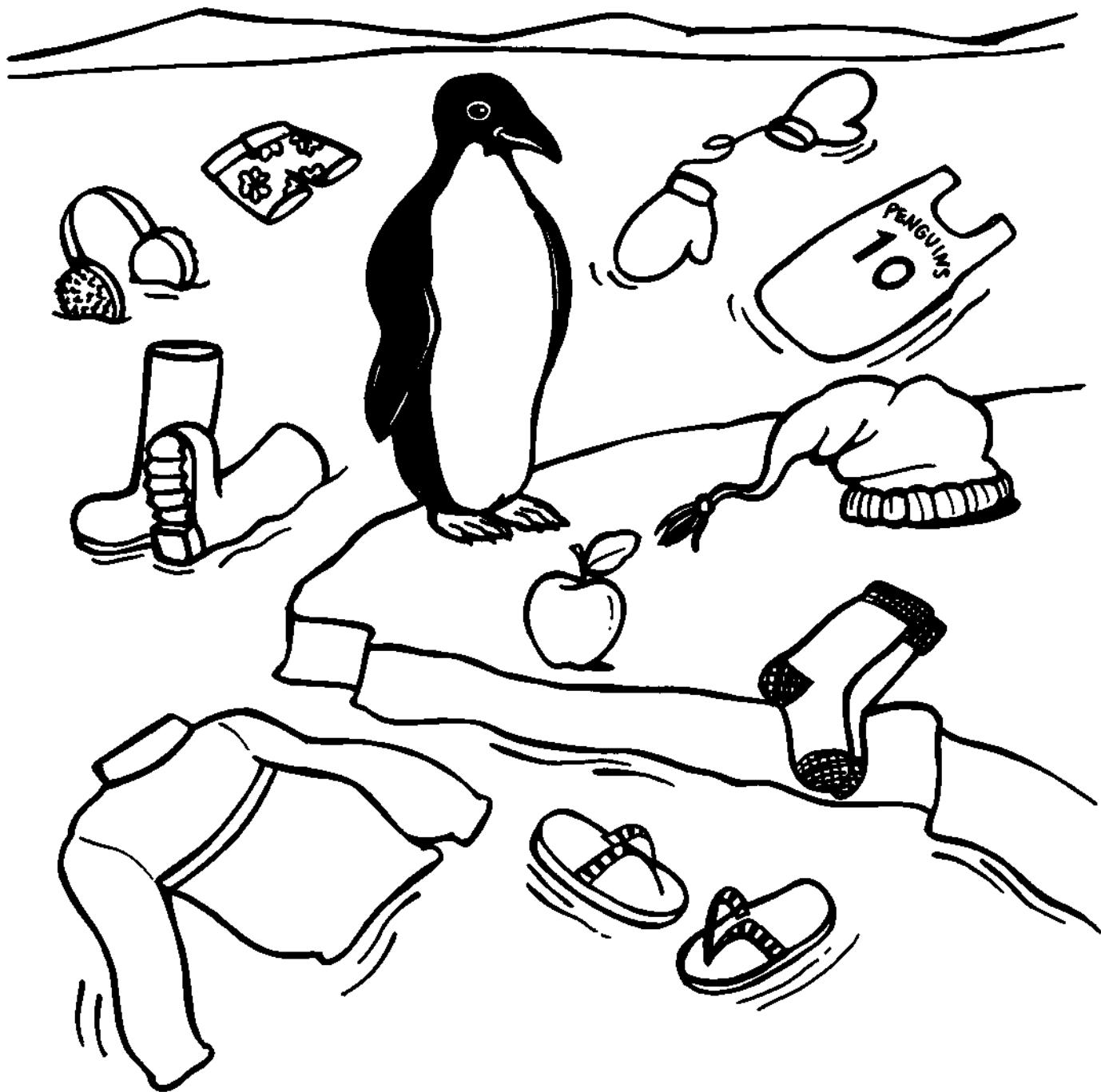


SKILL: COUNT 1-14

Name _____

Penguins live in very cold places.

Color the things you wear to keep warm.

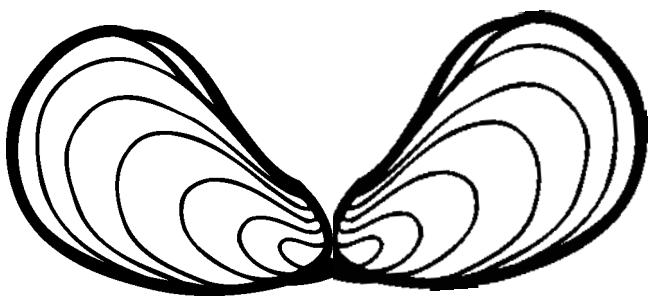
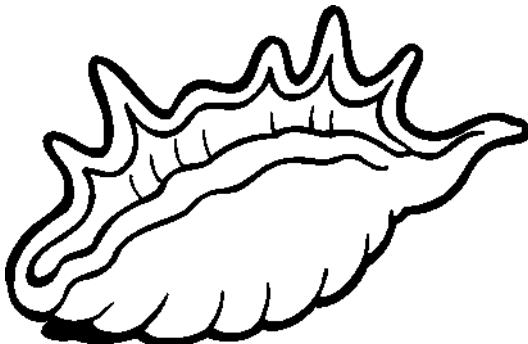
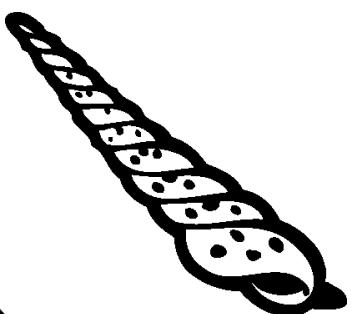
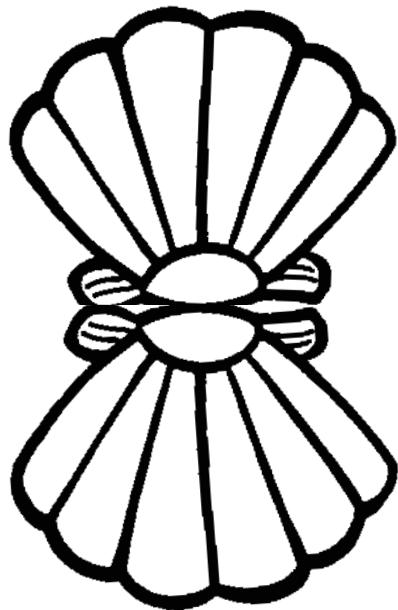
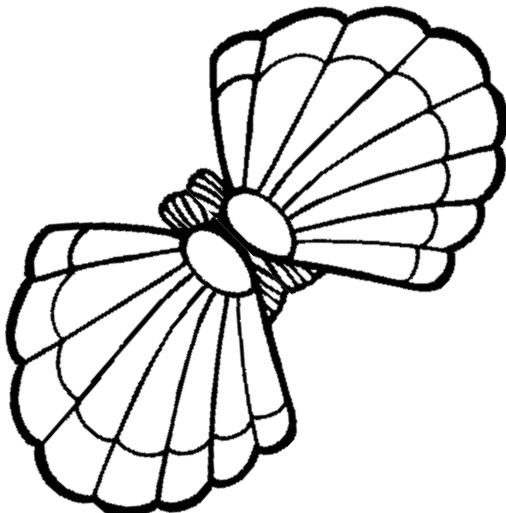
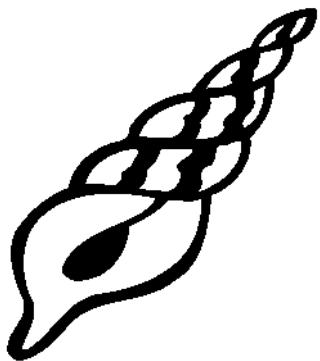


SKILL: COMPREHENSION

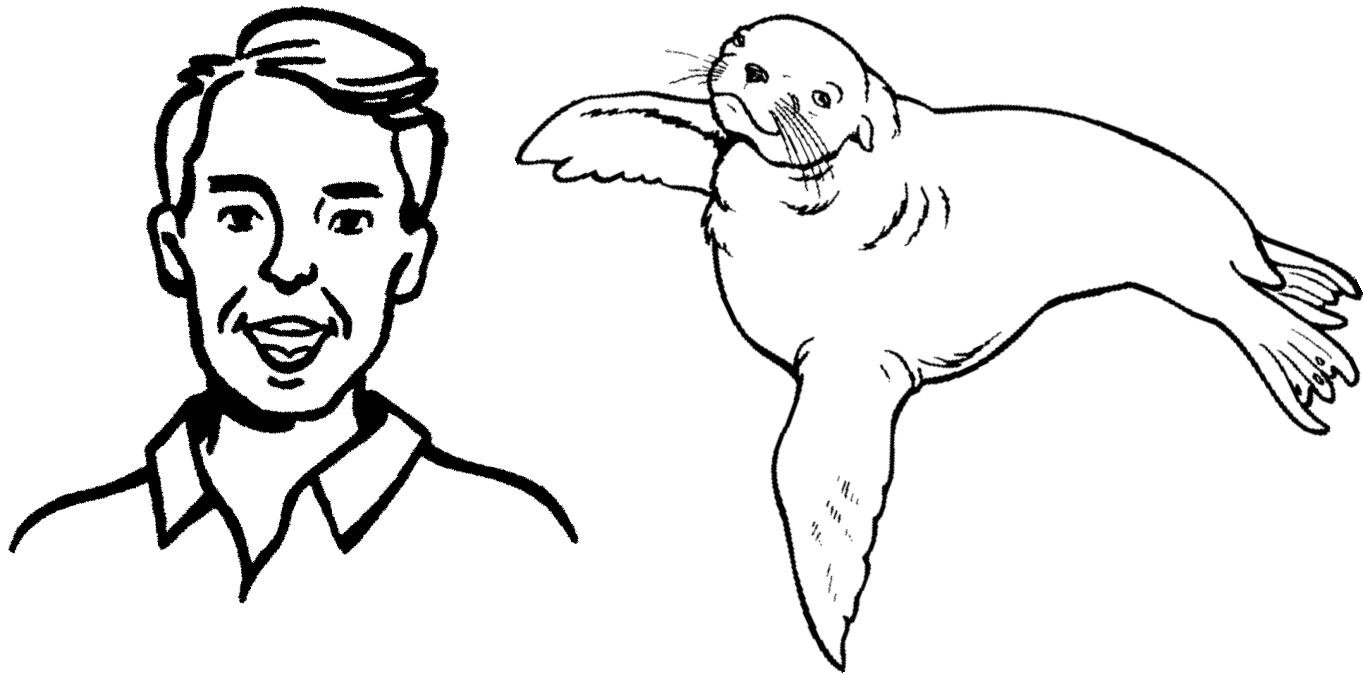
Name _____

Color the shells with two parts yellow.

Color the shells with one part blue.



Name _____



Draw circles around what the man and seal see with.

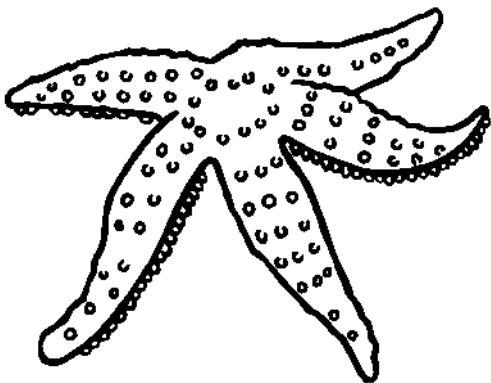
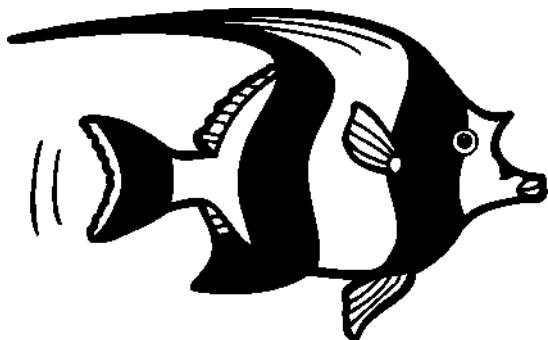
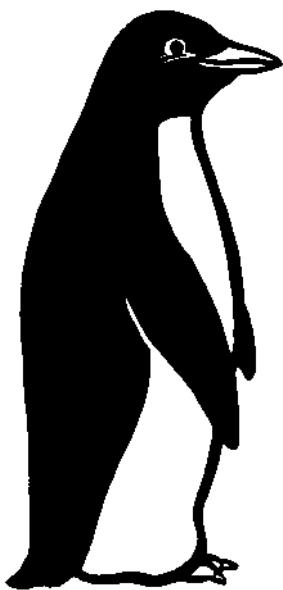
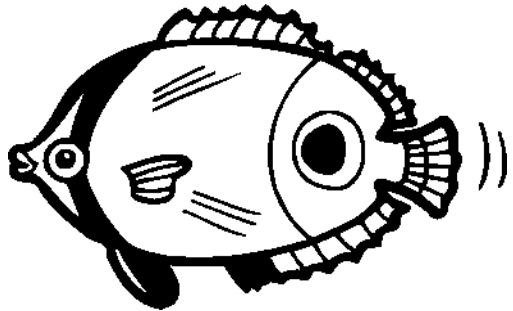
Draw squares around what the man and seal hear with.

Draw a triangle around what the man and seal taste with.

Draw an X on what the man and seal smell with.

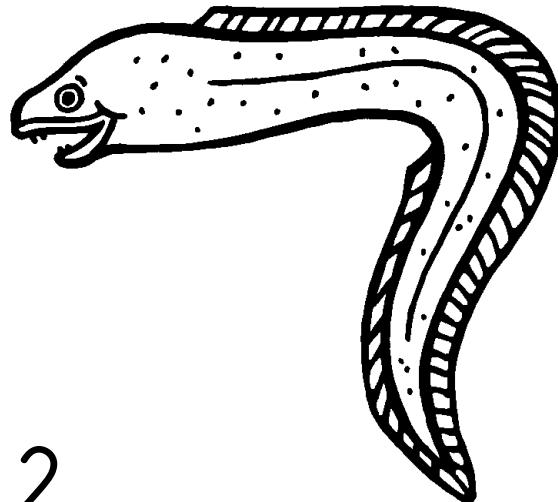
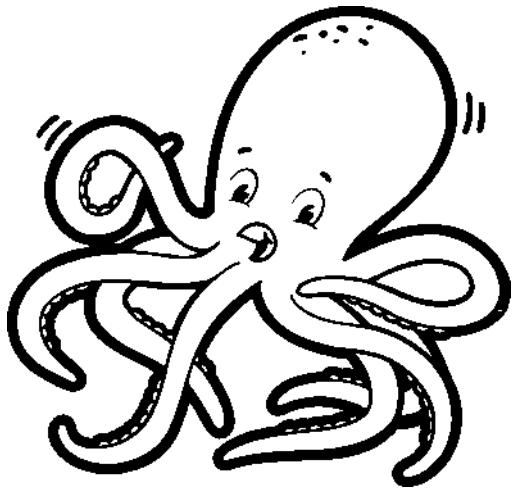
Name _____

Circle the animals that live in the ocean all of the time. Draw a square around the animals that spend some of their time in the ocean .



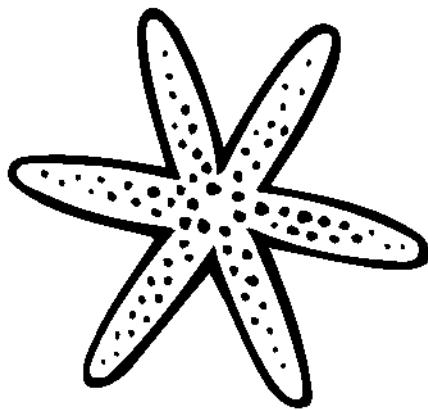
Name _____

Write the names of the ocean animals.

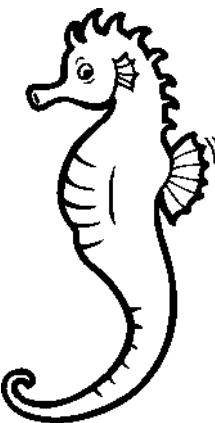


2

octopus



3



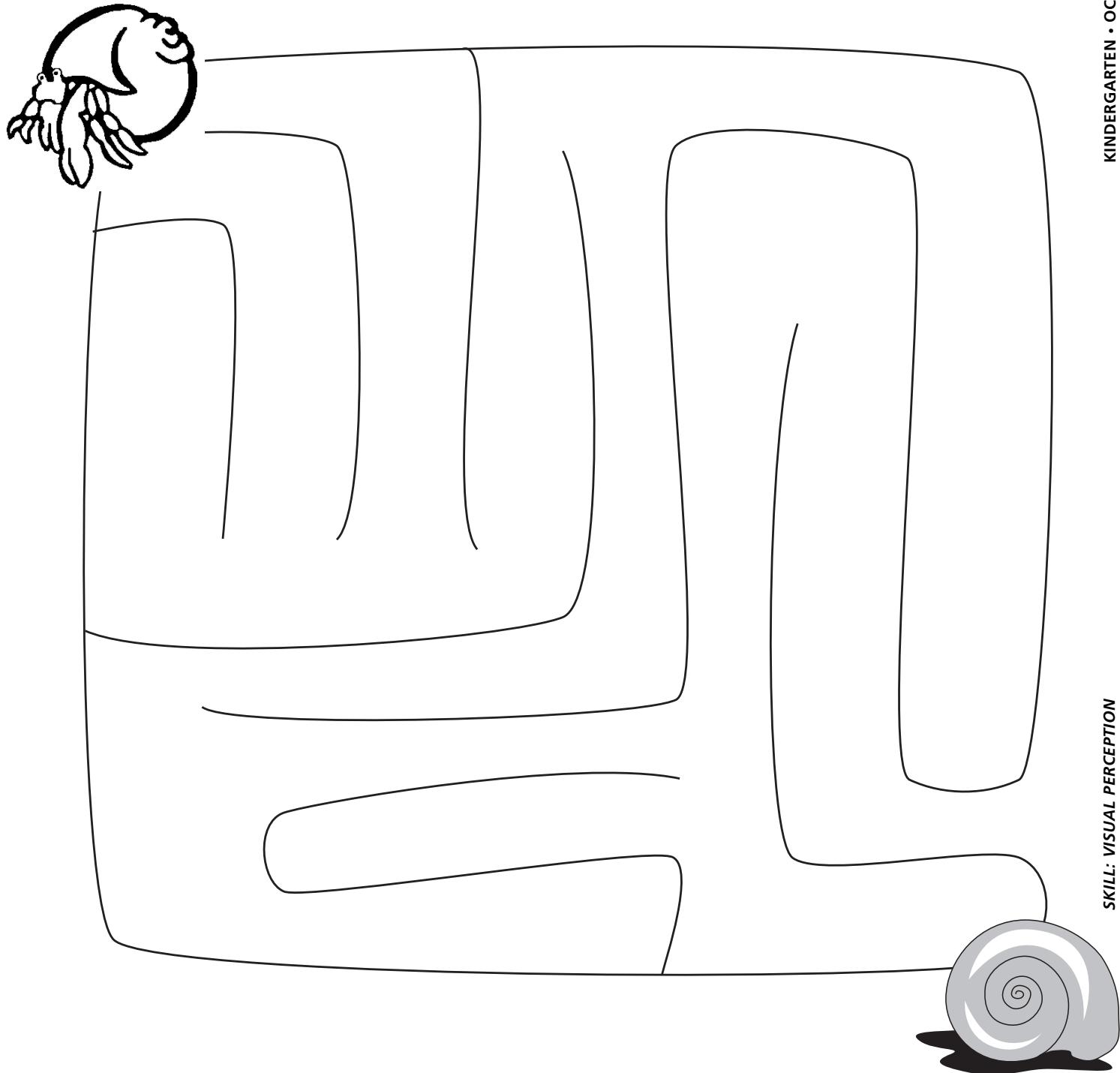
4

1. octopus
2. eel
3. sea star
4. sea horse

Name _____

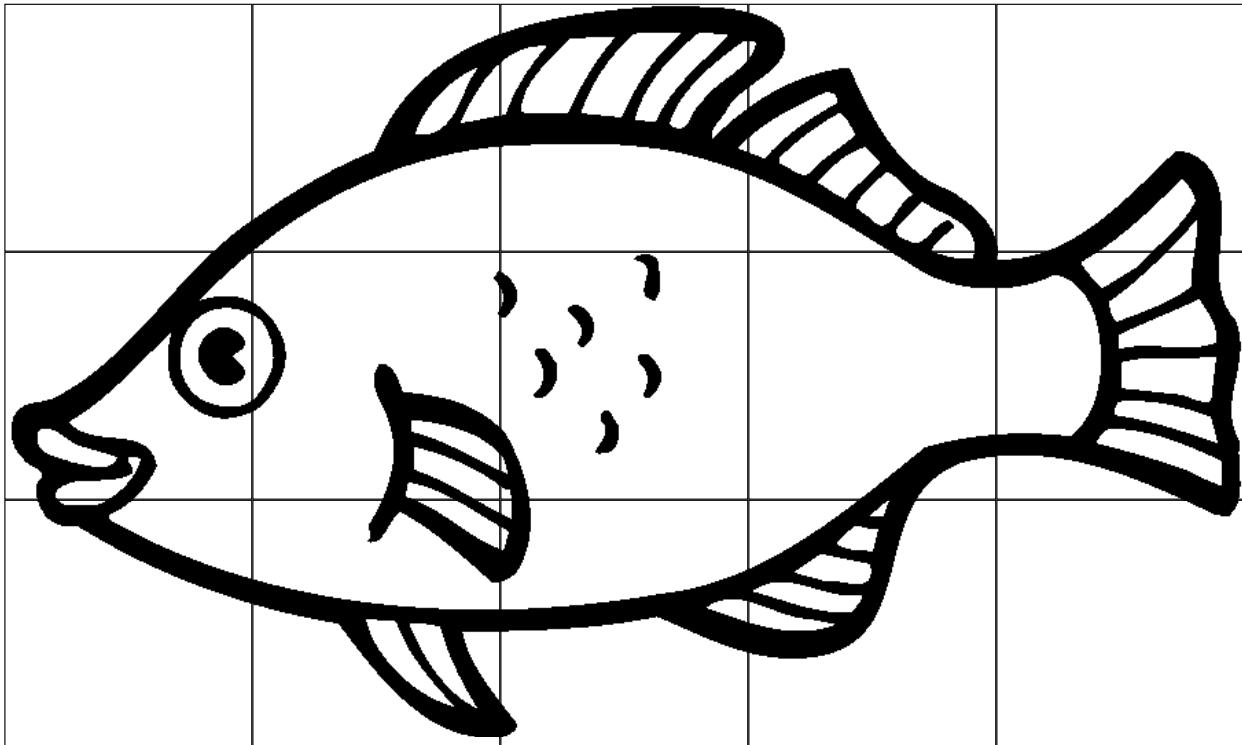
The hermit crab is too big for its home; it needs a larger shell.

Help the hermit crab find a new home.

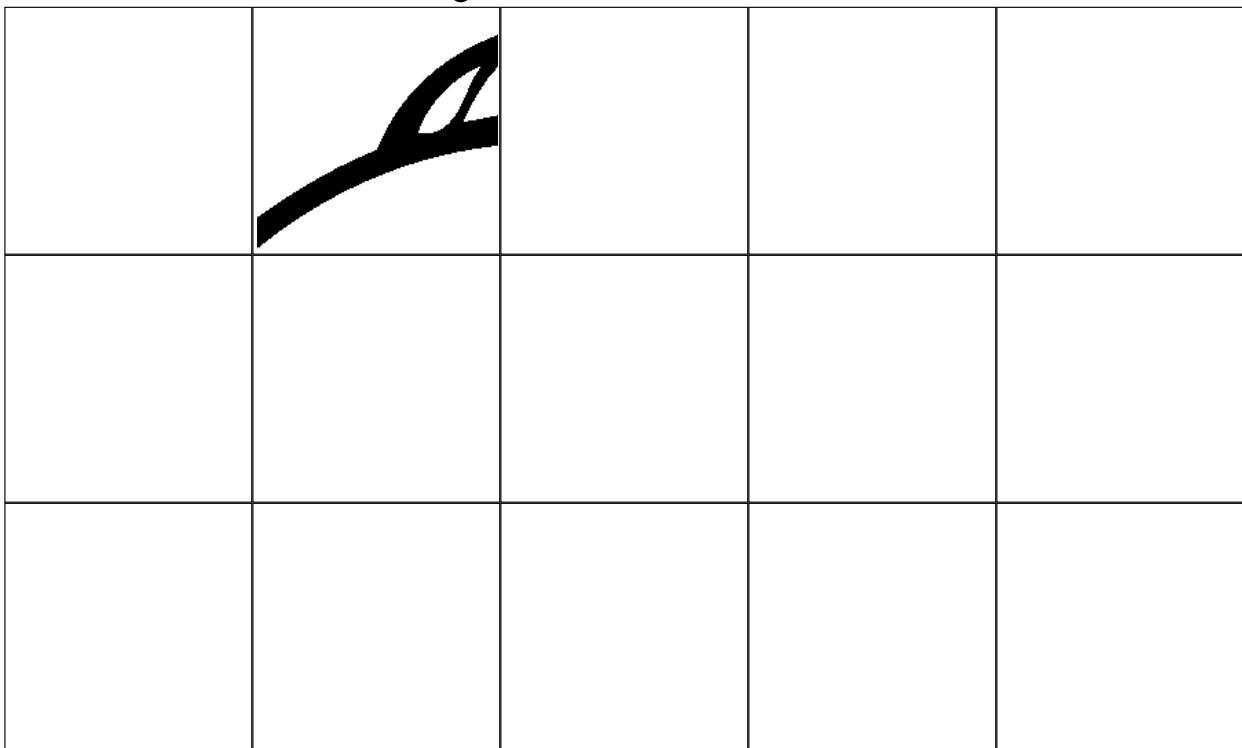


SKILL: VISUAL PERCEPTION

Name _____

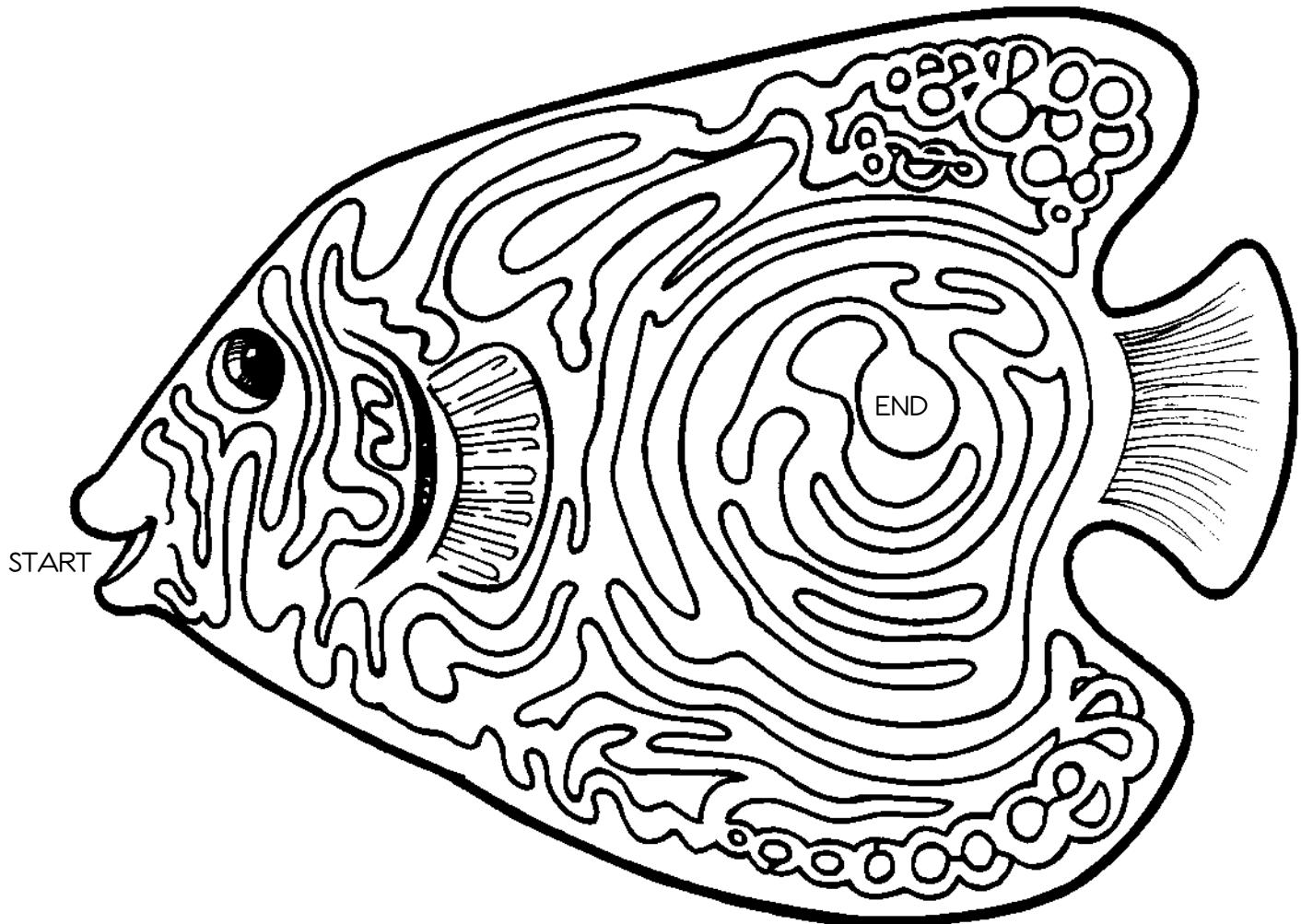


Draw the fish. Copy each square above
into the same square below.



Name _____

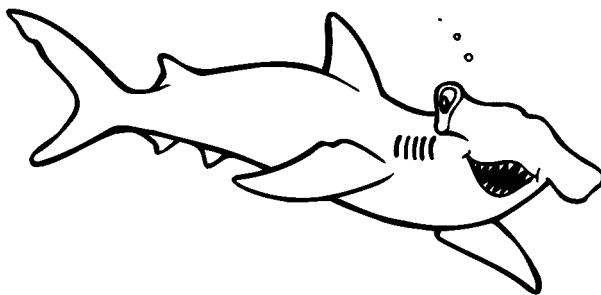
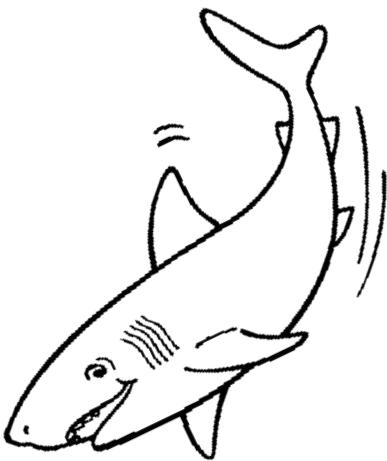
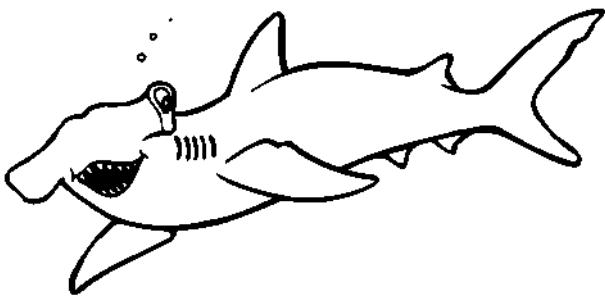
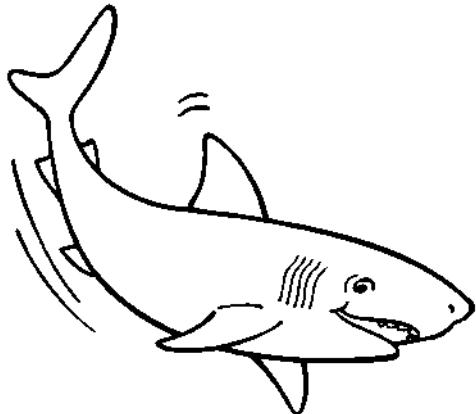
Young Emperor Angelfish are brightly marked to hide from enemies on the coral reef where they live. The big spot on their side looks like a huge eye! Find your way through the maze to the eyespot.



SKILL: MAZE

Name _____

Sharks come in many unusual shapes and sizes. Draw a line between the matching sharks.

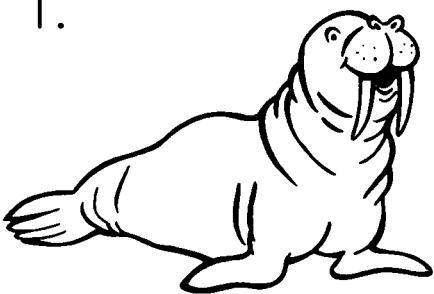


Name _____

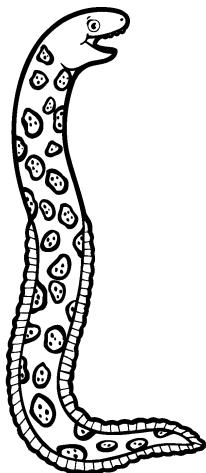
Write the names of the animals in the crossword puzzle.

Across:

1.



5.

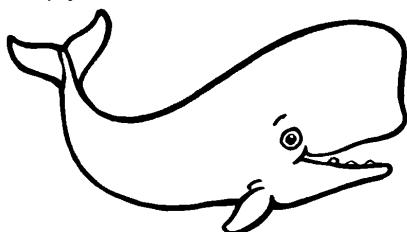


6.

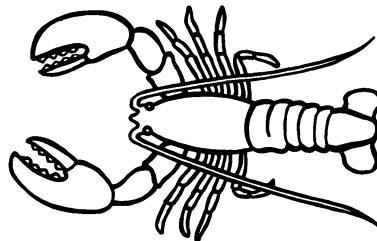


Down:

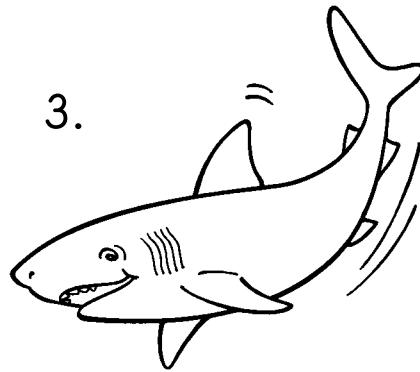
1.



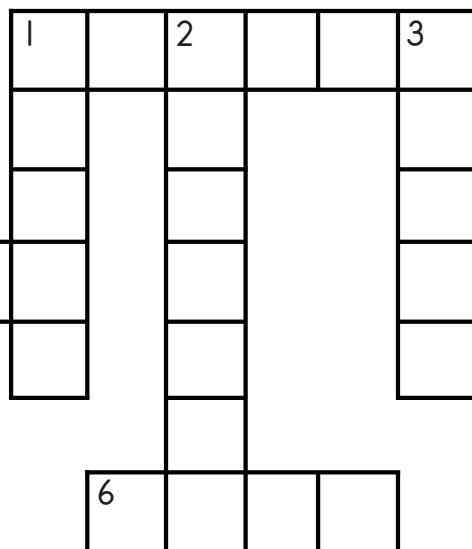
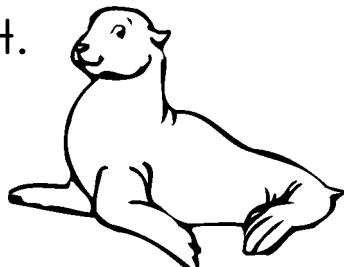
2.



3.

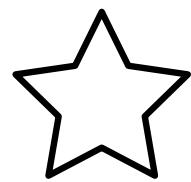
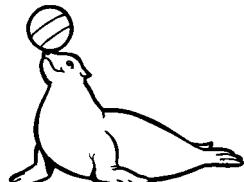


4.

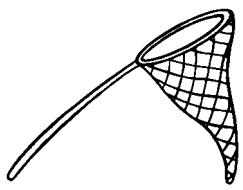
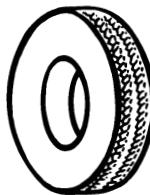
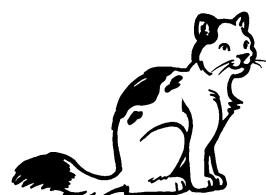
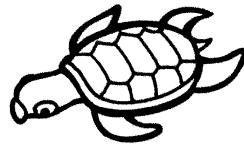
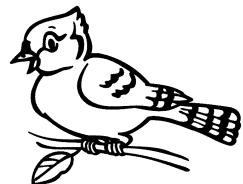
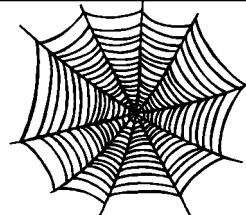
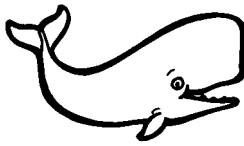


Name _____

Say the name of the ocean animal and write the first letter under the name. Then write the letter under the two pictures in each row that begin with the same letter.

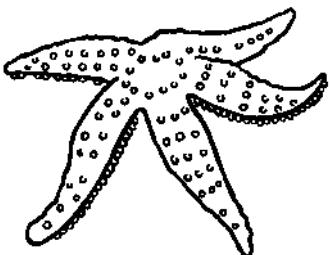


S

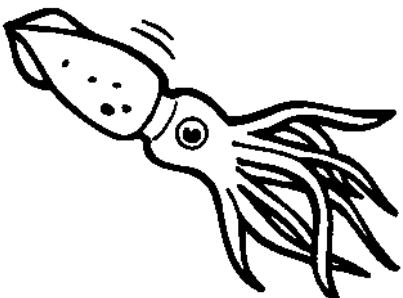


Name _____

Write the names of these things found in the ocean
that begin with the Ss sound.



Sea star



Squid



Seal

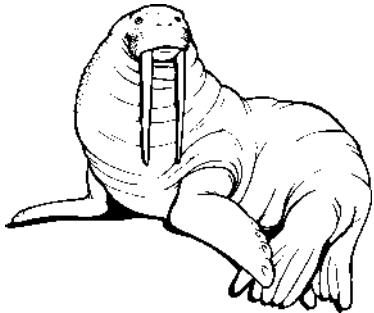


Seahorse

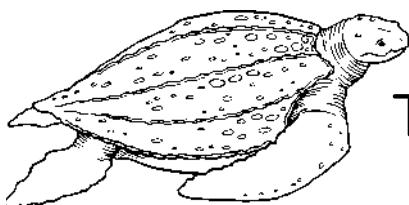
Name _____

Look at the ocean pictures. Choose the right word to finish the sentence. Write it.

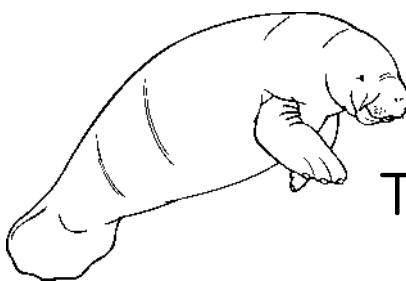
gentle	large	meat	rivers	ink
--------	-------	------	--------	-----



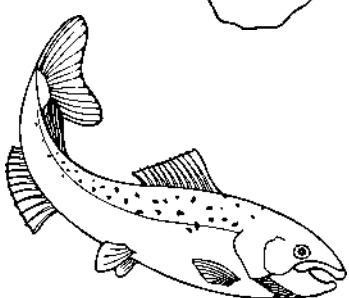
The walrus eats _____ meat.



The leatherback is a _____ turtle.



The manatee is _____.



Salmon swim up _____ to lay their eggs.

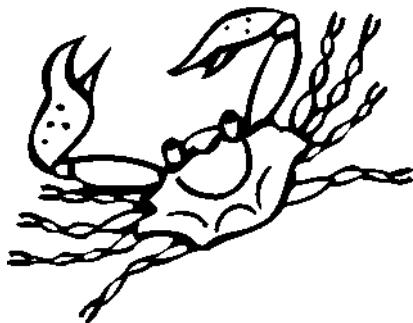


The octopus sprays black _____ to protect itself.

Name _____

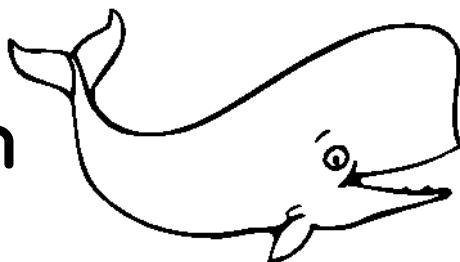
Put the letters in the correct order. Then write the word on the line next to the picture.

r b a c



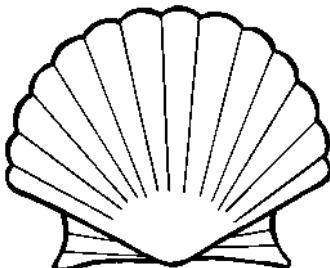
crab

l w e a h



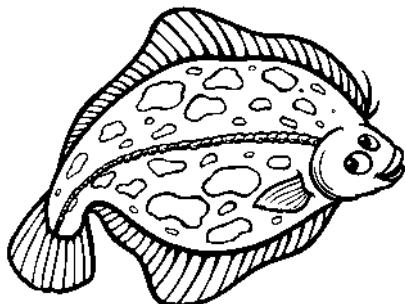
whale

l e s h l



scallop shell

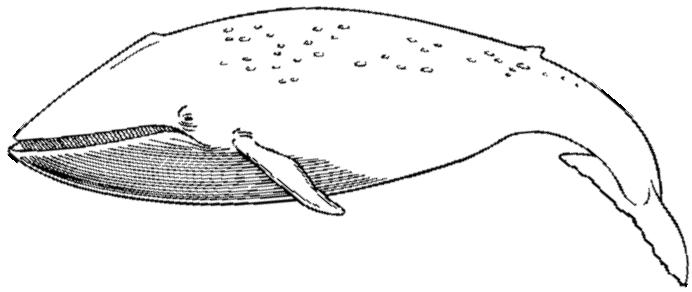
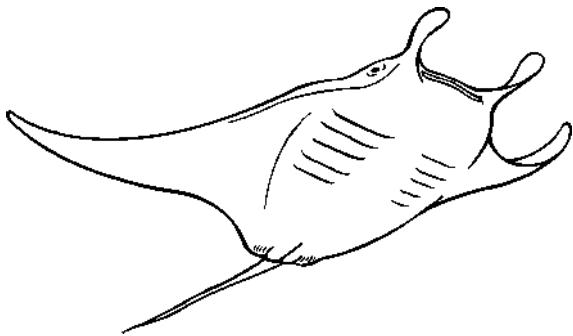
s f h i



fish

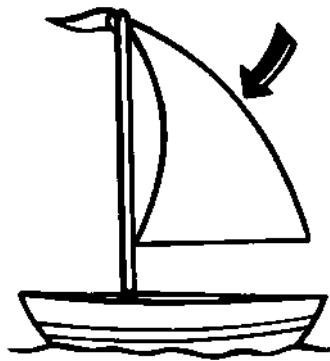
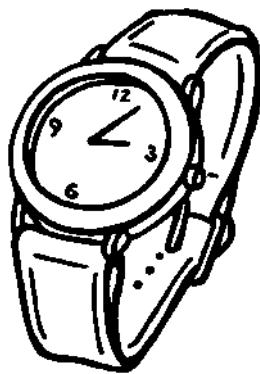
Name _____

Long vowel sounds say their own name. Say these ocean words with the long ā and then color the pictures that have the same long ā sound.



Rāy

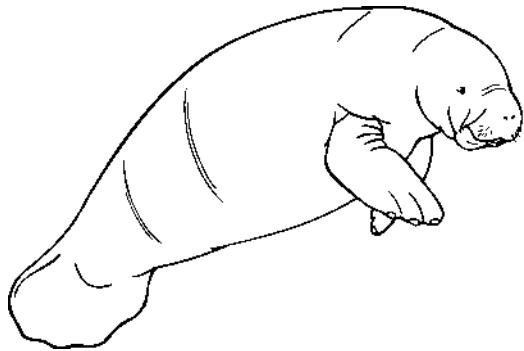
Whāle



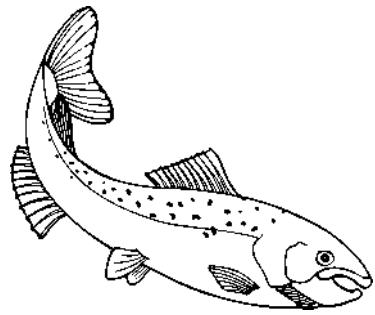
Name _____

The short vowel sound a sounds like the a in can.

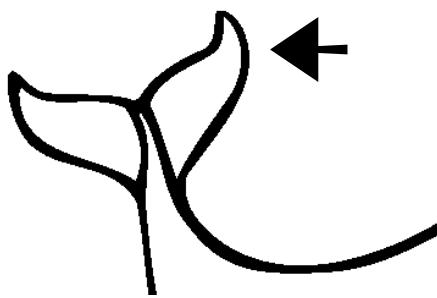
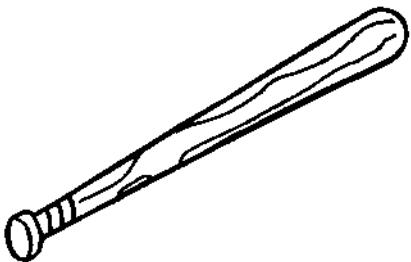
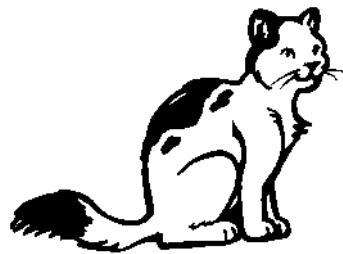
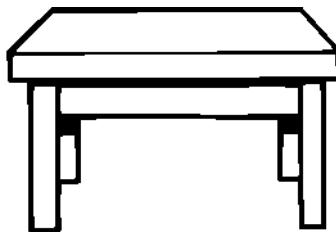
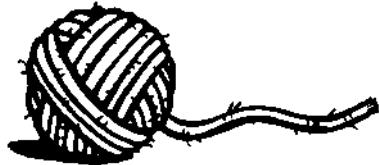
Say these ocean words with the short ā and then color
the pictures that have the same short ā sound.



Mānatee

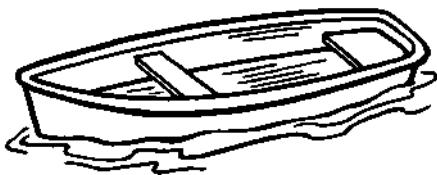


Sālmon



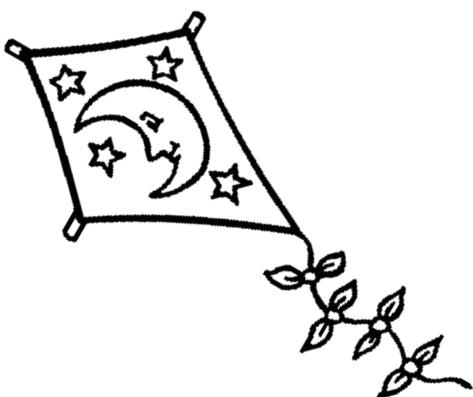
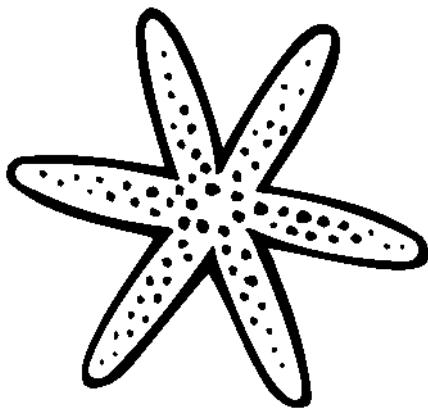
Name _____

Say the word for each thing you may find near the ocean. Then write the beginning sound for each picture. Use the letters b, g, k, s.



g

boat



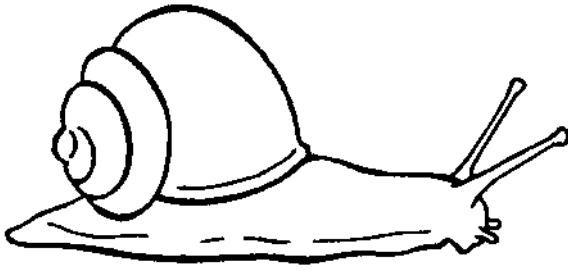
star

ite



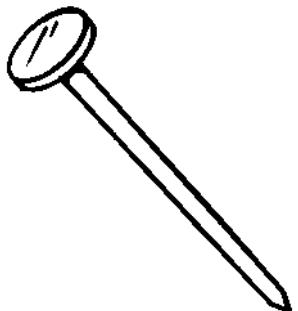
Name _____

How many words can you make that sound like the word
whale? Use the letters n, m, p, s, t. One letter is used twice.



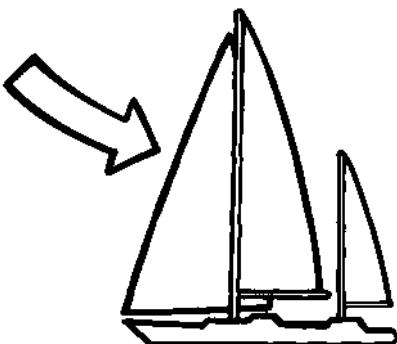
ail

nail



ail

ail



ail

ail

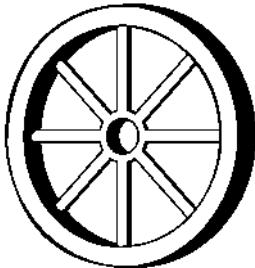
Name _____

Say these words with the long e sound (sounds like itself)
as in the word *tree*. Then write the beginning sound and
complete the words. Use the sounds b, s, th, w, wh.



s_e_a_l

e_a_l



w_e_l

e_e_l

3



t_r_e_e

w_h_e_e_l

Name _____

In each box, choose the word that names the picture and circle it.

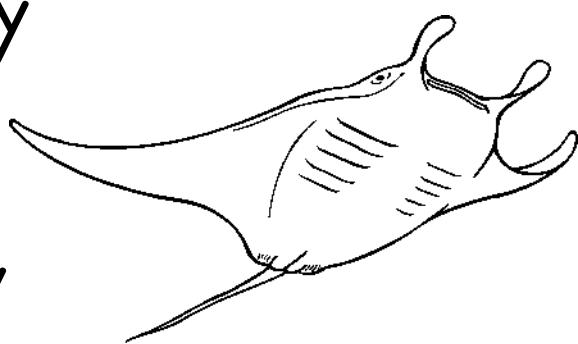
seal



tale



sail

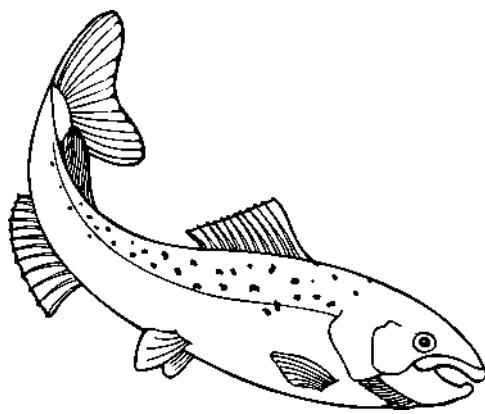


whale

play

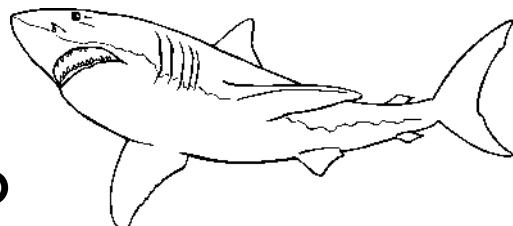
wish

ray



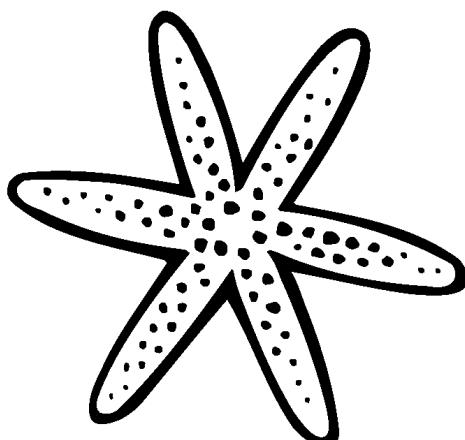
fish

shark



star

sharp



car

Name _____

The alphabet:

A B C D E F G H I J K L M N O P Q R S T U V W Y Z

Draw a circle around the first letter of each word, then put the words in ABC order.

octopus

whale

lobster

clam

ray

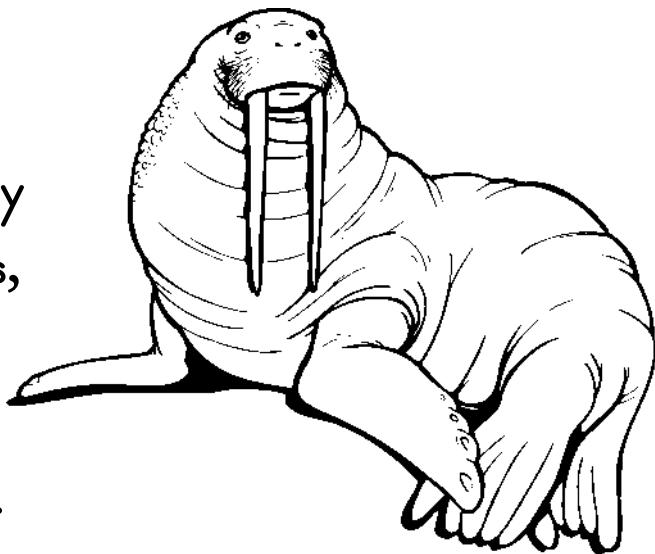
manatee

penguin

turtle

Read the story or have your teacher read it, and then answer the questions.

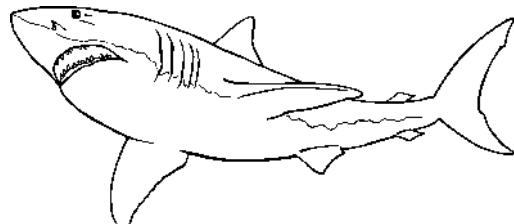
Walruses are huge mammals, with lots of fat to keep them warm in the icy seas where they live. Walruses like to eat clams, fish, and sea stars. They are good swimmers and spend most of their time in the water.



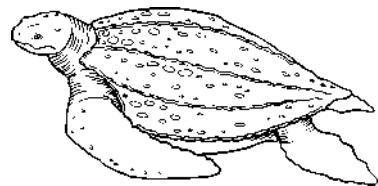
- | | | |
|---------------------------------|----------|-----------|
| 1. This story is about | walruses | sea stars |
| 2. Walruses are | fat | skinny |
| 3. Walruses like to eat | plants | animals |
| 4. Can walruses swim? | yes | no |
| 5. Walruses live where it's | hot | cold |
| 6. Walruses are in which group? | mammal | bird |

Name _____

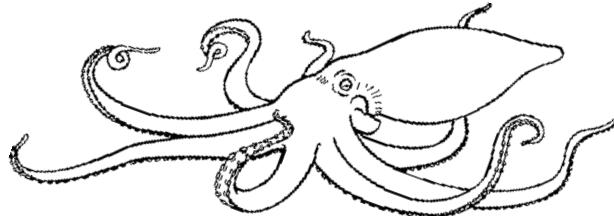
Finish the sentence with the correct word.



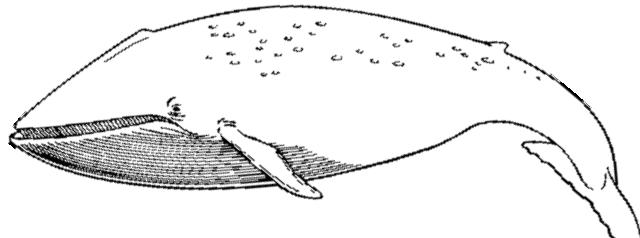
1. Sharks are carnivores, or _____ -eaters.



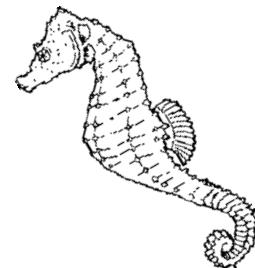
2. The leatherback turtle lives in warm _____.



3. The octopus has _____ arms.



4. The blue whale is the largest _____ ever to exist.



5. The sea horse is in the _____ group.

fish

oceans

meat

eight

mammal

Name _____

The alphabet:

A B C D E F G H I J K L M N O P Q R S T U V W Y Z

Draw a circle around the first letter of each word, then put the words in ABC order.

jellyfish

shark

eel

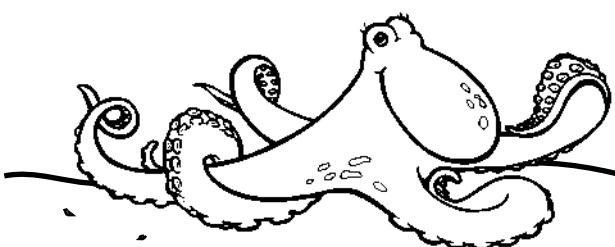
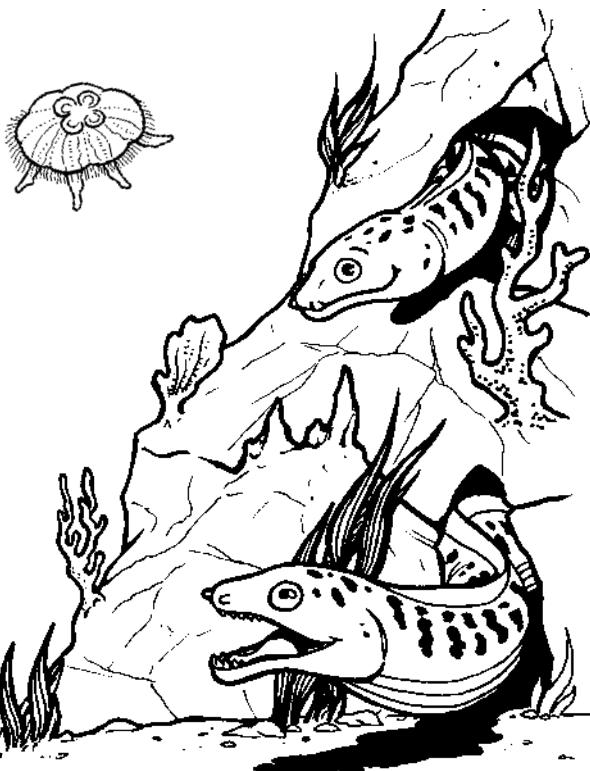
seahorse

jellyfish

shark

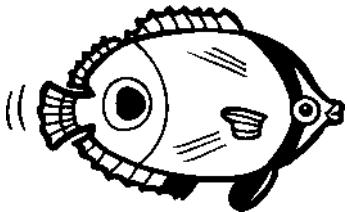
squid

coral



Name _____

Circle the word that is spelled correctly. Then write
the word in the space provided.

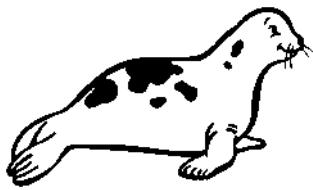


fish

fesh

fitch

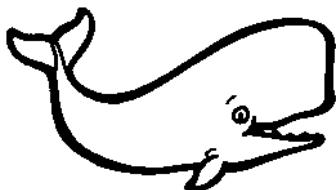
fish



siel

seal

seed



whale

whail

wale



seagul

seegull

seagull



octipus

octopus

octopuss

Name _____

Circle the answer. Then write the word.

1. The moray eel has sharp _____.

teeth hair

teeth

2. The dolphin _____ through a hoop.

jumps looks

looks

3. The shark _____ in the dark water

for fish.

sits hunts

hunts

4. A clownfish can _____ in the arms

of a sea anemone.

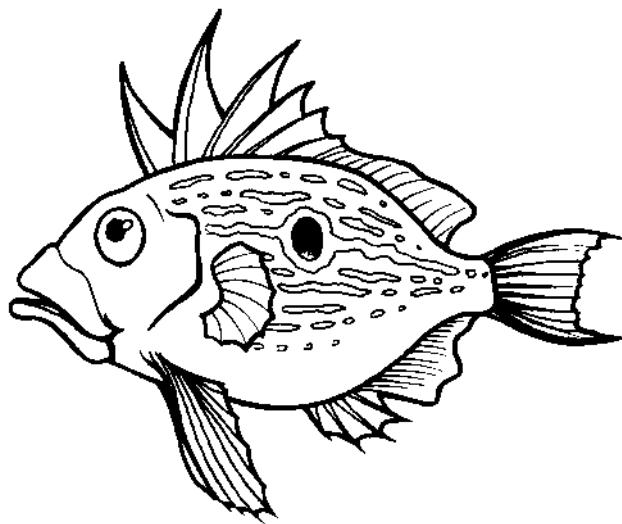
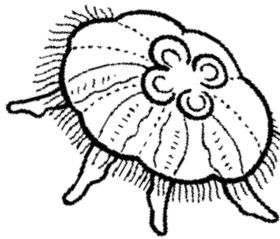
hide run

hide

5. Some jellyfish _____ in the dark.

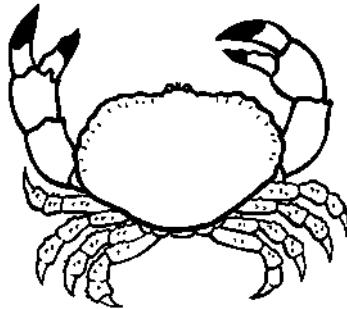
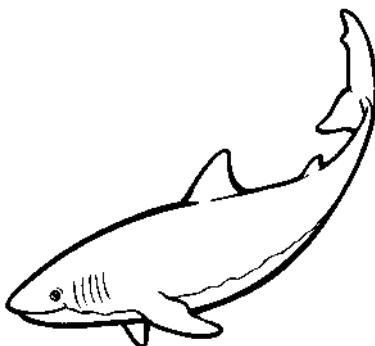
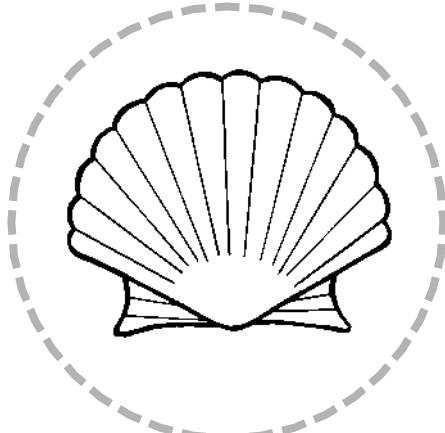
sit glow

glow

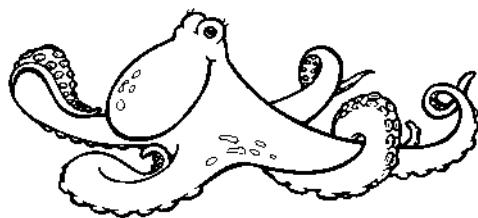
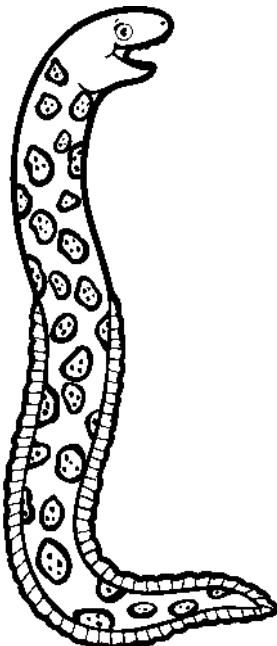
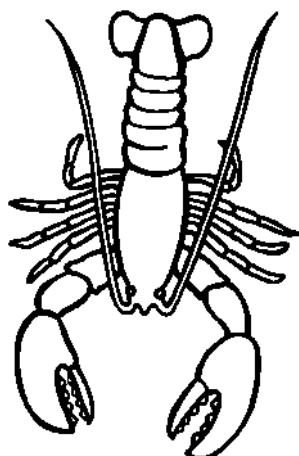


Name _____

Say the names of the animals below. Circle the ones
that have an "s" in their name. Write their names.

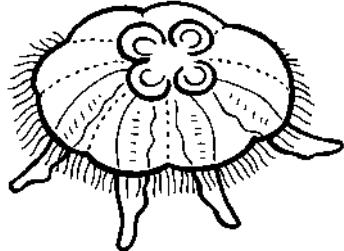
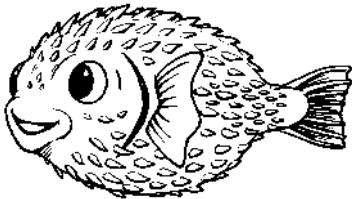
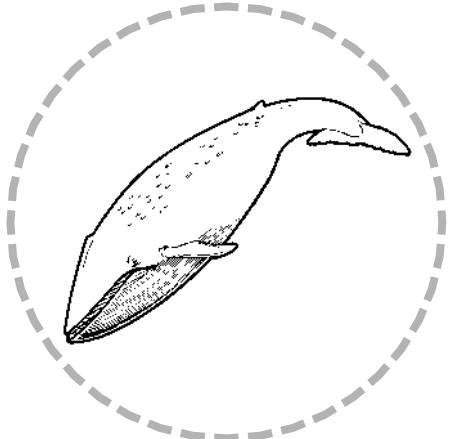


scallop

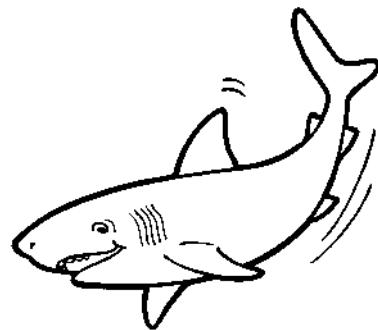
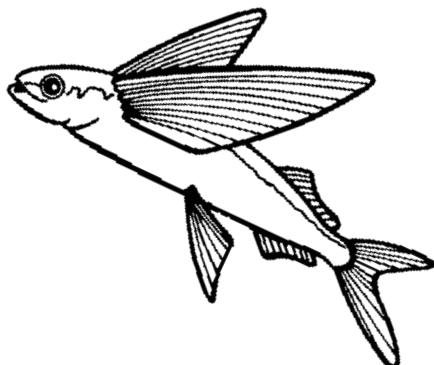
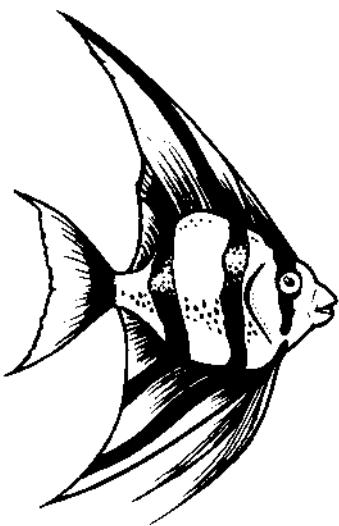


Name _____

Say the names of the animals below. Circle the ones
that have an "l" in their name. Write their names.



whale



Name _____

Say the words on the left, then circle the word on the right that rhymes with it. Say the two words together.

sail

high

snail

walk

walk

when

talk

whale

book

look

bait

last

fish

fly

dive

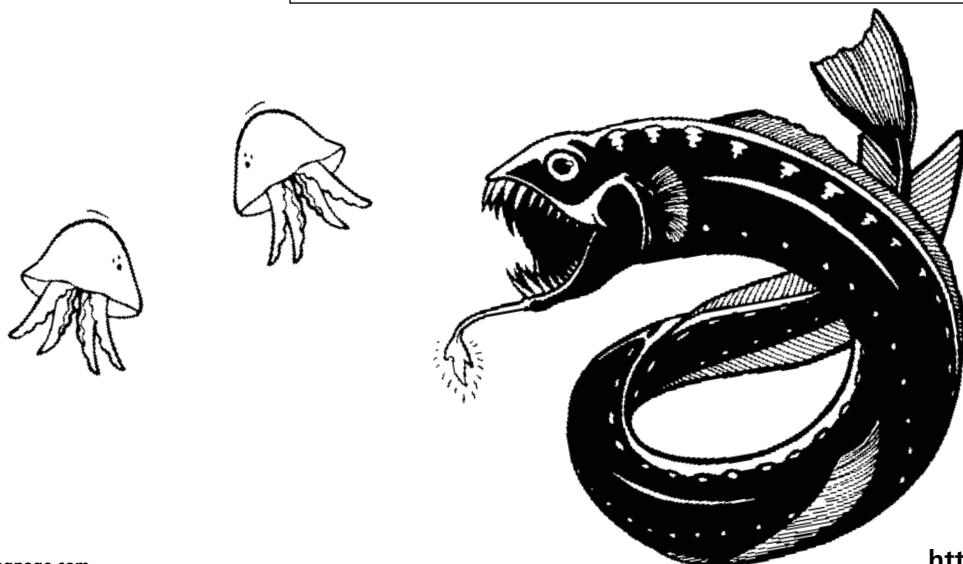
dish

sand

stay

land

ship



Name _____

Add the double digit numbers.

$$\begin{array}{r} 42 \\ +16 \\ \hline \end{array}$$

$$\begin{array}{r} 33 \\ +45 \\ \hline \end{array}$$

$$\begin{array}{r} 76 \\ +23 \\ \hline \end{array}$$

$$\begin{array}{r} 80 \\ +24 \\ \hline \end{array}$$

$$\begin{array}{r} 62 \\ +15 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ +62 \\ \hline \end{array}$$

$$\begin{array}{r} 61 \\ +27 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ +55 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ +15 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ +13 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ +14 \\ \hline \end{array}$$

$$\begin{array}{r} 44 \\ +51 \\ \hline \end{array}$$



SKILL: ADDITION OF DOUBLE DIGITS

Name _____

Use the answers to the addition problems to color
the picture.

$6 + 3 = \underline{\quad}$ blue

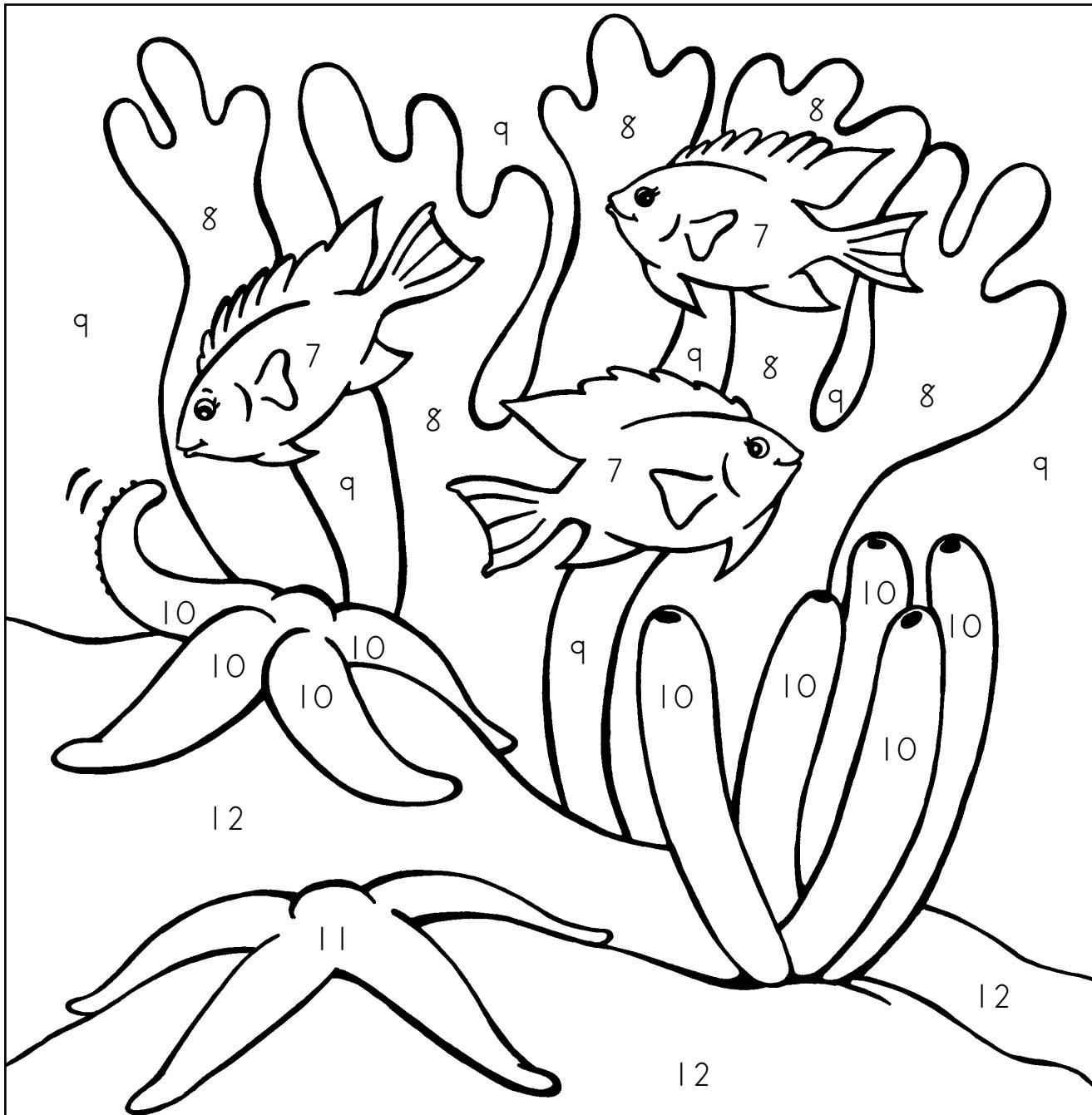
$8 + 2 = \underline{\quad}$ purple

$5 + 2 = \underline{\quad}$ yellow

$10 + 2 = \underline{\quad}$ brown

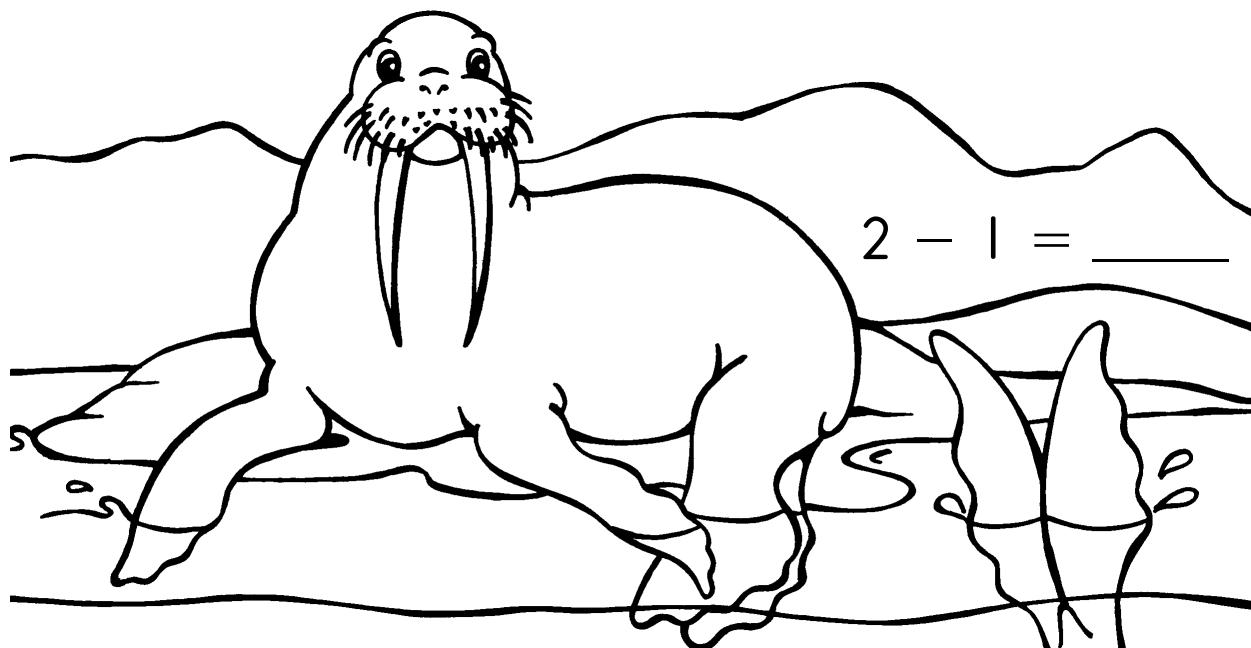
$4 + 4 = \underline{\quad}$ green

$7 + 4 = \underline{\quad}$ red



Name _____

Find the answers to these subtraction problems.



$$2 - 1 = \underline{\quad}$$

$$\begin{array}{r} 7 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 4 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 5 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 8 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 5 \\ \hline \end{array}$$

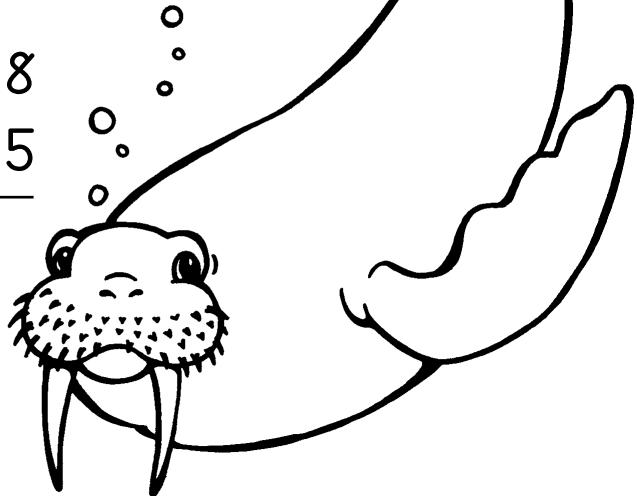
$$\begin{array}{r} 7 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ - 3 \\ \hline \end{array}$$



Name _____

Use the answers to the subtraction problems to color the picture.

$10 - 6 = \underline{\quad}$ orange

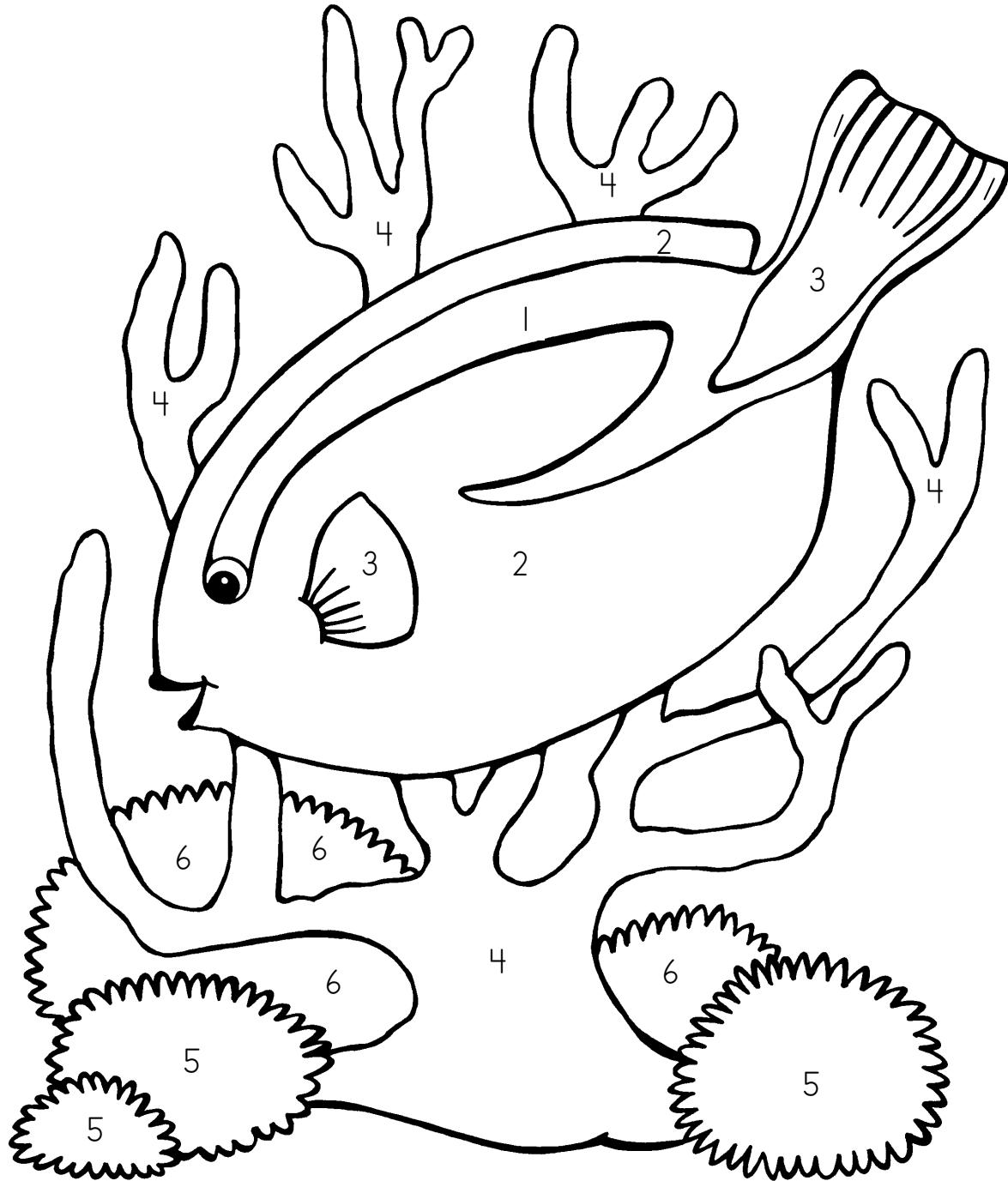
$7 - 2 = \underline{\quad}$ red

$8 - 5 = \underline{\quad}$ yellow

$9 - 3 = \underline{\quad}$ purple

$1 - 0 = \underline{\quad}$ black

$4 - 2 = \underline{\quad}$ blue



Name _____

Write the number that comes before on each line.

_____ 17 _____ 20 _____ 1

_____ 32 _____ 11 _____ 15

_____ 18 _____ 6 _____ 25

_____ 10 _____ 13 _____ 28

_____ 32 _____ 19 _____ 12

Name _____

Write the number that comes after on each line.

22 _____

41 _____

6 _____

15 _____

0 _____

26 _____

19 _____

8 _____

10 _____

13 _____

21 _____

30 _____

4 _____

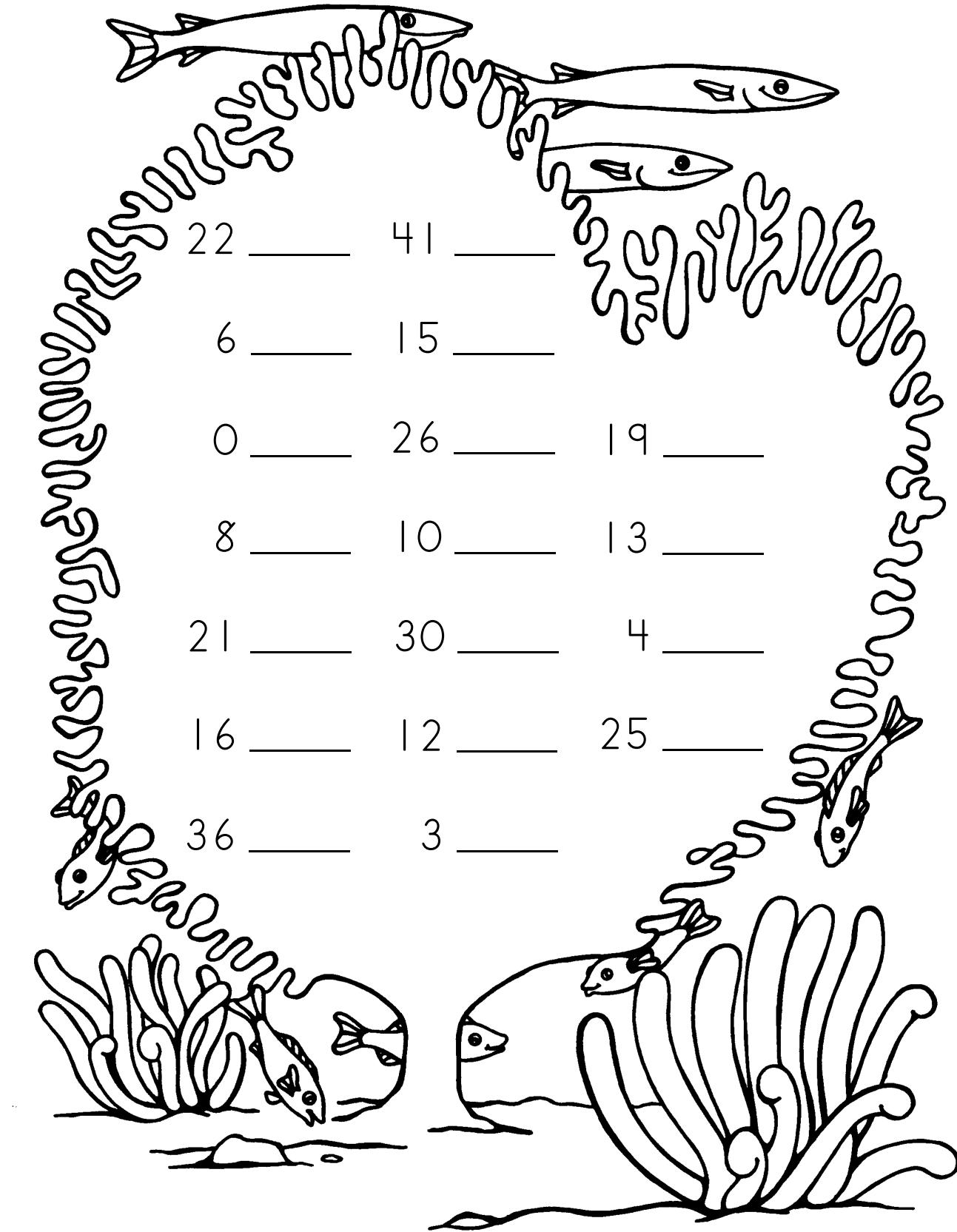
16 _____

12 _____

25 _____

36 _____

3 _____



Name _____

Circle the number that is greater in each pair.

13

20

32

6

16

15

24

9

19

10

1

32

28

13

0

51

Circle the number that is less in each pair.

5

6

19

30

9

20

20

25

32

18

12

29

21

10

23

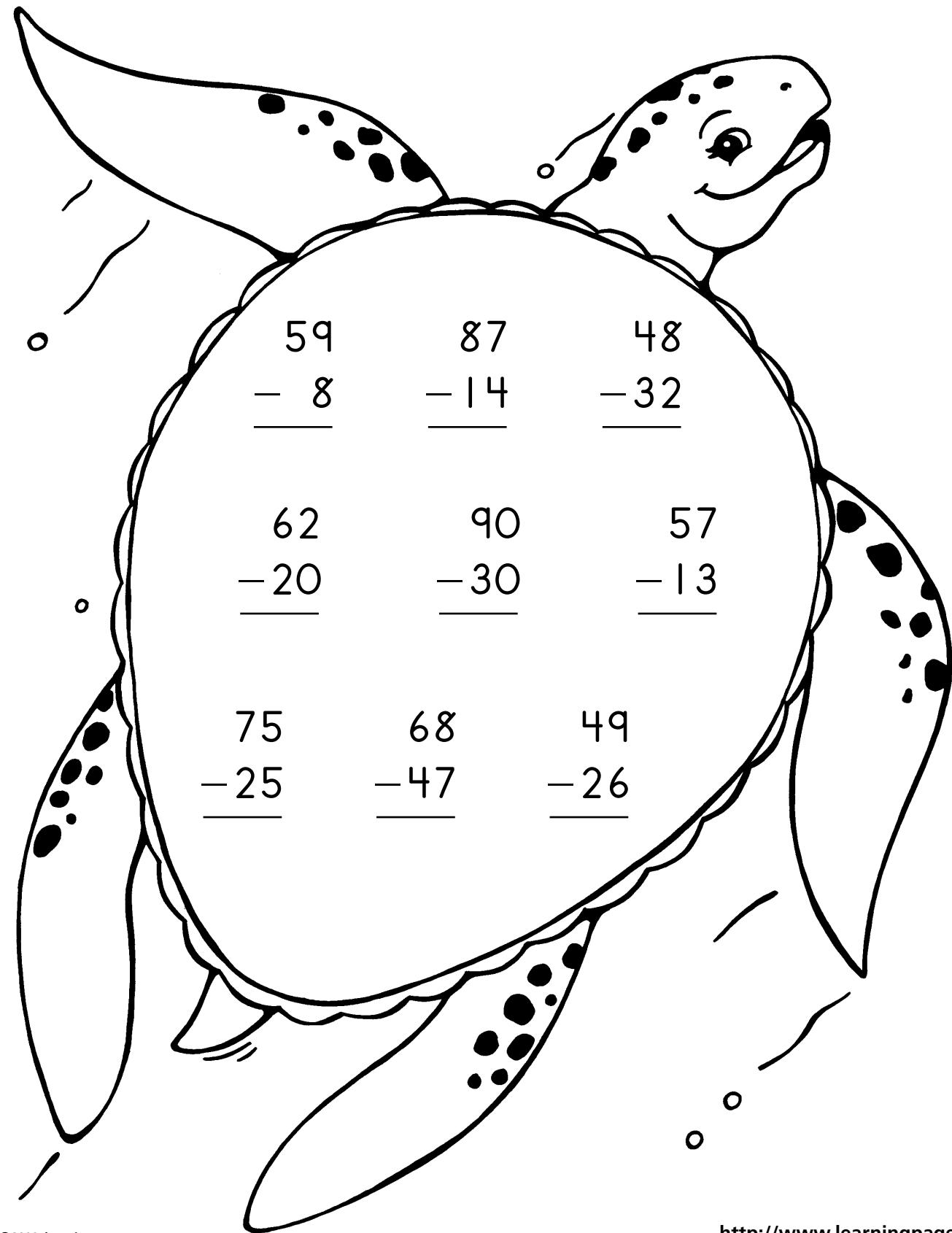
1

17

0

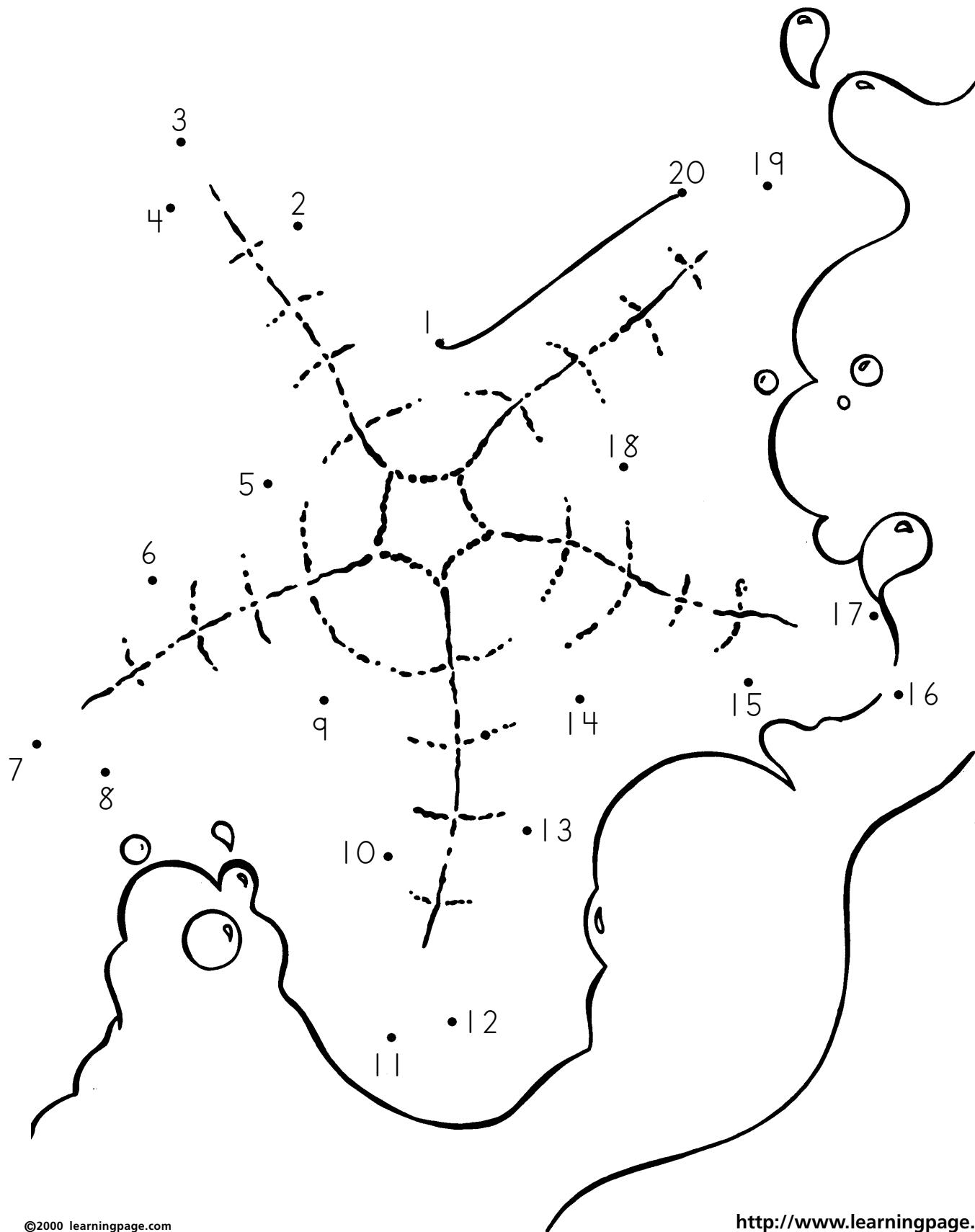
Name _____

Write the answers to these subtraction problems.



Name _____

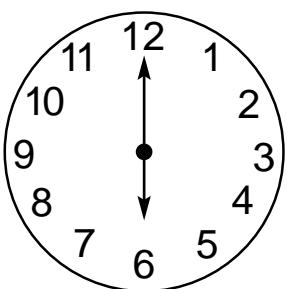
Connect the dots, 1 through 20.



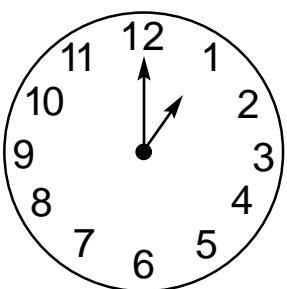
SKILL: CONNECT THE DOTS

Name _____

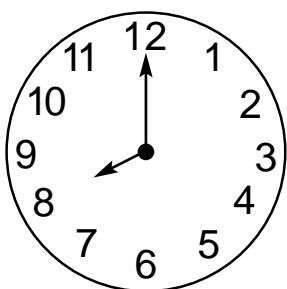
What time is it? Write the correct time below each clock.



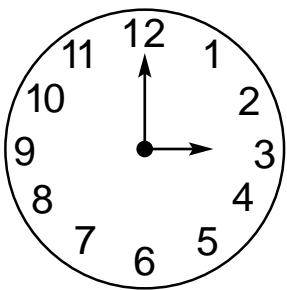
_____ o'clock



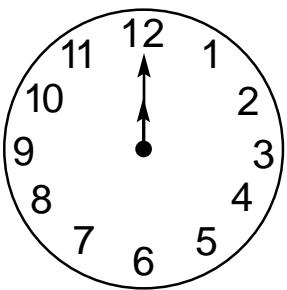
_____ o'clock



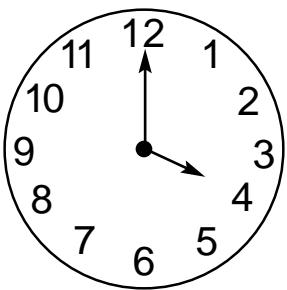
_____ o'clock



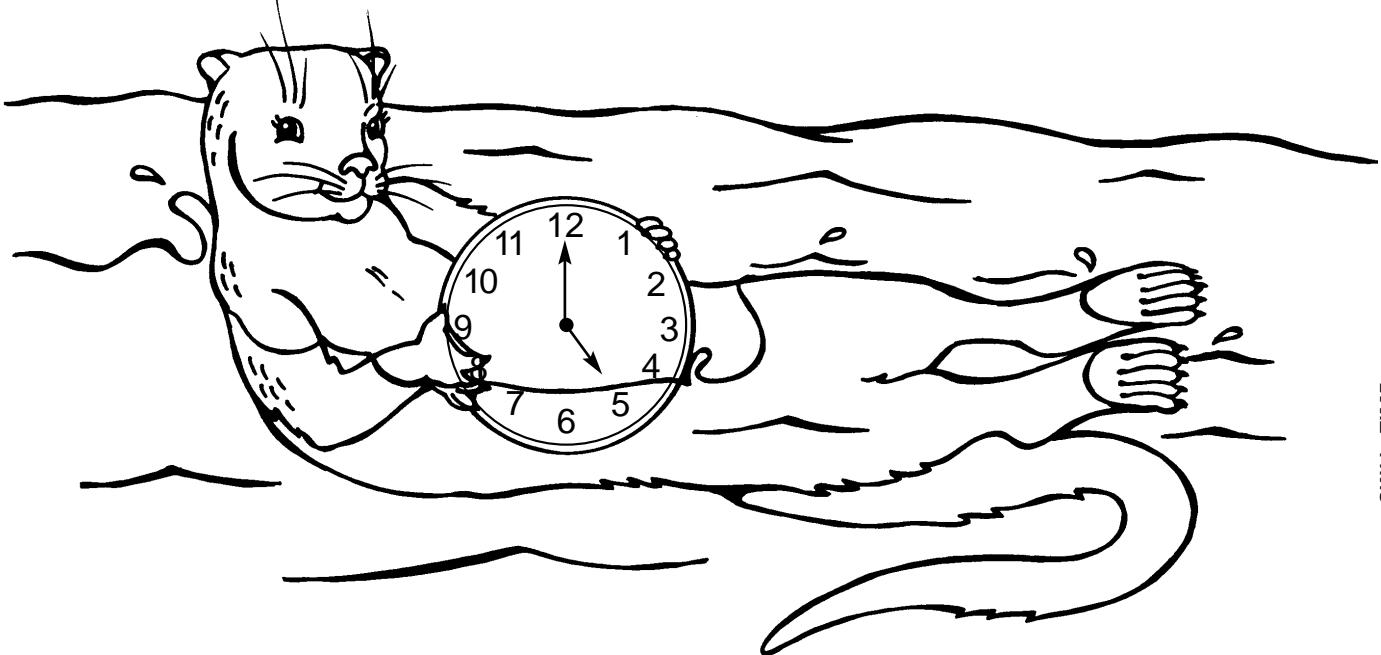
_____ o'clock



_____ o'clock

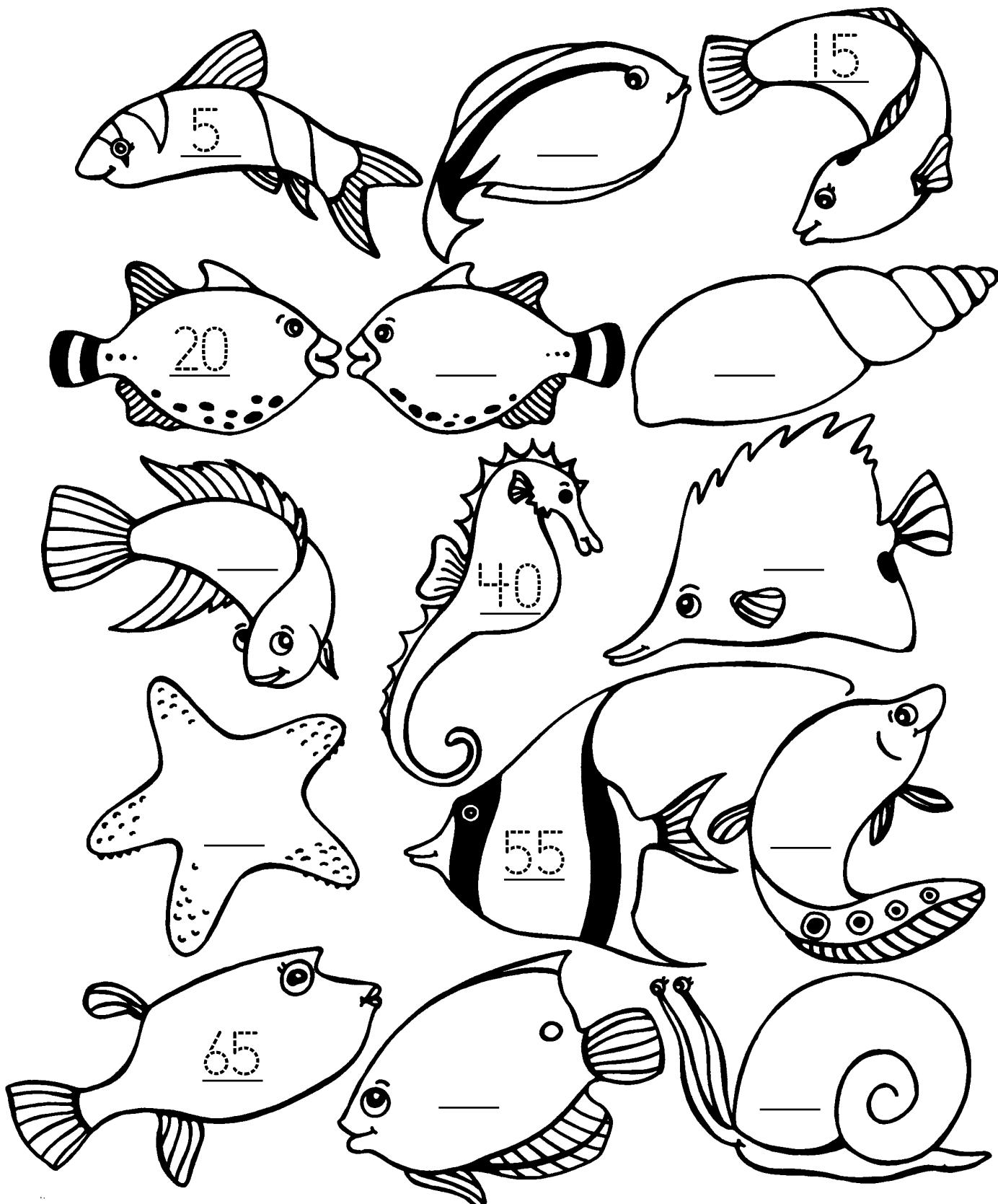


_____ o'clock



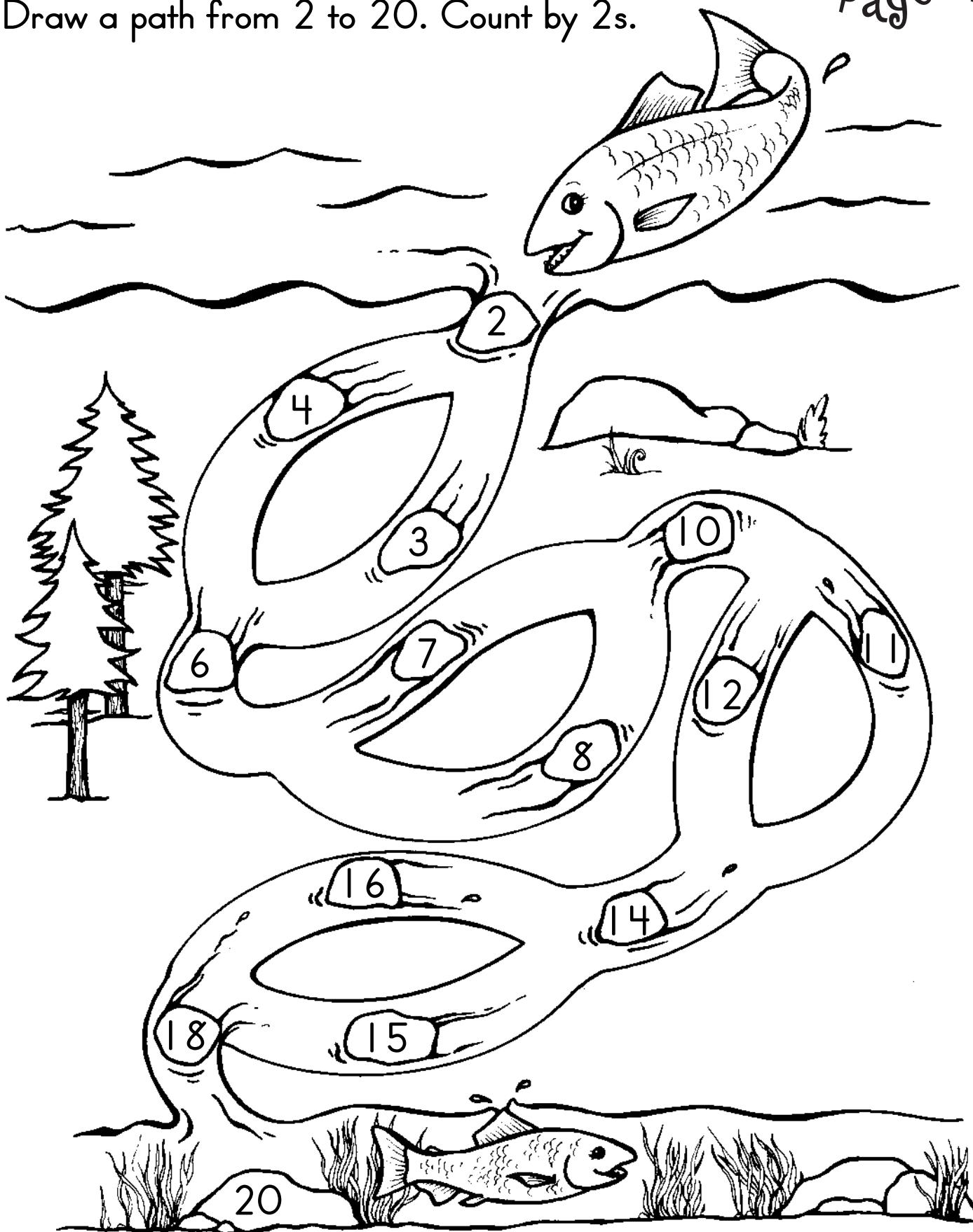
Name _____

Count by 5s to 75. Write in the missing numbers.



Name _____

Draw a path from 2 to 20. Count by 2s.



Name _____

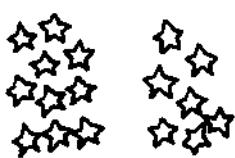
Count the stars. Write how many tens. Write how many ones.



Tens	Ones
1	3



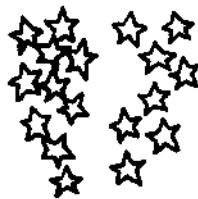
Tens	Ones
1	4



Tens	Ones
1	5



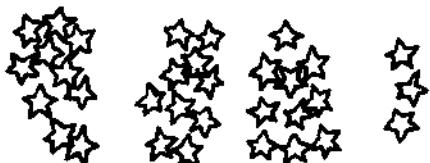
Tens	Ones
1	7



Tens	Ones
1	7



Tens	Ones
1	9

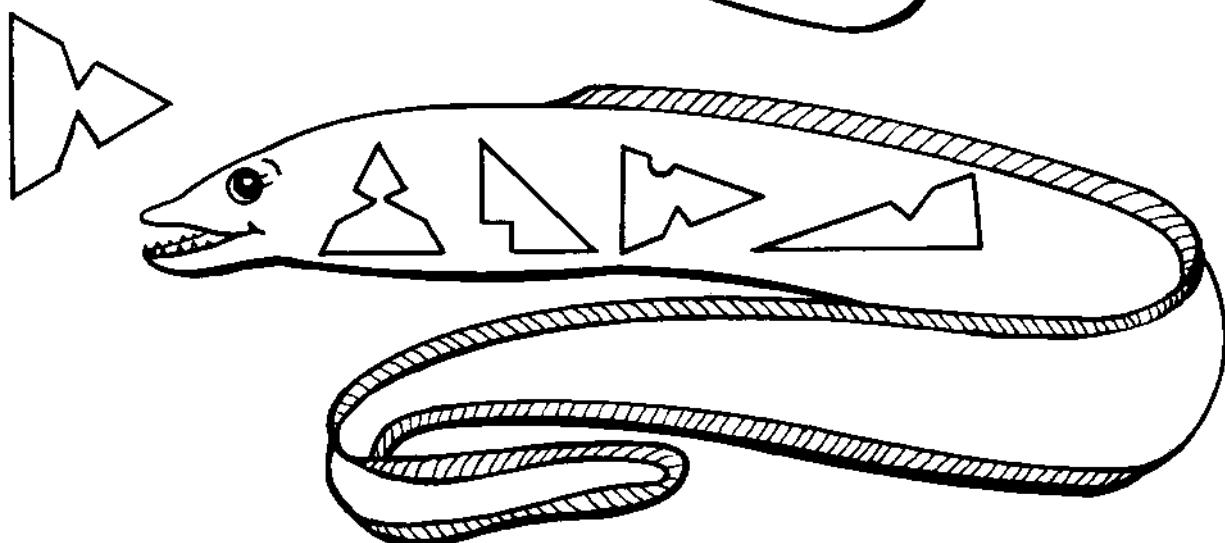
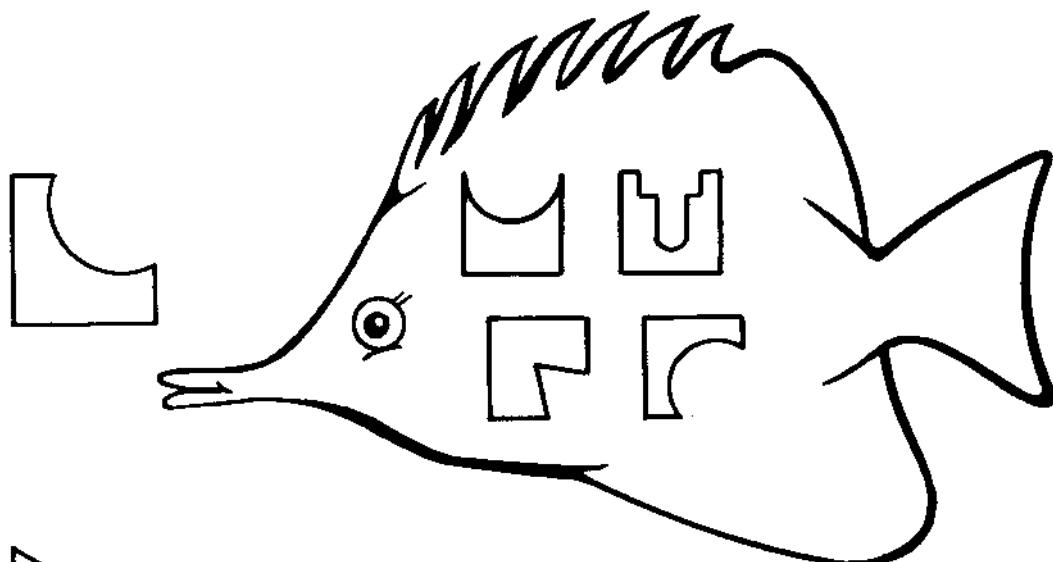
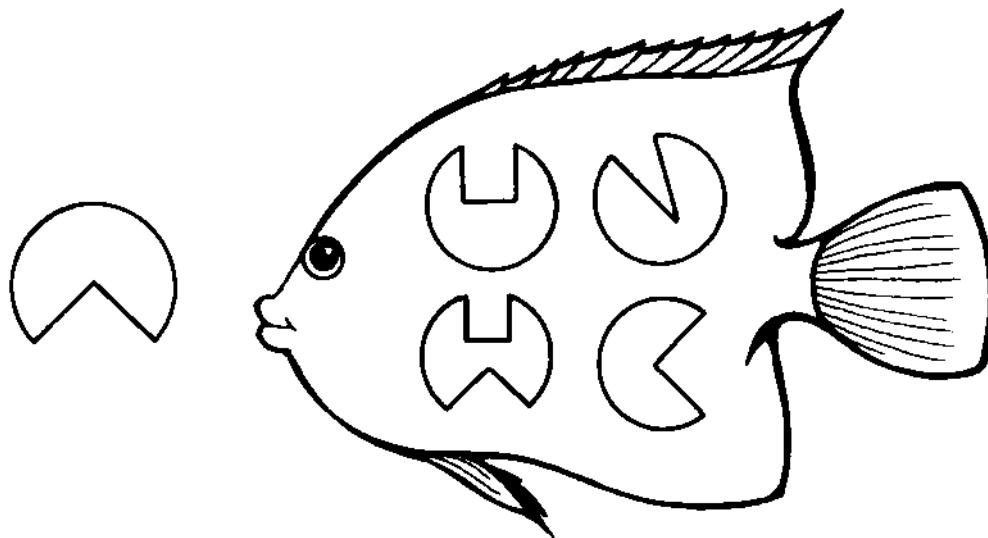


Tens	Ones
1	9



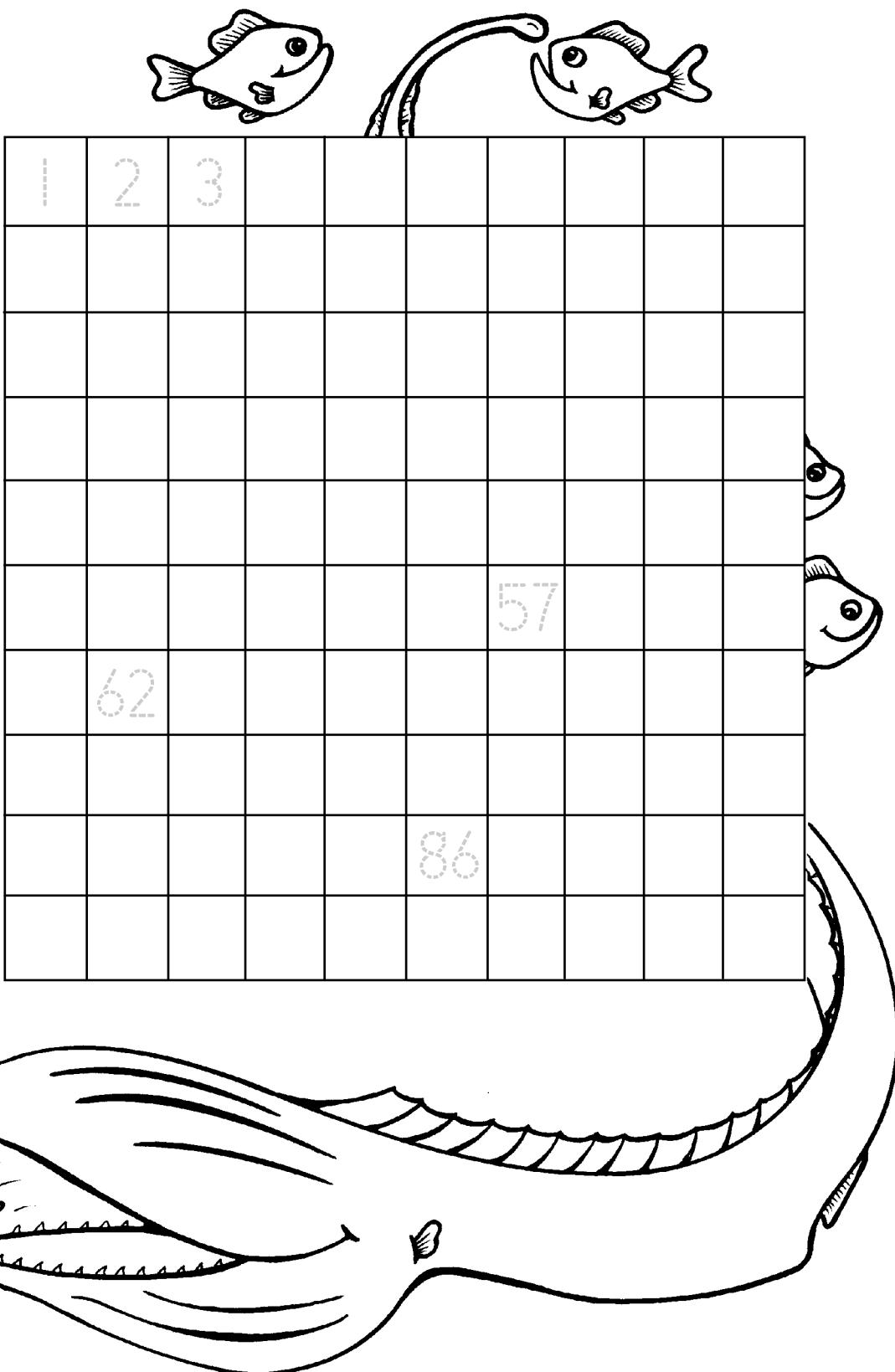
Name _____

Draw a line to the matching shape.



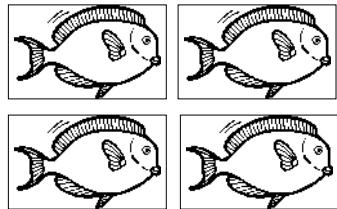
Name _____

Write the numbers 1 through 100.

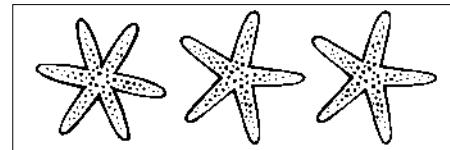


Name _____

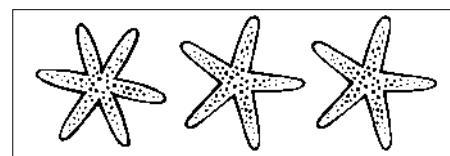
Add the numbers under the pictures.



+

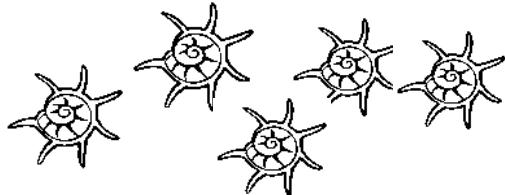


+



$$4 + 1 = \underline{\quad}$$

$$3 + 3 = \underline{\quad}$$



+

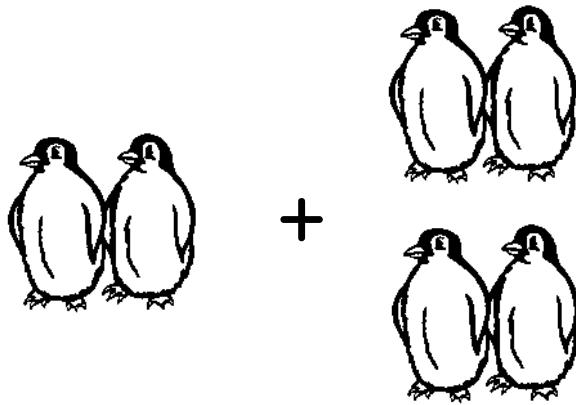


+

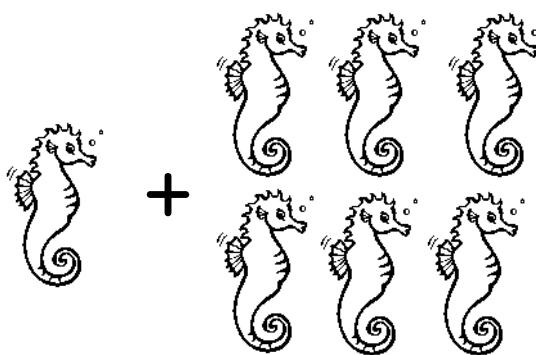


$$5 + 2 = \underline{\quad}$$

$$6 + 3 = \underline{\quad}$$



+



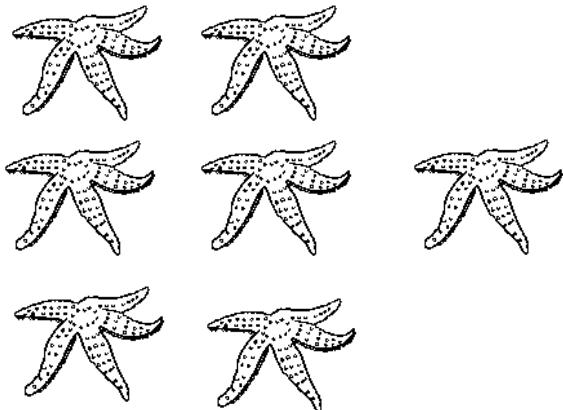
+

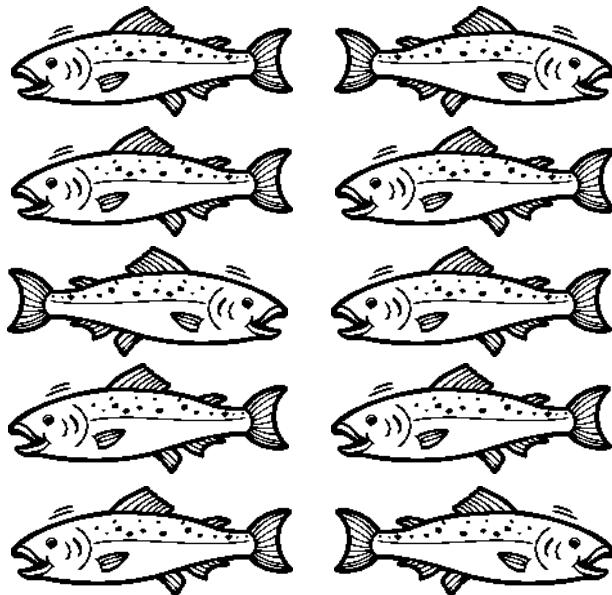
$$2 + 4 = \underline{\quad}$$

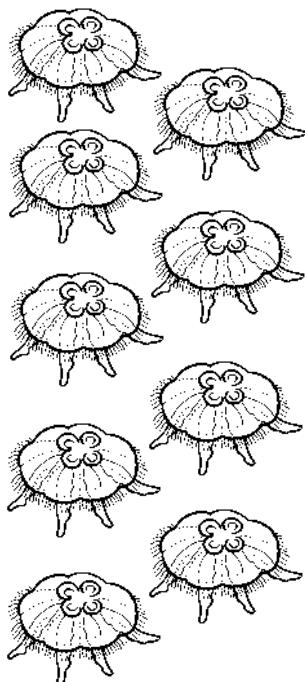
$$1 + 6 = \underline{\quad}$$

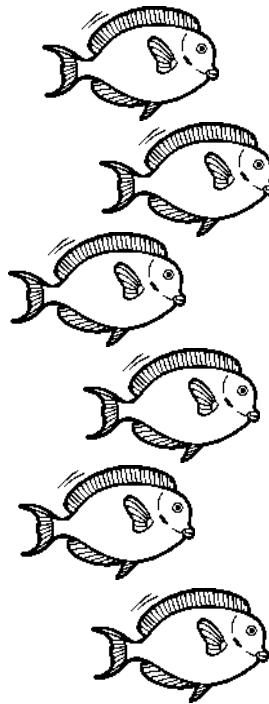
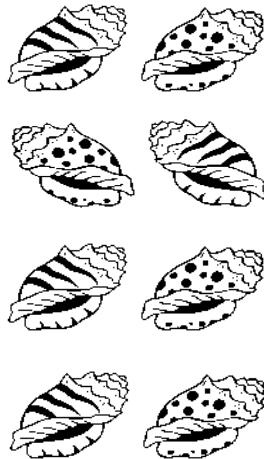
Name _____

Count how many are in each group and write the number on each line.









Name _____

Circle the number that is greater in each box.

30 or 20

19 or 16

4 or 10

6 or 3

19 or 14

35 or 25

Circle the number that is less in each box.

12 or 15

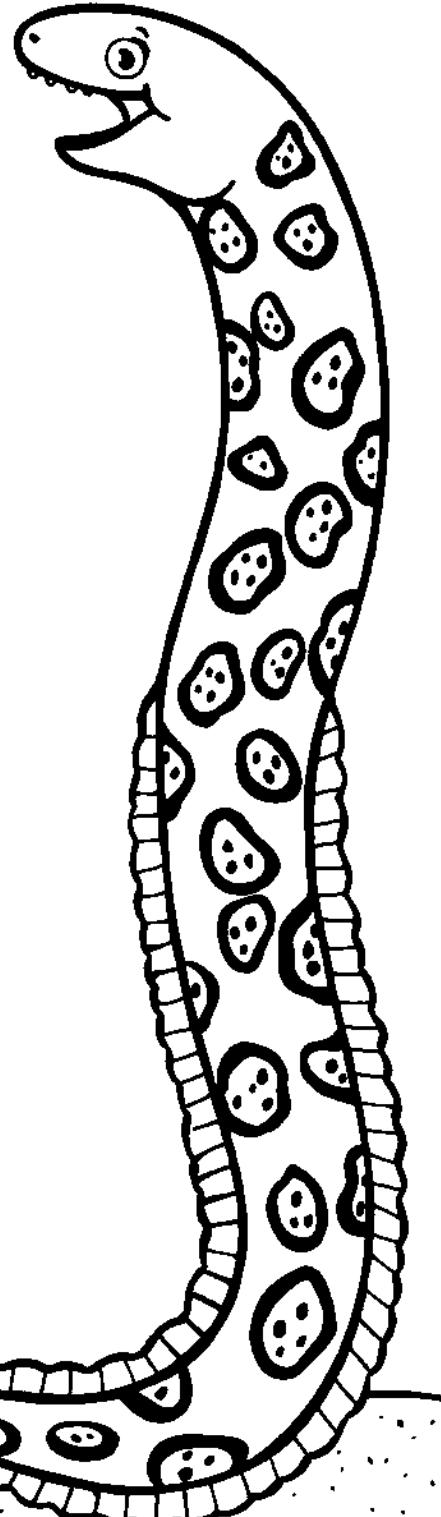
3 or 5

22 or 17

14 or 24

10 or 8

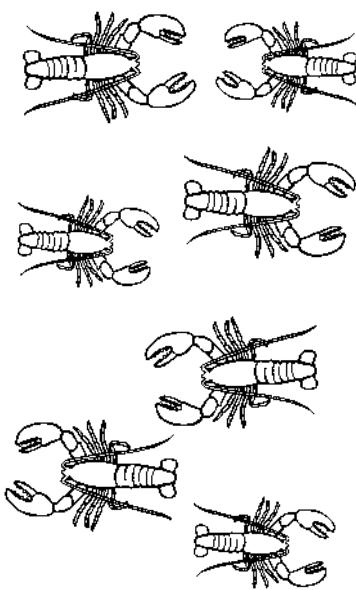
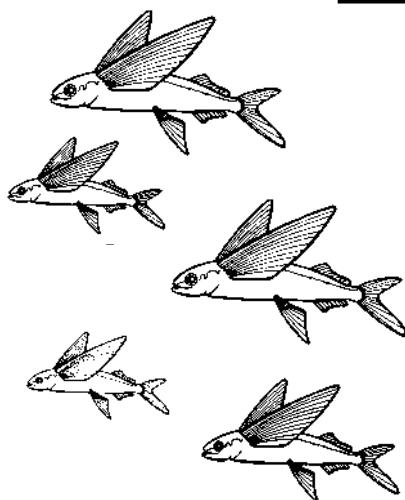
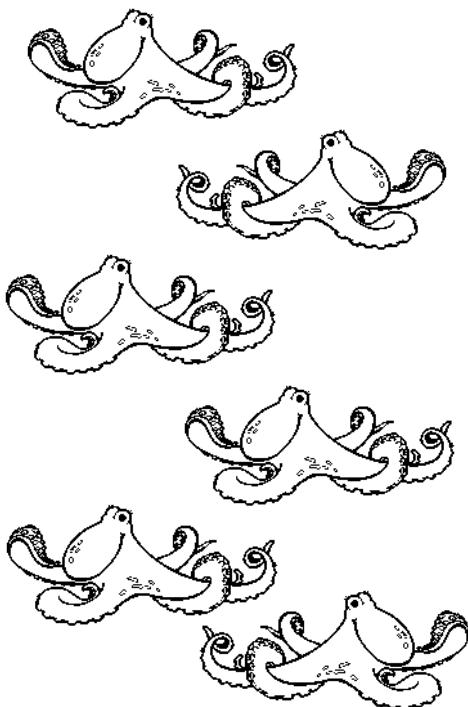
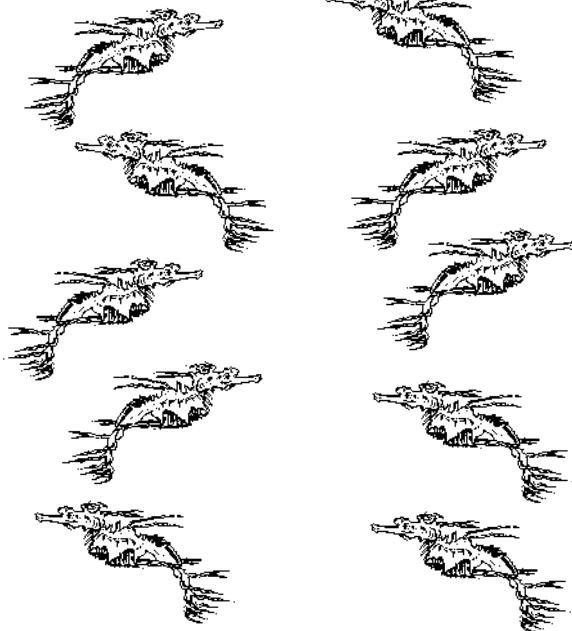
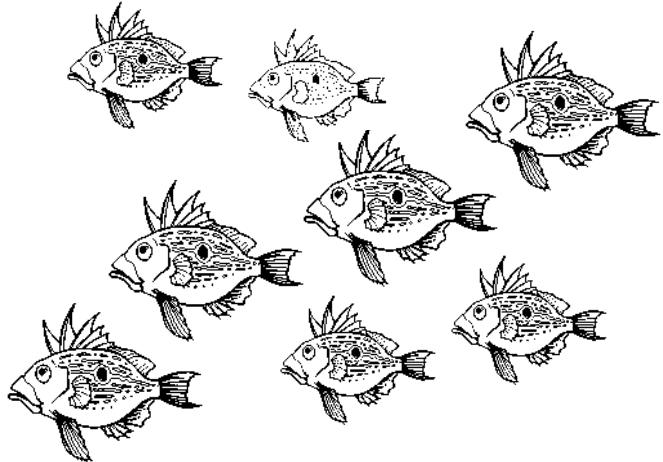
18 or 9



SKILL: GREATER THAN/LESS THAN

Name _____

Count how many are in each group and write the number on each line.



Name _____

Add the double digit numbers.

$$\begin{array}{r} 10 \\ +28 \\ \hline \end{array}$$

$$\begin{array}{r} 51 \\ +37 \\ \hline \end{array}$$

$$\begin{array}{r} 32 \\ +52 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ +12 \\ \hline \end{array}$$

$$\begin{array}{r} 23 \\ +35 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ +52 \\ \hline \end{array}$$

$$\begin{array}{r} 41 \\ +47 \\ \hline \end{array}$$

$$\begin{array}{r} 46 \\ +12 \\ \hline \end{array}$$

$$\begin{array}{r} 31 \\ +30 \\ \hline \end{array}$$

$$\begin{array}{r} 47 \\ +65 \\ \hline \end{array}$$

$$\begin{array}{r} 77 \\ +33 \\ \hline \end{array}$$

$$\begin{array}{r} 44 \\ +18 \\ \hline \end{array}$$

$$\begin{array}{r} 24 \\ +37 \\ \hline \end{array}$$

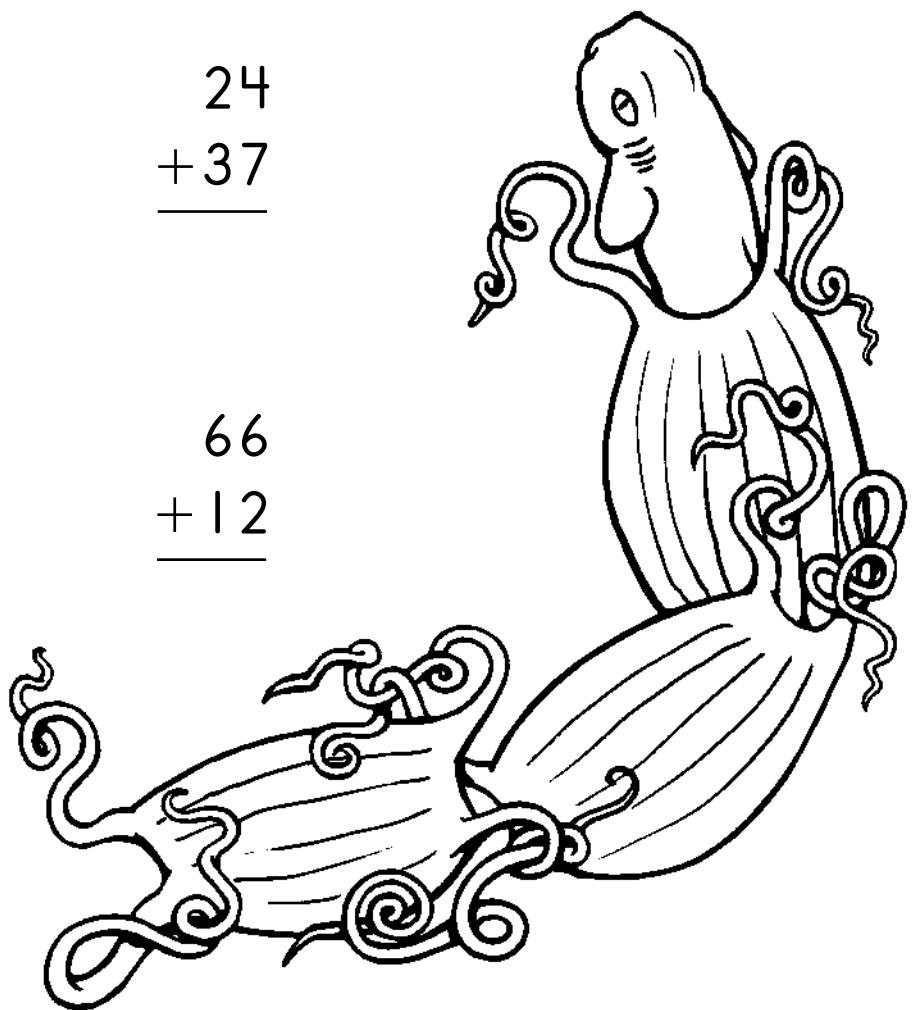
$$\begin{array}{r} 63 \\ +21 \\ \hline \end{array}$$

$$\begin{array}{r} 13 \\ +55 \\ \hline \end{array}$$

$$\begin{array}{r} 66 \\ +12 \\ \hline \end{array}$$

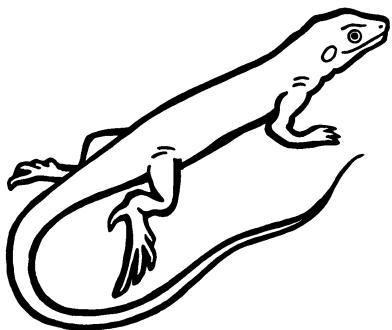
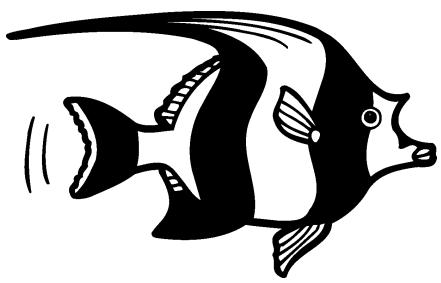
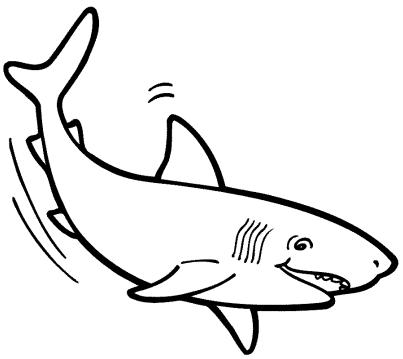
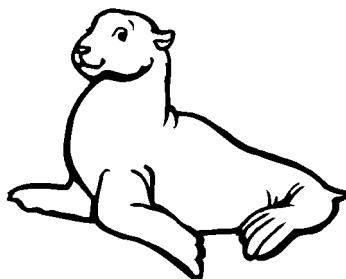
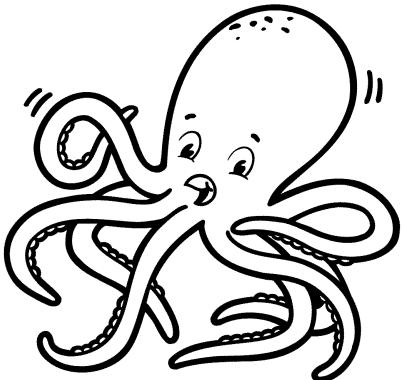
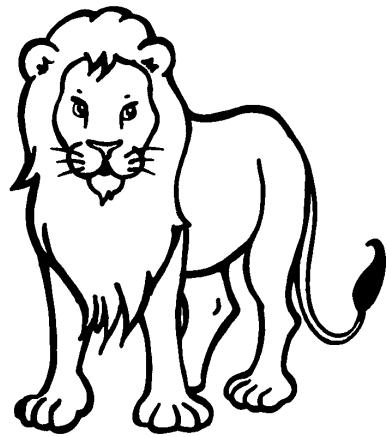
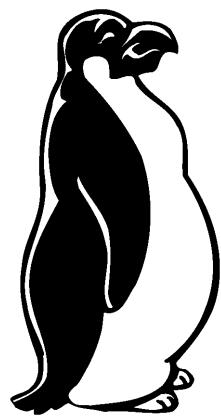
$$\begin{array}{r} 80 \\ +26 \\ \hline \end{array}$$

$$\begin{array}{r} 45 \\ +33 \\ \hline \end{array}$$



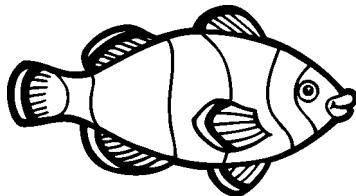
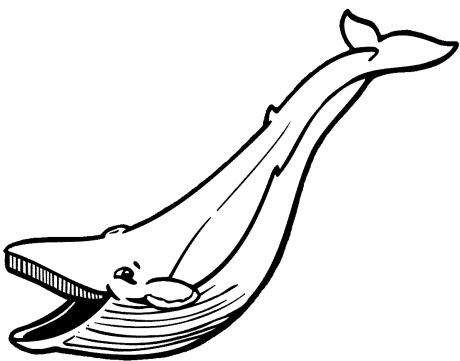
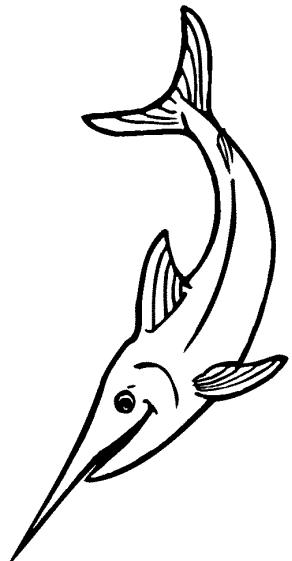
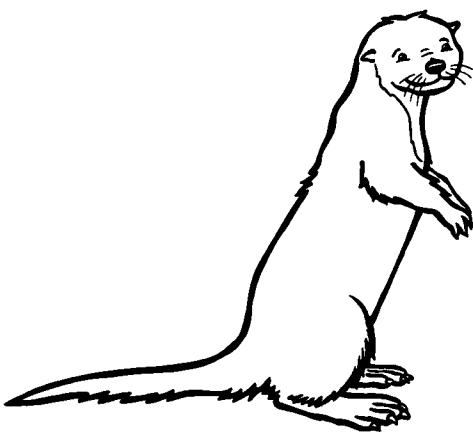
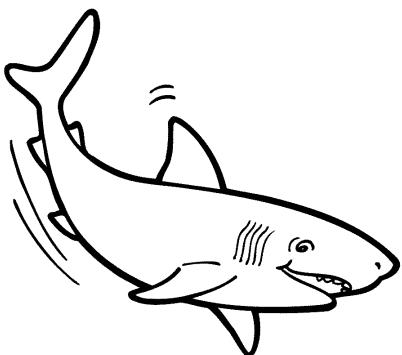
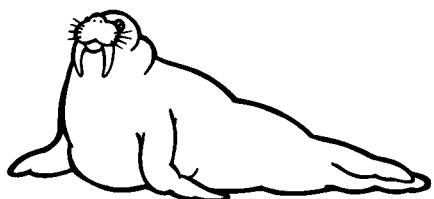
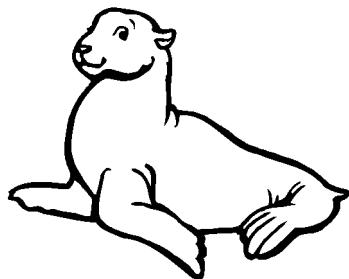
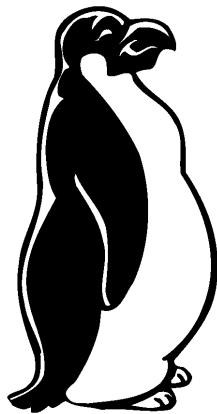
Name _____

Color the animals that live in the ocean.



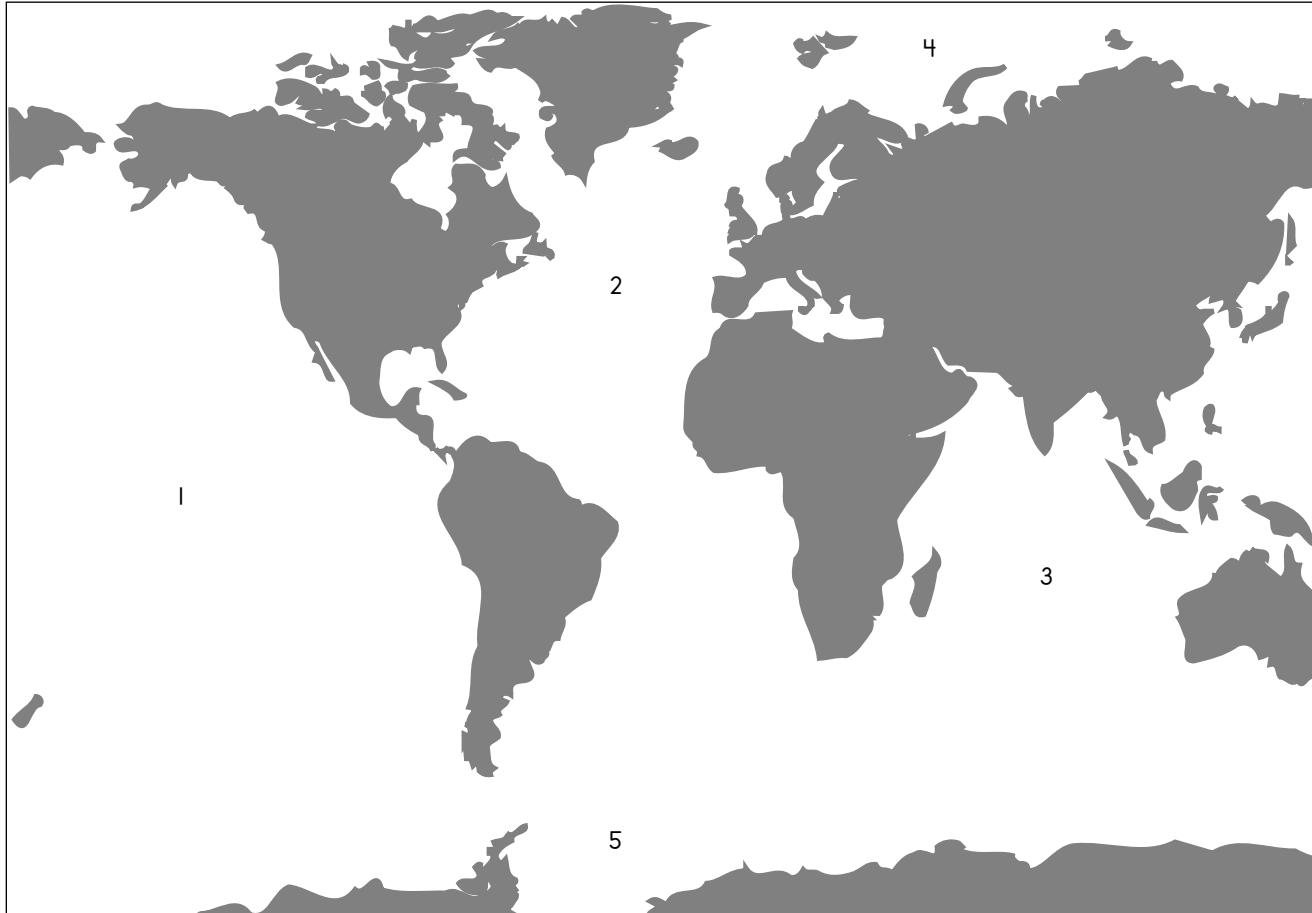
Name _____

Color the ocean animals that are mammals.



Name _____

OCEANS OF THE WORLD



Using five different colored crayons, color the area of each ocean on the map. Using the same color, color the box next to the ocean's name.

1. Pacific Ocean

2. Atlantic Ocean

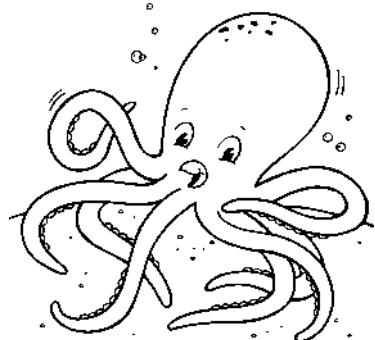
3. Indian Ocean

4. Arctic Ocean

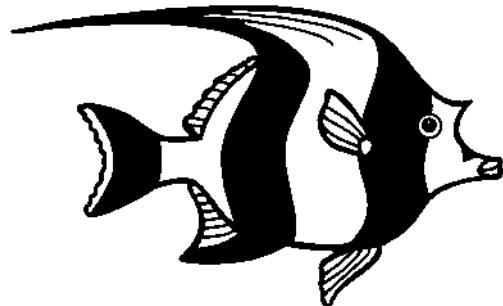
5. Antarctic Ocean

Name _____

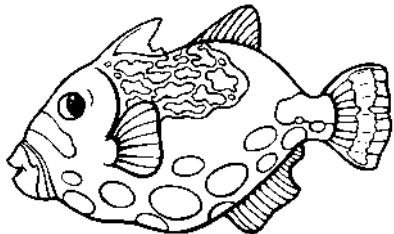
A fish has a backbone and gills. Check the boxes below the picture if it is a fish. Color all of the fish on the page.



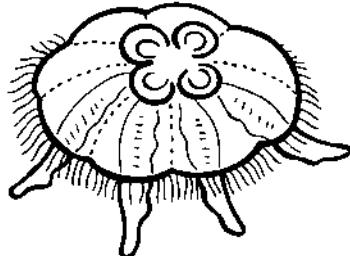
- has a backbone
 has gills



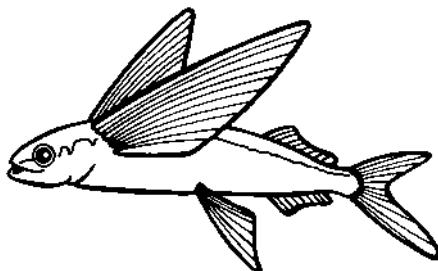
- has a backbone
 has gills



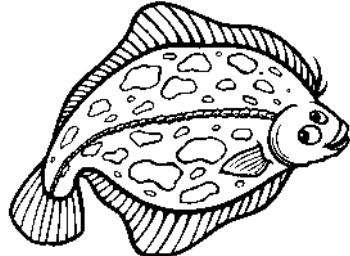
- has a backbone
 has gills



- has a backbone
 has gills



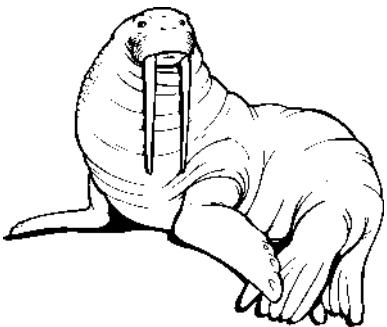
- has a backbone
 has gills



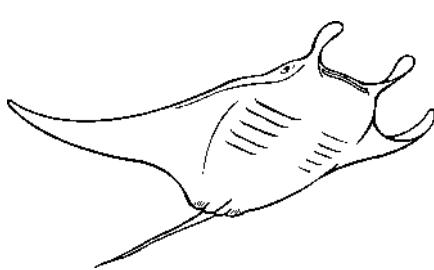
- has a backbone
 has gills

Name _____

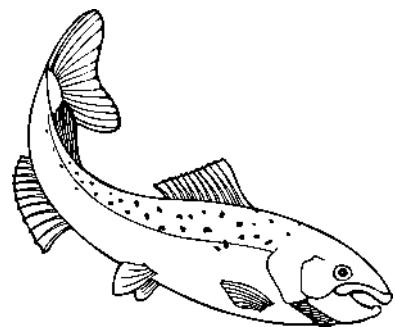
To which group classification does each of the following belong? (circle it) Color the animals.



mammal fish



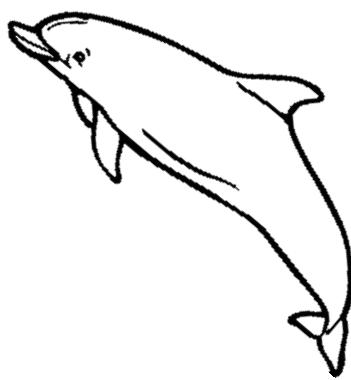
mammal fish



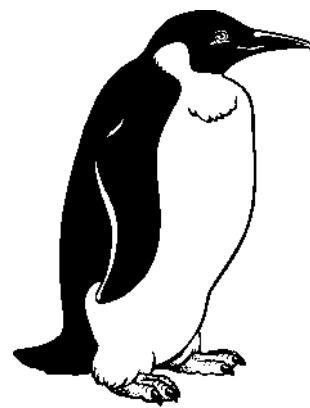
mammal fish



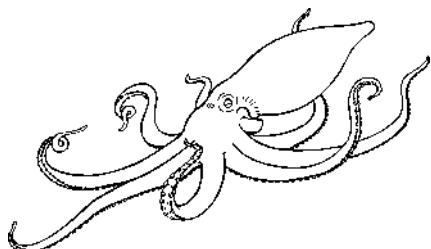
mammal bird



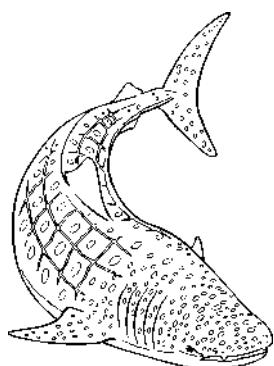
mammal bird



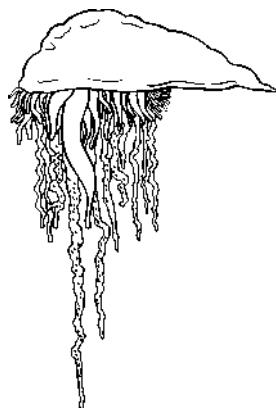
mammal bird



fish invertebrate



fish invertebrate

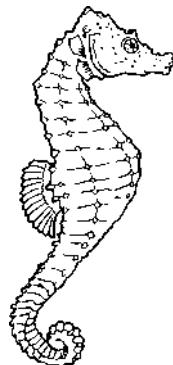
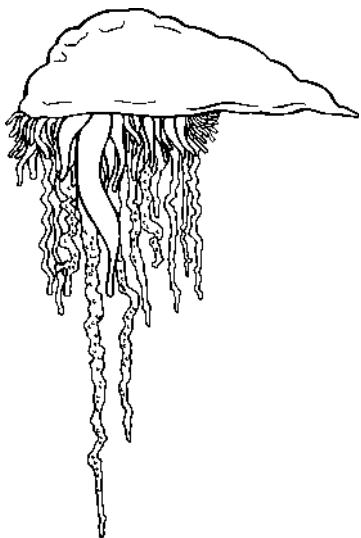
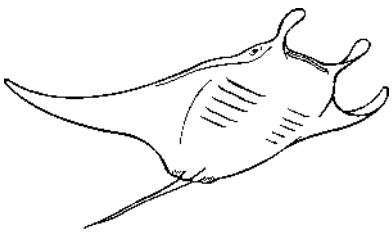


fish invertebrate

Name _____

Find the following fish and invertebrates in the word-find puzzle below.

seahorse	jellyfish	swordfish	crab
lobster	manta ray	shark	salmon



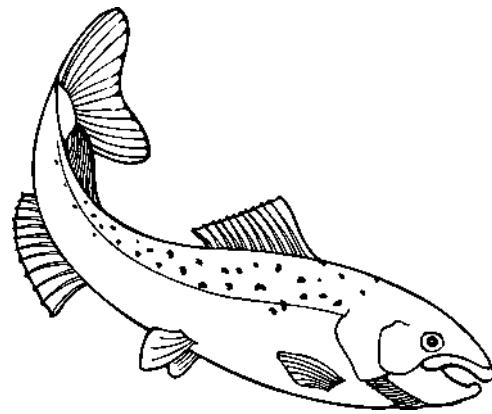
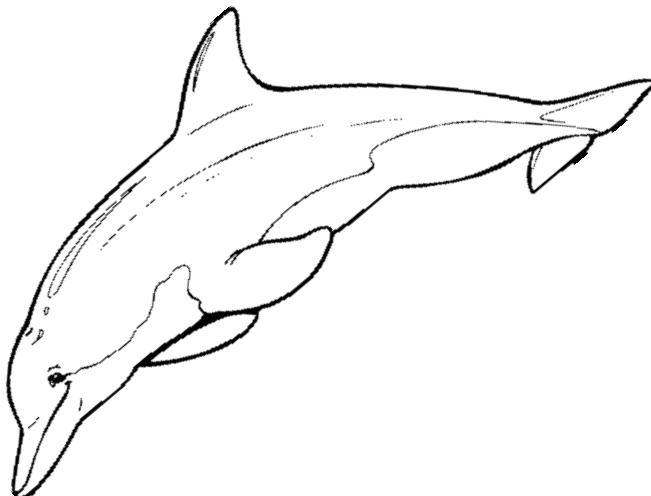
Z	R	F	E	O	N	K	V	Z	G	O	O	S	M	F	
E	T	Z	D	H	I	X	S	R	Y	E	E	A	A	P	
W	R	A	N	Q	O	R	R	Y	V	A	N	R	S	L	
S	W	O	R	D	F	I	S	H	H	T	N	E	M	A	
S	Y	L	M	H	O	P	F	O	A	O	Q	T	C	O	
W	H	L	A	I	L	E	R	R	M	H	C	S	L	O	
N	N	A	A	A	Q	B	S	A	L	X	D	L	B	J	D
N	S	V	R	F	E	Y	A	X	V	T	S	O	U	G	
B	A	R	C	K	L	S	Z	D	W	T	W	L	N	X	
P	I	T	J	V	O	K	M	F	L	Z	K	W	P	O	
I	A	J	L	E	S	V	P	J	O	J	W	H	V	Q	
F	W	M	W	E	H	K	V	K	M	K	J	M	N	T	
Y	Y	N	W	R	U	K	H	F	V	M	W	L	Q	S	
J	E	L	L	Y	F	I	S	H	E	W	T	P	F	Q	
R	F	O	S	U	H	E	C	Y	C	H	Q	S	S	W	

SKILL: RECOGNIZE FISH AND INVERTEBRATE WORDS

GRADE ONE • OCEANS • SCIENCE • 006

Name _____

Dolphins are different than salmon. Dolphins are mammals, and salmon are fish. Dolphins bear live babies, not eggs. Dolphins have lungs, not gills, so they need to breathe air like we do.



Write the differences between a dolphin and a salmon.

dolphin

salmon

yes

mammal?

no

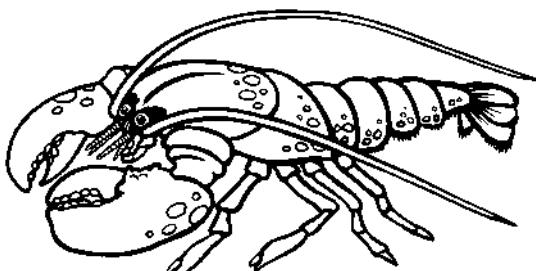
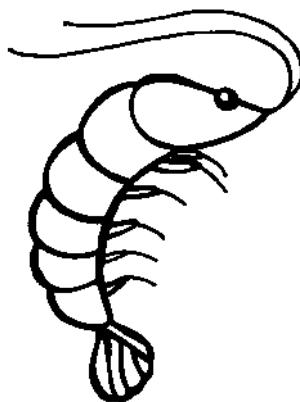
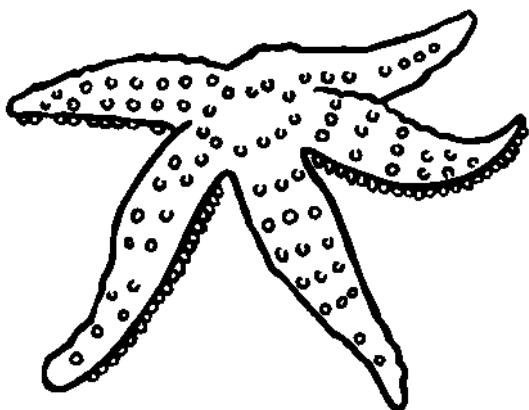
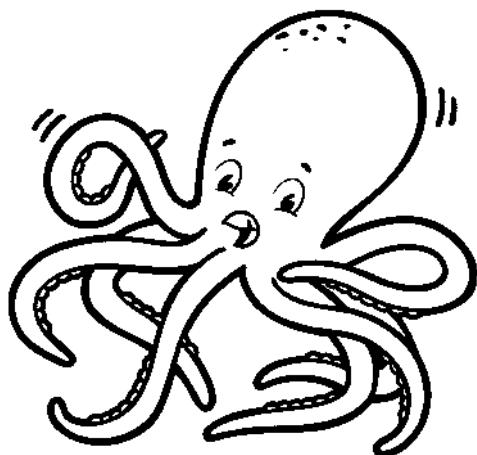
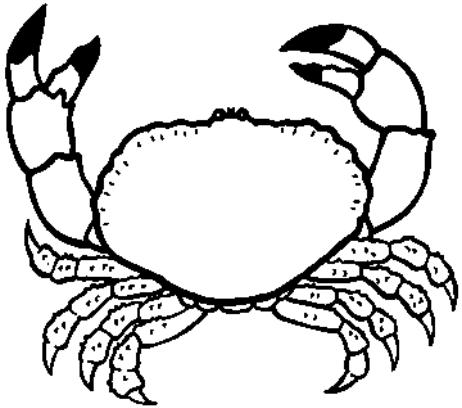
fish?

live babies?

gills?

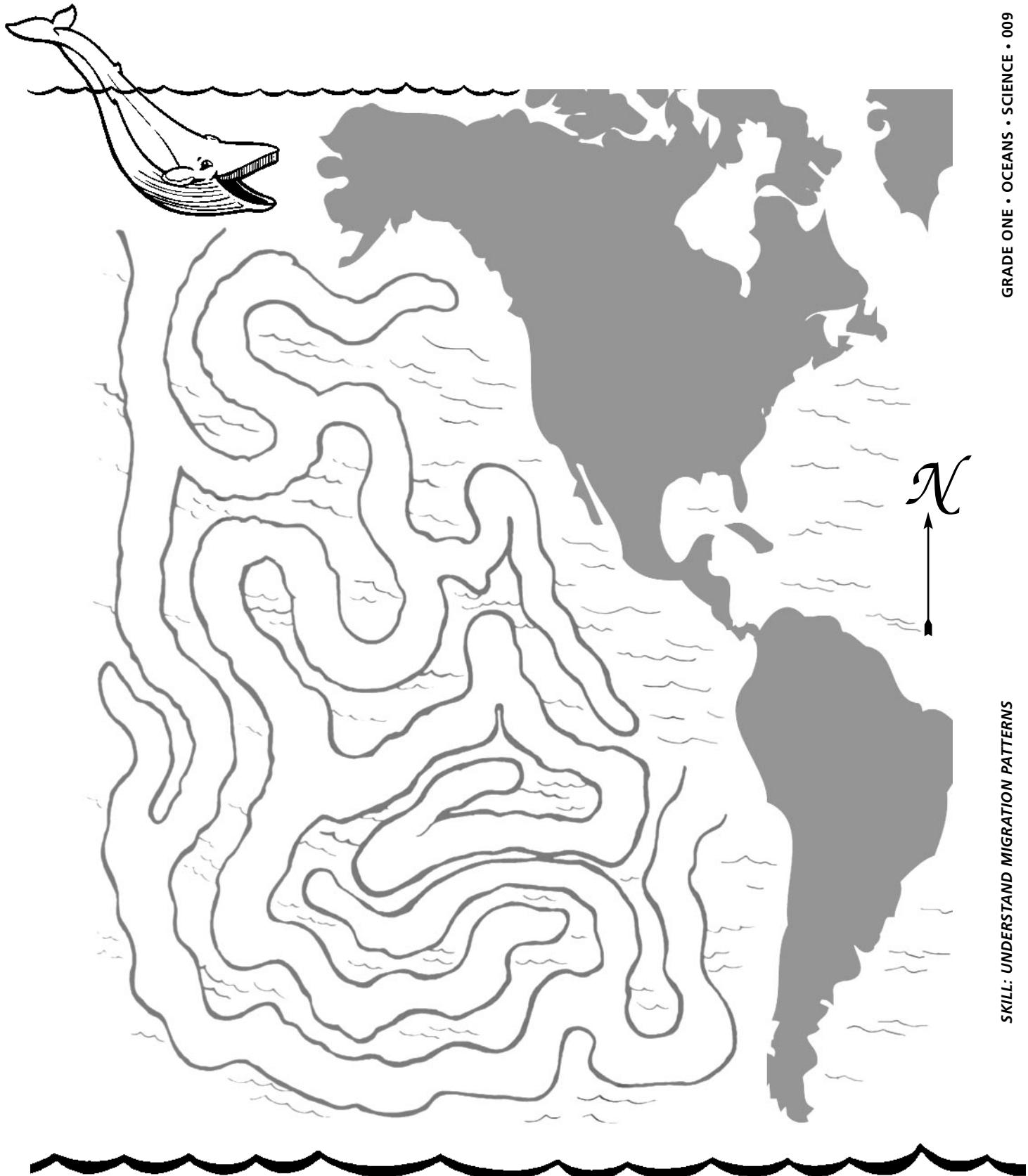
Name _____

Crabs, lobsters, and shrimp belong to a group called crustaceans which have a hard shell covering their bodies. Color the pictures that are crustaceans.



Name _____

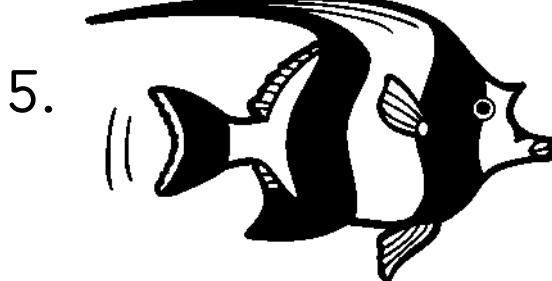
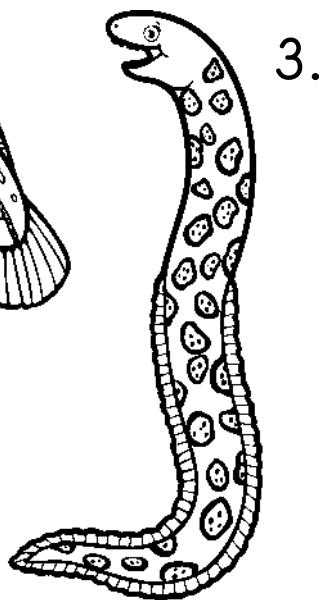
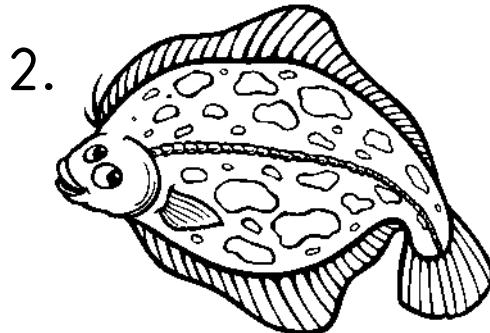
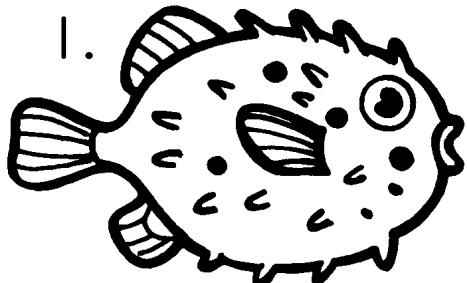
Help the gray whale migrate south to warmer waters.



SKILL: UNDERSTAND MIGRATION PATTERNS

Name _____

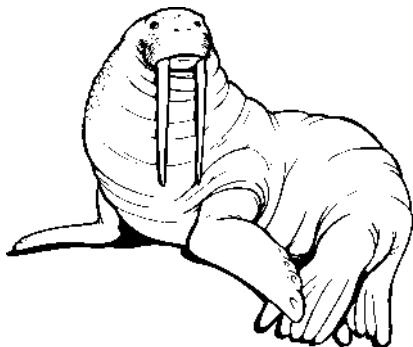
Fish come in all shapes. Write the number of the fish next to the sentences that describes it.



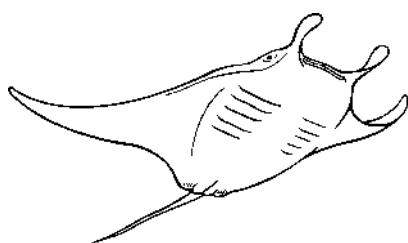
- _____ The banded pipefish hides, looking like stems of grass.
- _____ The pufferfish can fill up with air to scare its enemies.
- _____ Flatfish can lie hidden on the bottom waiting for food.
- _____ The angelfish's thin body can quickly slide through narrow spaces.
- _____ Moray eels can fit in cracks and caves waiting for their prey to pass by.

Name _____

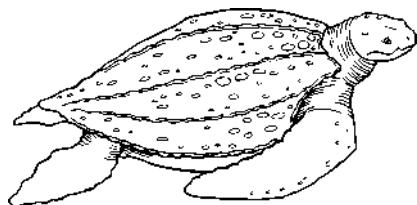
Draw a line from the ocean animal to its name.



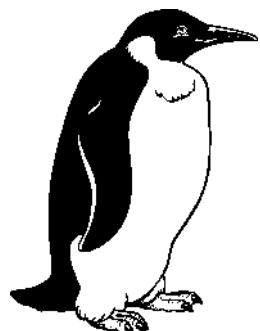
polar bear



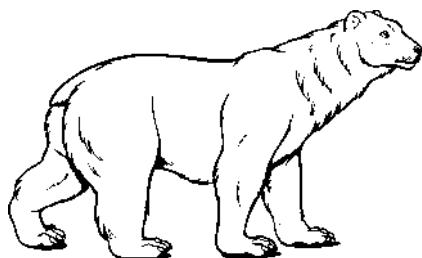
penguin



walrus



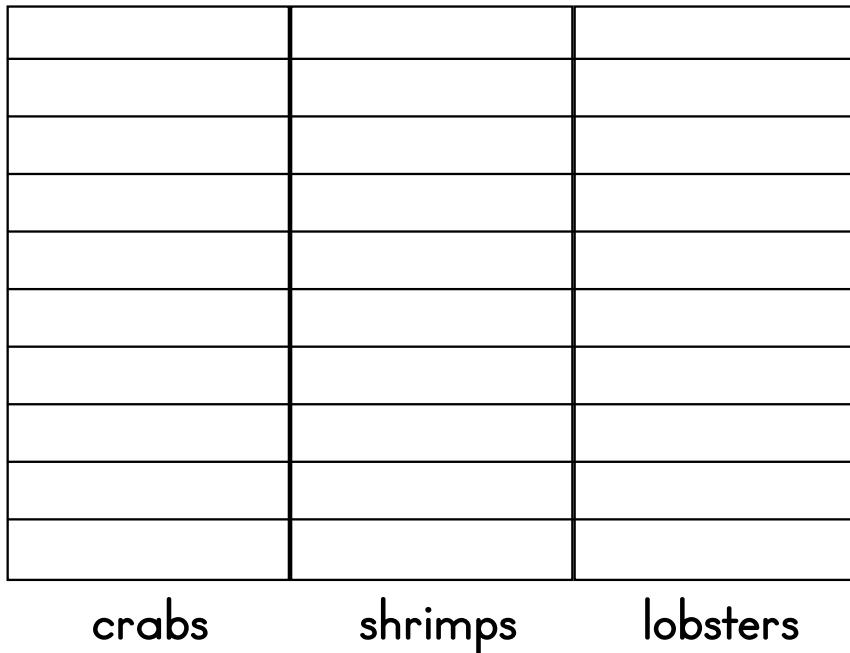
manta ray



leatherback turtle

Name _____ Lee

How many crabs, shrimps, and lobsters are in the tidepool below? Count them and fill in the graph, one animal in each box.

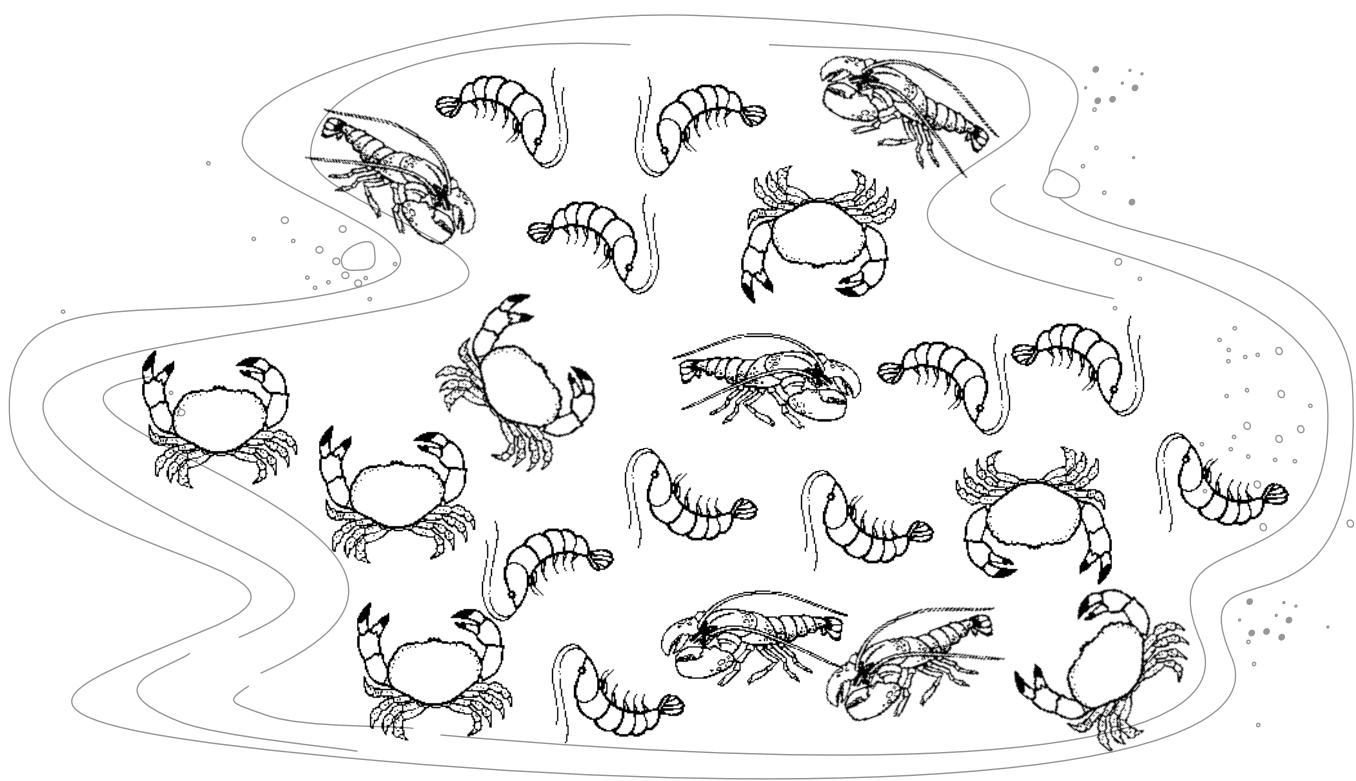


crabs

shrimps

lobsters

Which crustacean has the highest number? _____



Name _____

Place the following ocean animals under the correct group name, using your Fact Files.

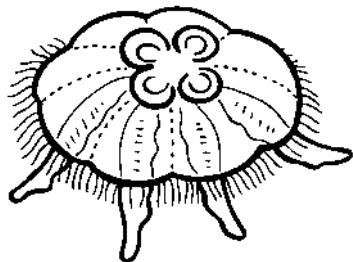
Fish

Mammal

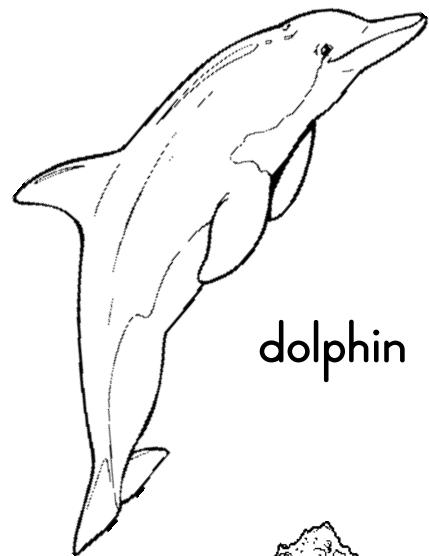
Invertebrate



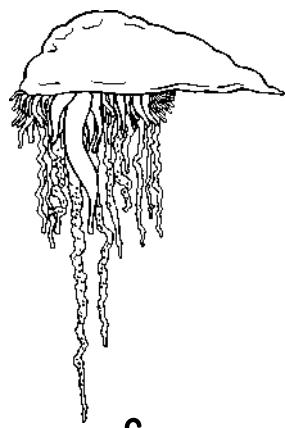
salmon



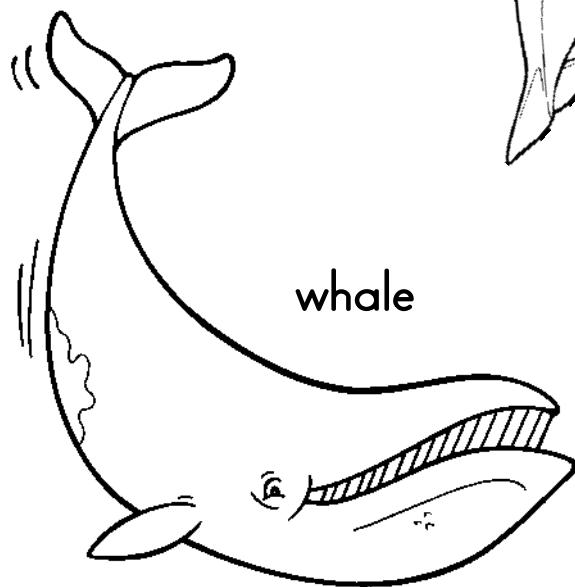
jellyfish



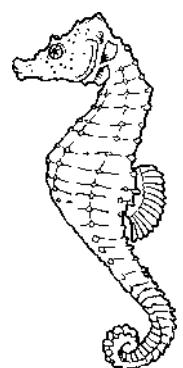
dolphin



man-of-war



whale



sea horse

Name _____

Fill in the blanks after the riddles, then fill in the crossword. Use your Oceans Fact Files if necessary.

Across

2. With his nose, this creature could be in the zoo (like a big African animal)! _____

5. Not in the jungle, but maybe in the circus, this mammal loves to swim. _____

8. A walrus (in the _____ family) needs its fat to keep warm! _____

9. Don't get in this guy's way at dinnertime! _____

Down

1. This crustacean is sometimes in a bad mood. _____

3. A fish you might find in a toolbox. _____

4. This slippery character looks like a snake. _____

6. With eight arms, this invertebrate keeps very busy! _____

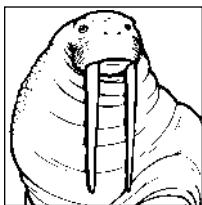
7. This shellfish is happy as a _____. _____



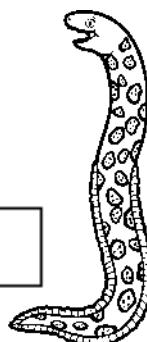
2 3



5



7
8

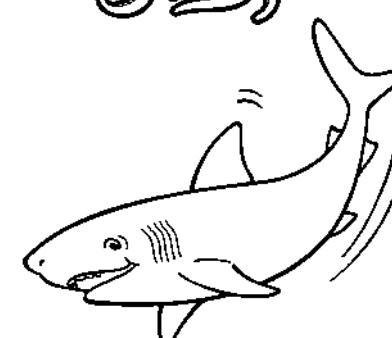
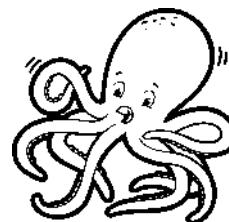


9



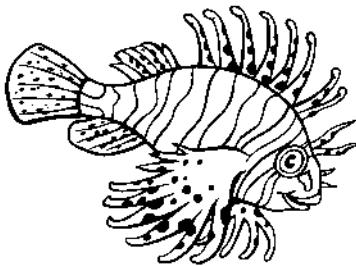
4

1

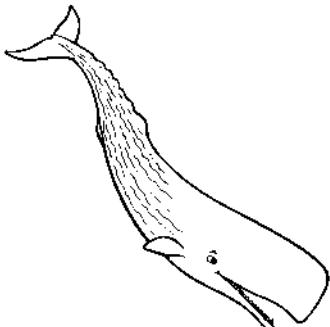


Name _____

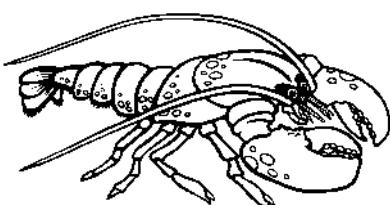
Draw a line from the ocean animal to its name.



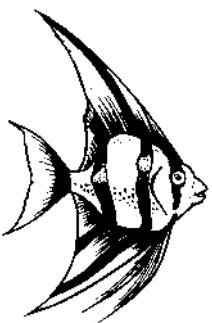
lobster



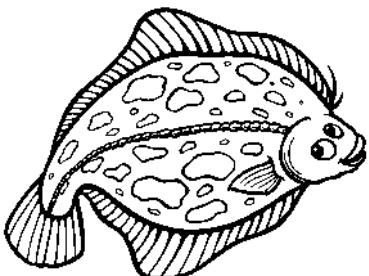
angelfish



lionfish



flounder

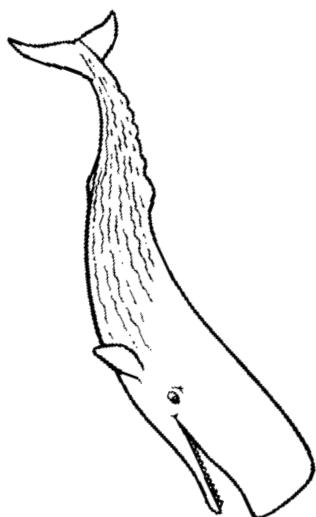
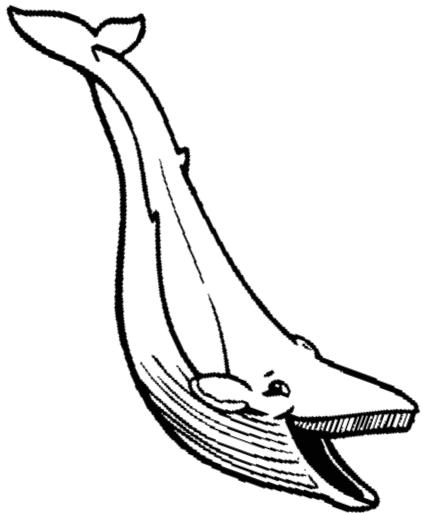


sperm whale

Name _____

Find the following ocean animals in the word find puzzle below.

eel	shark	halibut	jellyfish	seal	clam
crab	blue whale	sea lion	shrimp	dolphin	squid

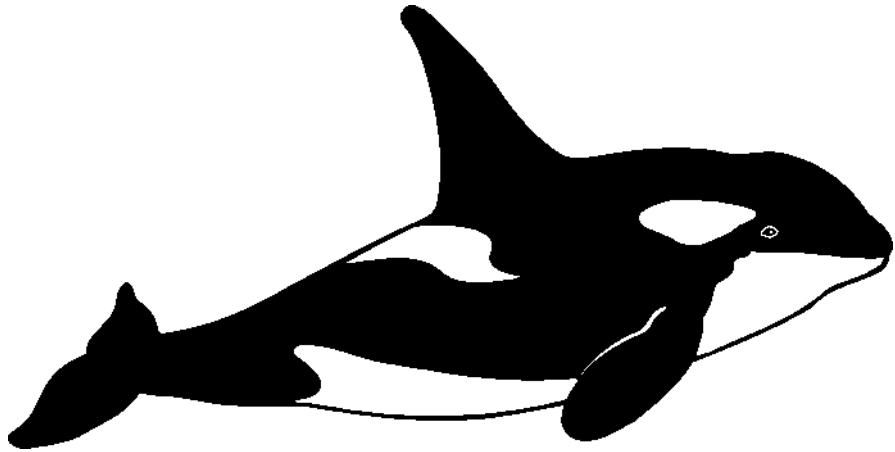


s c r q d h a l i b u t
h s i f y l l e j v w x
r t c l l d k s q u i d
i g l t p f o p n j k n
m c a f s e a l g a h i
p a m d i d e h p z f g
s h a r k o e f r h c e
a r u s e a l i o n i d
n b l u e w h a l e l n
t c r a b t e b j l p y

The largest animal
in the world is the _____.

Name _____

Use your Killer Whale Fact File to fill in the blanks.



1. Killer Whales, or Orcas, are classified in the order

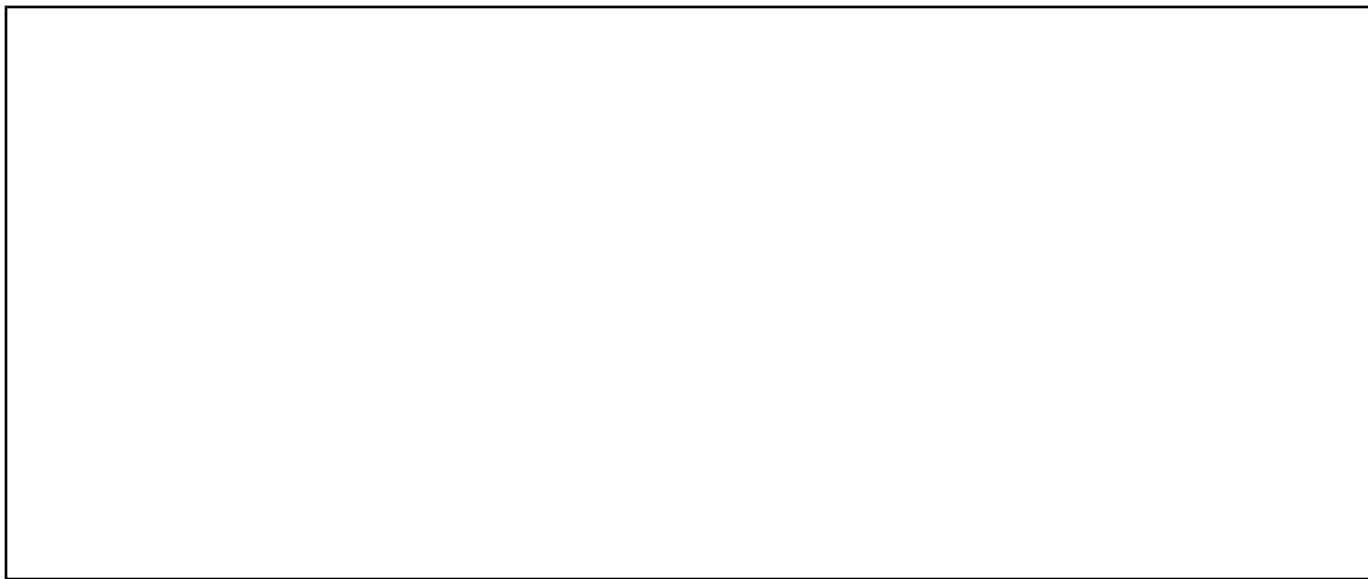
_____.

2. Killer Whales are about _____ meters (30 feet) long.

3. Where do these whales naturally live? _____

4. A normal lifespan for an Orca is about _____ years.

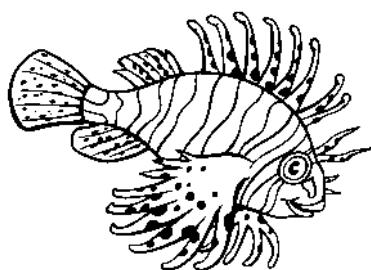
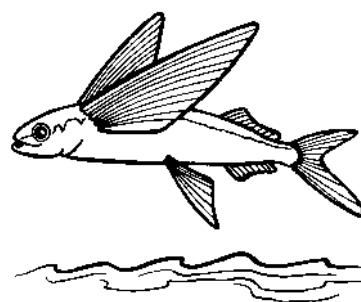
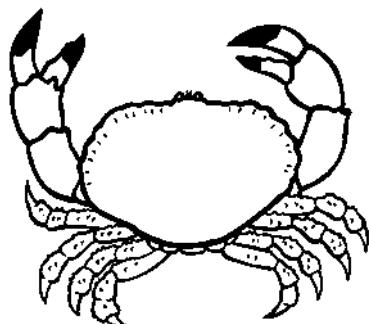
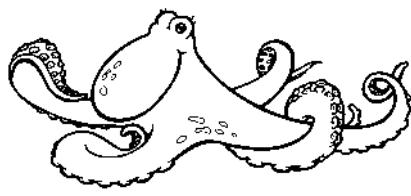
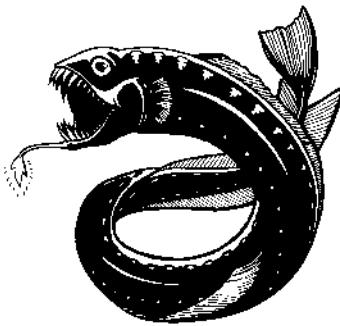
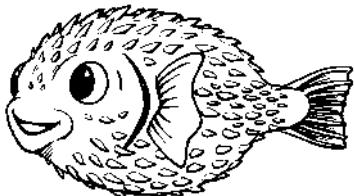
Draw a Killer Whale:



Name _____

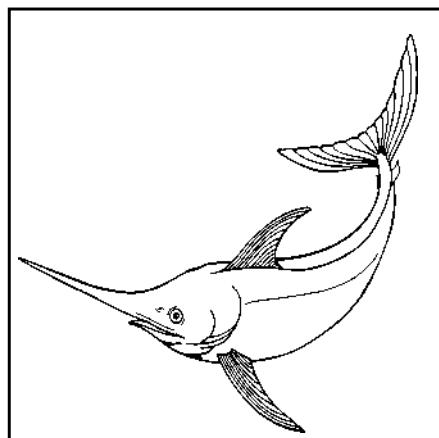
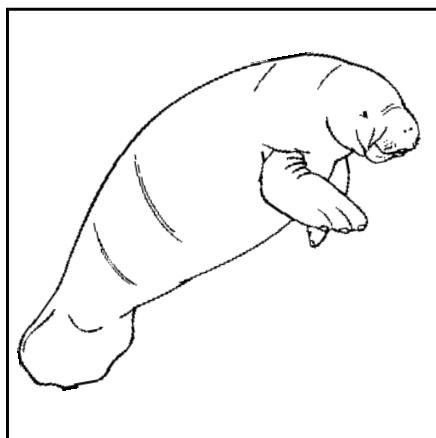
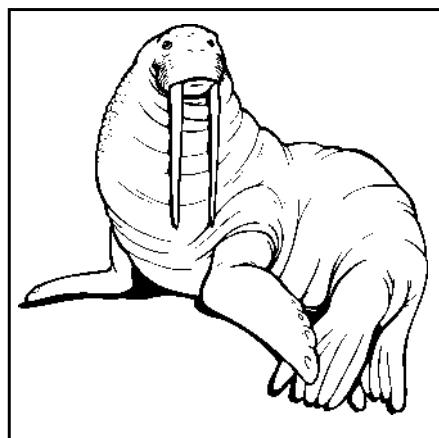
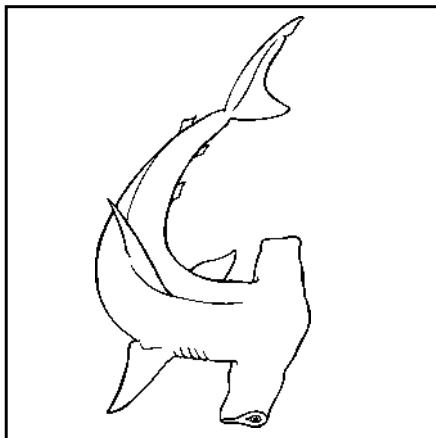
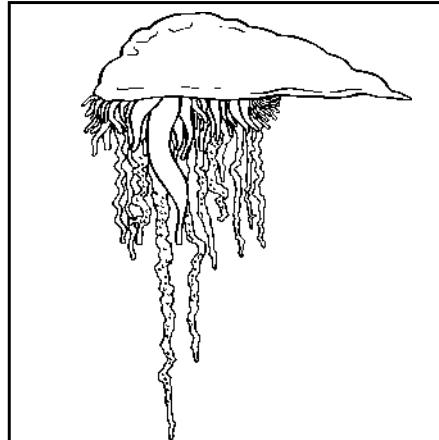
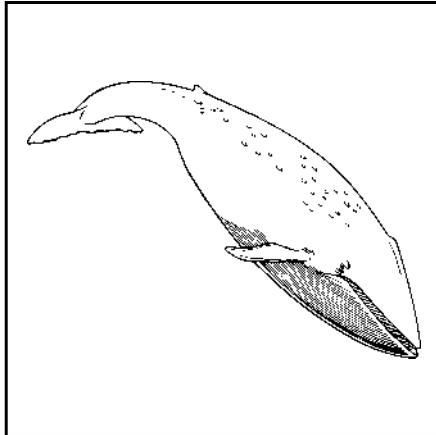
Pick each ocean animal's "special" feature from the list and write it under the animal's picture.

glow	tentacles	poison	spines	pincers	flying
------	-----------	--------	--------	---------	--------



Name _____

Color the ocean animals that are NOT mammals.



Name _____

Write one important fact about each of the following ocean animals.

1. California sea lion

Great swimmers

2. Manta ray

Large fish

3. Dolphin

Smart animals

4. Penguin

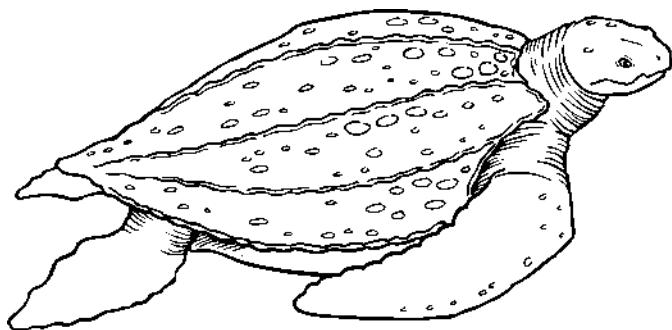
Wear thick feathers

5. Leatherback turtle

Can grow very large

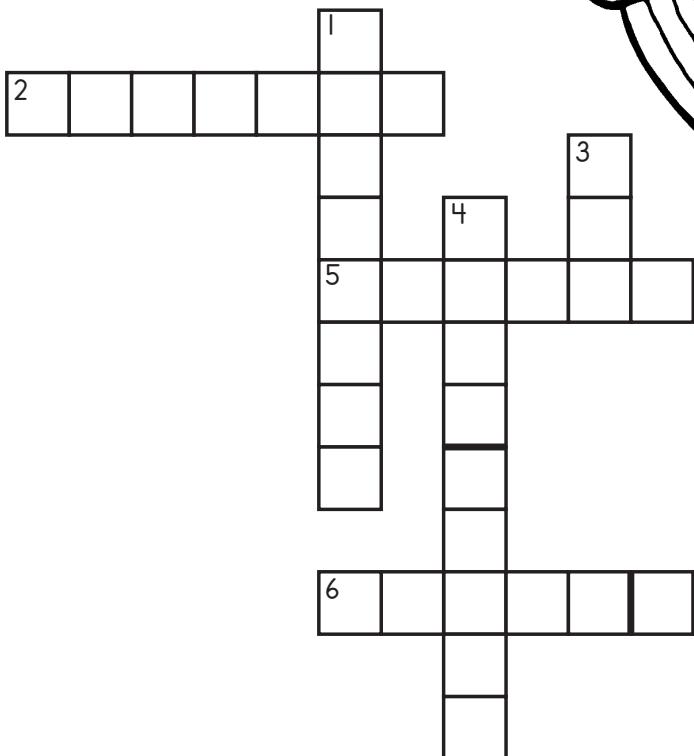
6. Walrus

Can swim very fast



Name _____

Use your Fact Files to help you do the whale
crossword puzzle.



Across:

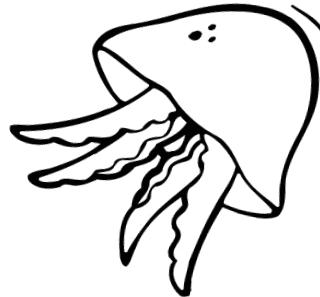
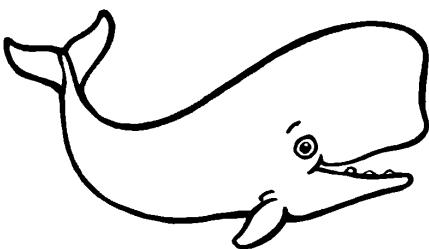
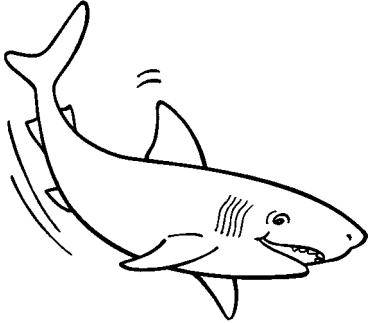
2. Whales are not fish. They are _____.
5. Which whale is black and white?
6. The sperm whale dives to 1000 feet
to catch these, its favorite food. (2 words)

Down:

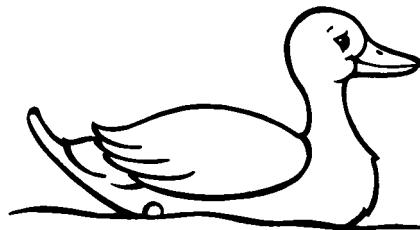
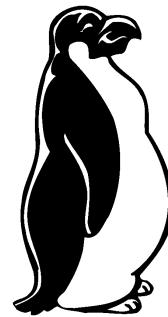
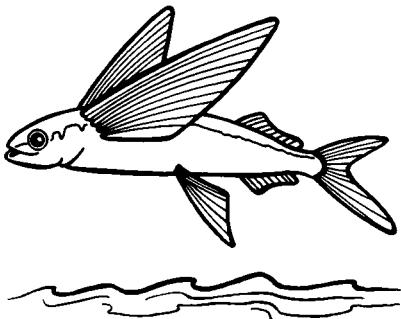
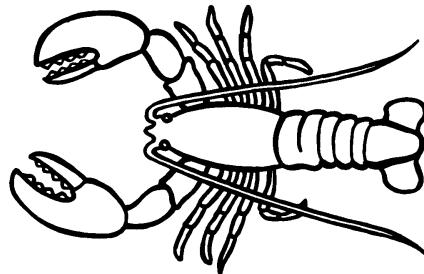
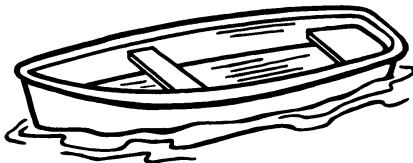
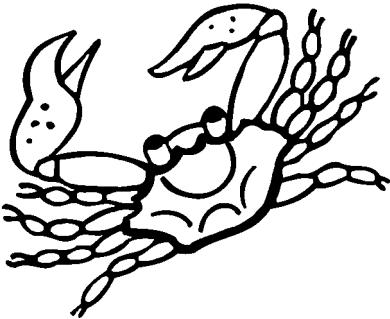
1. The blue whale eats these little sea creatures.
3. The number of babies the sperm whale has.
4. Which whale is the largest mammal ever? (2 words)

Name _____

Look at the pictures. Write the letter that makes the beginning sound for each word.



S S



Name _____

Put the following ocean animals in A-B-C order.

Penguin

1. _____

Dolphin

2. _____

Walrus

3. _____

Shark

4. _____

Clam

5. _____

Seal

6. _____

Octopus

7. _____

Ray

8. _____

Turtle

9. _____

Polar Bear

10. _____

Whale

11. _____

Manatee

12. _____

Seahorse

13. _____

Salmon

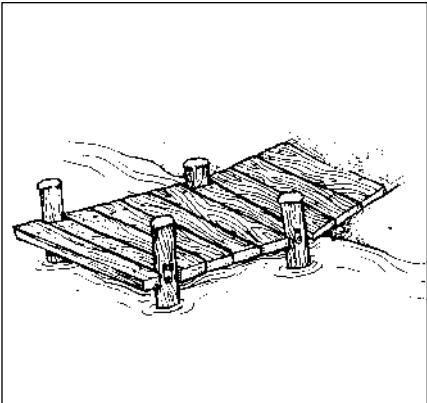
14. _____

Lobster

15. _____

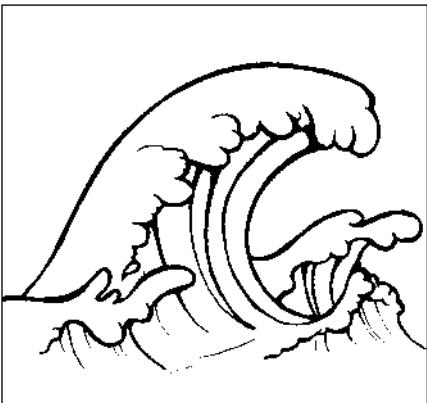
Name _____

Write these ocean words.



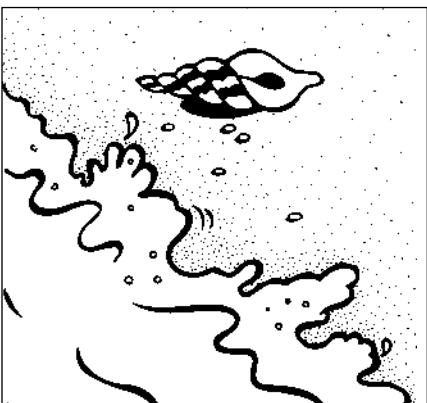
d o c k

dock



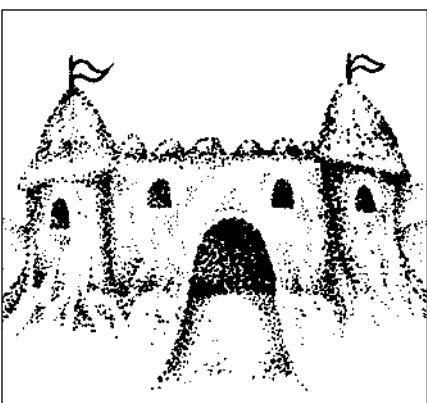
w a v e

wave



s h o r e

shore



s a n d

sand

Name _____

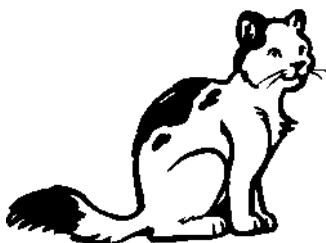
Many fish are named after other animals. Write the name of the animal in the picture and then write the word fish to create a compound word.



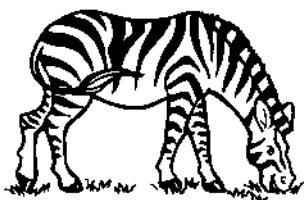
+ fish = dogfish



+ fish = frofish



+ fish = catfish



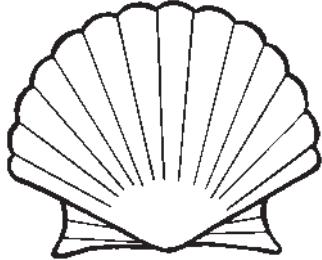
+ fish = zebfish

Name _____

Look at the ocean pictures below and say the word.

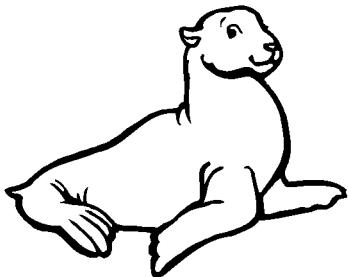
Then choose another letter of the alphabet to make
a new, rhyming word.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z



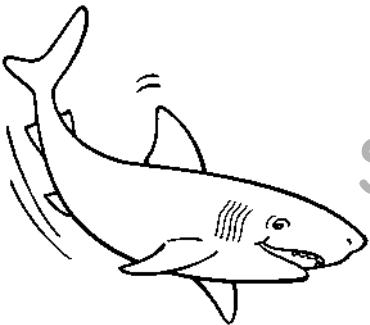
shell

sh ell



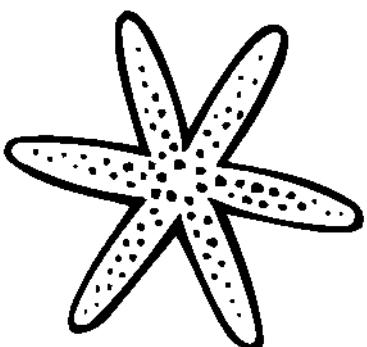
seal

se al



shark

sh ark



star

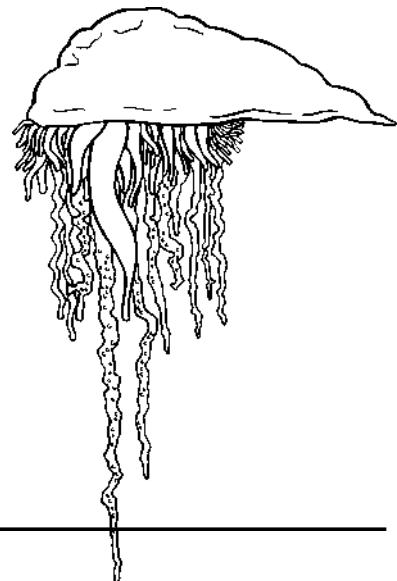
st ar

Name _____

Learning
Page.com®

How many words of 3 letters or more can you find in this sea creature's name? Write them on the lines below. (There are more than 50!) 

Portuguese Man-of-War



frog

poem

Name _____

Find the words below in the puzzle.

ARCTIC

OCTOPUS

ATLANTIC

PACIFIC

FLOUNDER

SCALLOP

INDIAN

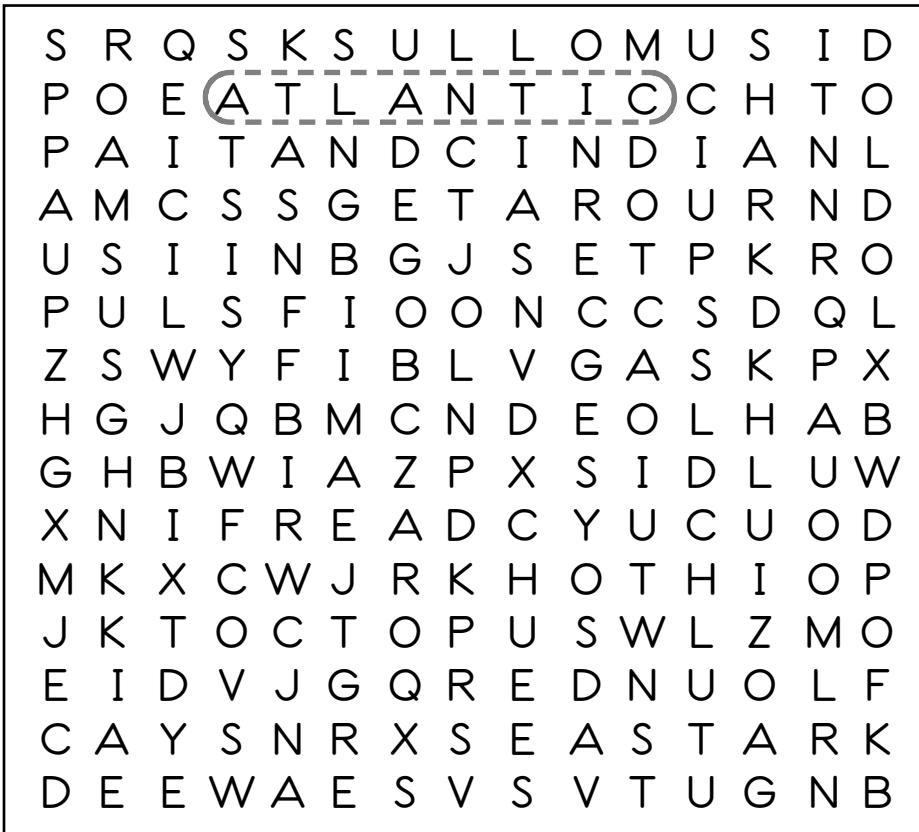
SEASTAR

LOBSTER

SEAWEED

MOLLUSKS

SHARK



Name _____

Put the following sea animals in ABC order.

Octopus

1. _____

Whale

2. _____

Swordfish

3. _____

Sea Lion

4. _____

Lobster

5. _____

Shark

6. _____

Walrus

7. _____

Turtle

8. _____

Polar Bear

9. _____

Dolphin

10. _____

Clam

11. _____

Seal

12. _____

Penguin

13. _____

Manta Ray

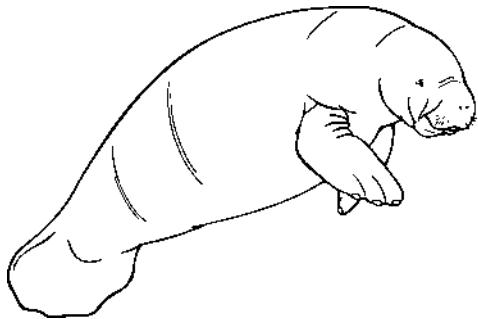
14. _____

Manatee

15. _____

Name _____

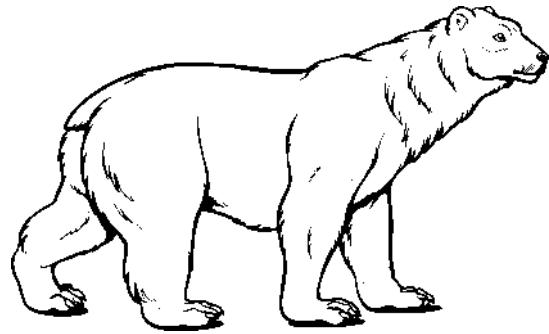
A word that means the same as another word is called a synonym. Write the synonyms for the underlined words:



Manatees are gentle.

calm

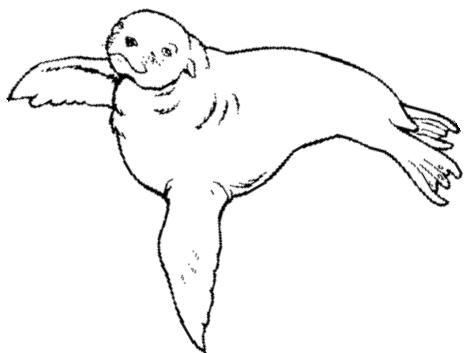
mean



Polar bears swim in frigid water.

blue

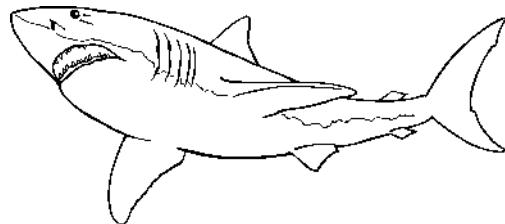
cold



Sea lions are intelligent.

kind

smart



Sharks are aggressive.

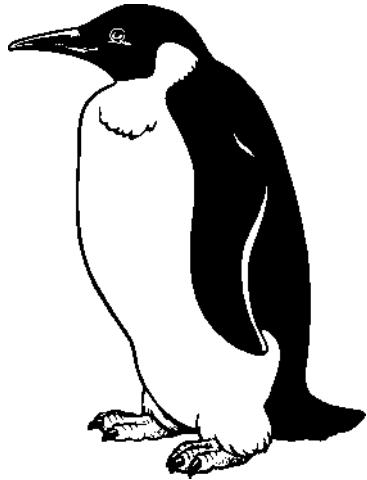
bold

playful

Name _____

A word that is the opposite of another word is called an *antonym*. Write an antonym for the underlined words:

The penguin is a tall bird that grows up to 4 feet high and can be as heavy as 80 pounds. The penguin loves to eat fish and squid. Penguins live in the very cold Antarctic. Their wings and webbed feet make it easy for them to be fast swimmers.



tall

short

loves

up

cold

high

easy

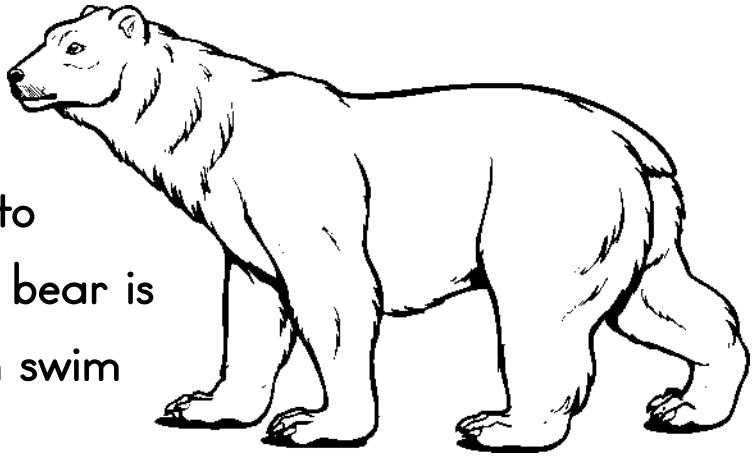
heavy

fast

Name _____

A word that sounds the same as another word, but has a different meaning, is called a *homonym*.

The polar bear is a meat eater that likes to eat seals. The male weighs up to 1,595 pounds. The polar bear is so well insulated that it can swim in the icy Arctic Ocean.



Each of the underlined words is listed in the left column below. Connect each with its homonym on the right.

bear

ways

meat

sew

male

bare

weighs

meet

to

mail

so

two

Name _____

One way to learn long or strange words is to sound them out by *syllables*. You can hear syllables by clapping to each beat of a word. Read the words and count the syllables.

Examples: d o l - p h i n c a r - n i - v o r e
 (clap) (clap) (clap) (clap) (clap)

dolphin _____

mammal _____

fish _____

squid _____

carnivore _____

ocean _____

huge _____

animal _____

octopus _____

manta _____

swordfish _____

tropical _____

water _____

invertebrate _____

Name _____

Connect the animal names on the left with their
orders on the right. Use your Fact Files.

Atlantic Salmon

Octopoda

Man-of-War

Rajiformes

Sea horse

Chelonia

Manatee

Sphenisciformes

Sperm Whale

Salmoniformes

Turtle

Gasterosteiformes

Swordfish

Hydrozoa

Penguin

Perciformes

Manta Ray

Cetacea

Octopus

Sirenia

Name _____

Put the following sea animals in ABC order.

Viperfish

1. _____

Moray Eel

2. _____

Halibut

3. _____

Jellyfish

4. _____

Parrotfish

5. _____

Orca

6. _____

Seahorse

7. _____

Anemone

8. _____

Mussel

9. _____

Porpoise

10. _____

Barnacle

11. _____

Seagull

12. _____

Mackerel

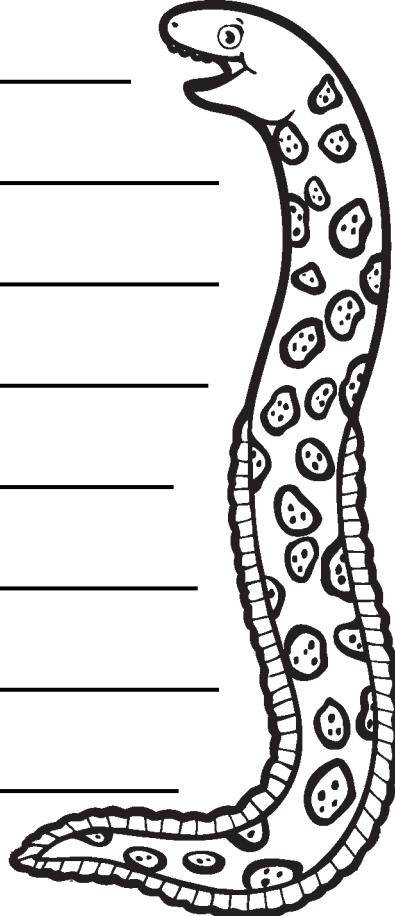
13. _____

Stingray

14. _____

Sailfin

15. _____



SKILL: ALPHABETICAL ORDER

Name _____

Trace the word, then draw a line to the matching word in the right column.

coral

anemone

kelp

current

seahorse

sandbar

current

scales

sandbar

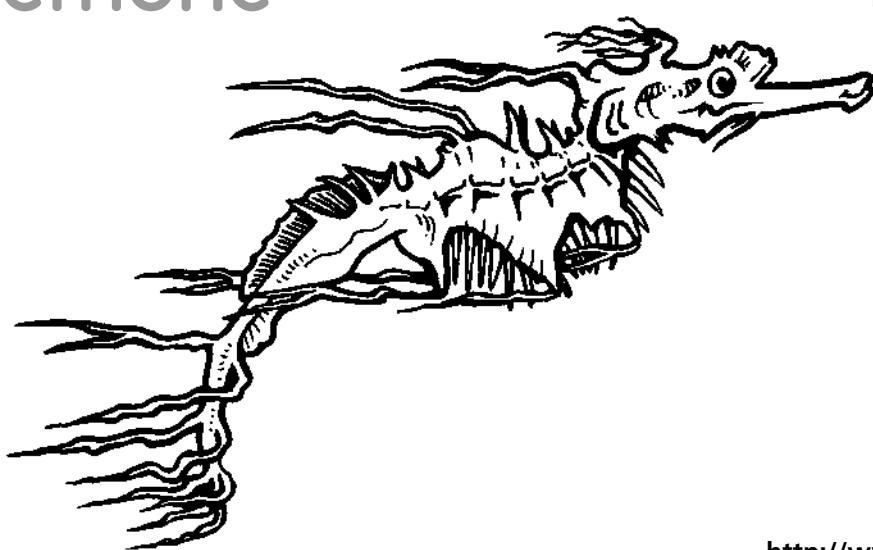
coral

scales

seahorse

anemone

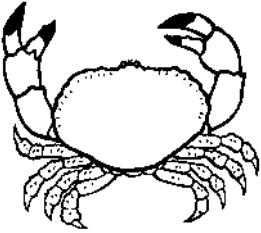
kelp



Name _____

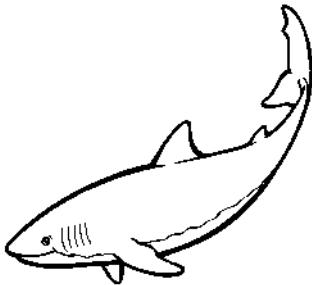
Circle the correct name of each animal.

1.



Crab

2.



Sharck

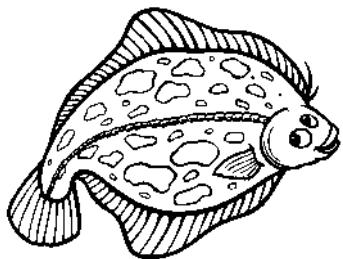
3.



Octopus

Oktopuss

4.



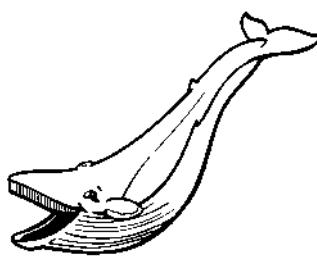
Flownder Flounder

5.



Oter

6.



Whale Whayle

Say the word in the box. Read the sentence and think of a word that rhymes with the word in the box to finish the sentence.

Write the word.

7. Sharks have a great sense of _____.

well

8. Sea lions can be taught to do _____.

clicks

9. A large group of tuna is called a _____.

rule

10. Otters like to crack _____ and _____
oysters open with rocks.

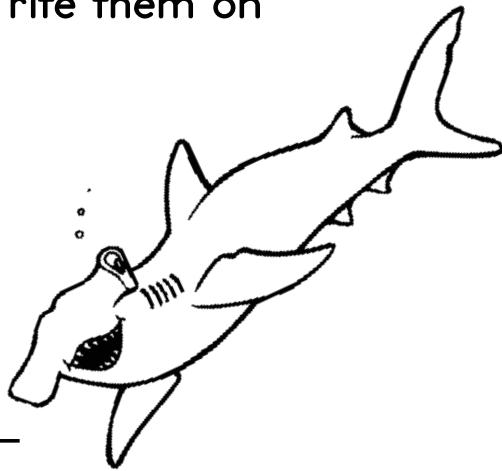
hams

Name _____

How many words of 3 letters or more can you find
in the words *hammerhead shark*? Write them on
the lines below.

hammerhead

shark



mad

read

Name _____

Put the following ocean animals in alphabetical order.

Angelfish _____

Pufferfish _____

Horseshoe crab _____

Beluga _____

Penguin _____

Clownfish _____

Sea cucumber _____

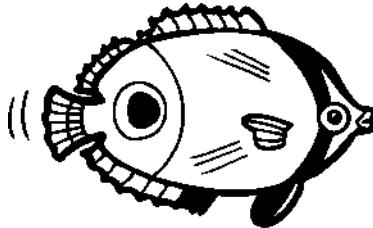
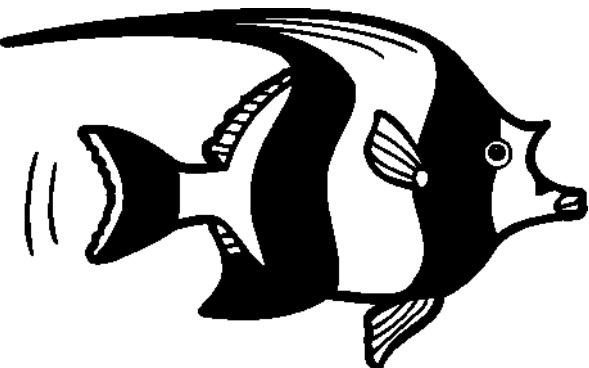
Cormorant _____

Polar bear _____

Leatherback turtle _____

Salmon _____

Flounder _____



Name _____

These second-grade words are found in the Fact Files. Look on the page indicated, read the phrase or sentence where the word appears, then write your own sentence on the line using the word.

icy (p. 2) _____

wings (p. 7) _____

paddles (p. 12) _____

family (p. 13) _____

gentle (p. 16) _____

Name _____

Add the problems.

$$\begin{array}{r} 18 \\ + 12 \\ \hline \end{array}$$

$$\begin{array}{r} 31 \\ + 11 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ + 27 \\ \hline \end{array}$$

$$\begin{array}{r} 53 \\ + 46 \\ \hline \end{array}$$

$$\begin{array}{r} 25 \\ + 51 \\ \hline \end{array}$$

$$\begin{array}{r} 42 \\ + 91 \\ \hline \end{array}$$

$$\begin{array}{r} 39 \\ + 20 \\ \hline \end{array}$$

$$\begin{array}{r} 83 \\ + 42 \\ \hline \end{array}$$

$$\begin{array}{r} 76 \\ + 64 \\ \hline \end{array}$$

$$\begin{array}{r} 28 \\ + 16 \\ \hline \end{array}$$

$$\begin{array}{r} 49 \\ + 74 \\ \hline \end{array}$$

$$\begin{array}{r} 62 \\ + 33 \\ \hline \end{array}$$

$$\begin{array}{r} 19 \\ + 98 \\ \hline \end{array}$$

$$\begin{array}{r} 64 \\ + 7 \\ \hline \end{array}$$

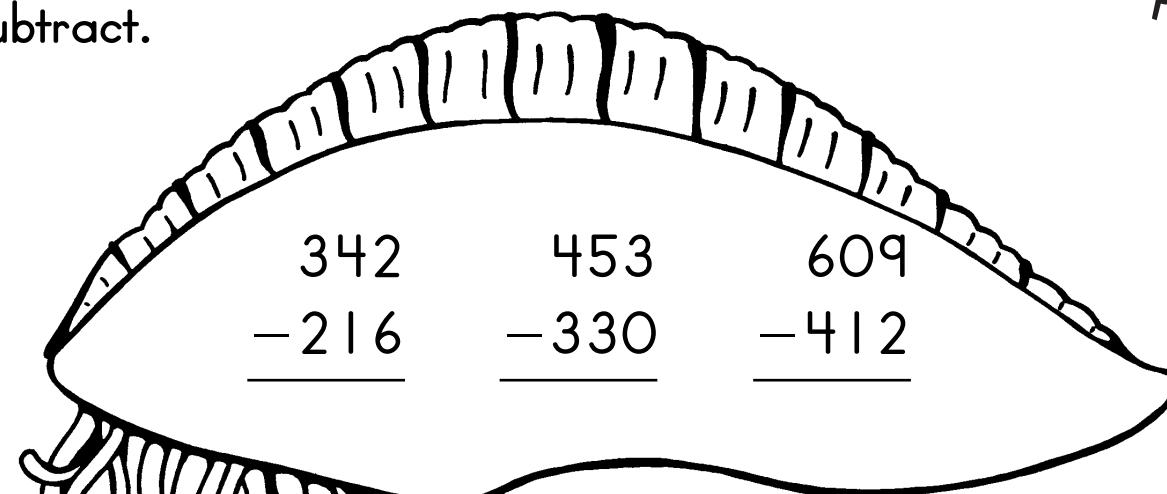
$$\begin{array}{r} 84 \\ + 26 \\ \hline \end{array}$$

$$\begin{array}{r} 34 \\ + 52 \\ \hline \end{array}$$

$$\begin{array}{r} 96 \\ + 15 \\ \hline \end{array}$$

Name _____

Subtract.



$$\begin{array}{r} 342 \\ - 216 \\ \hline \end{array}$$

$$\begin{array}{r} 453 \\ - 330 \\ \hline \end{array}$$

$$\begin{array}{r} 609 \\ - 412 \\ \hline \end{array}$$

$$\begin{array}{r} 832 \\ - 156 \\ \hline \end{array}$$

$$\begin{array}{r} 452 \\ - 238 \\ \hline \end{array}$$

$$\begin{array}{r} 932 \\ - 459 \\ \hline \end{array}$$

$$\begin{array}{r} 500 \\ - 455 \\ \hline \end{array}$$

$$\begin{array}{r} 924 \\ - 583 \\ \hline \end{array}$$

$$\begin{array}{r} 230 \\ - 229 \\ \hline \end{array}$$

$$\begin{array}{r} 719 \\ - 340 \\ \hline \end{array}$$

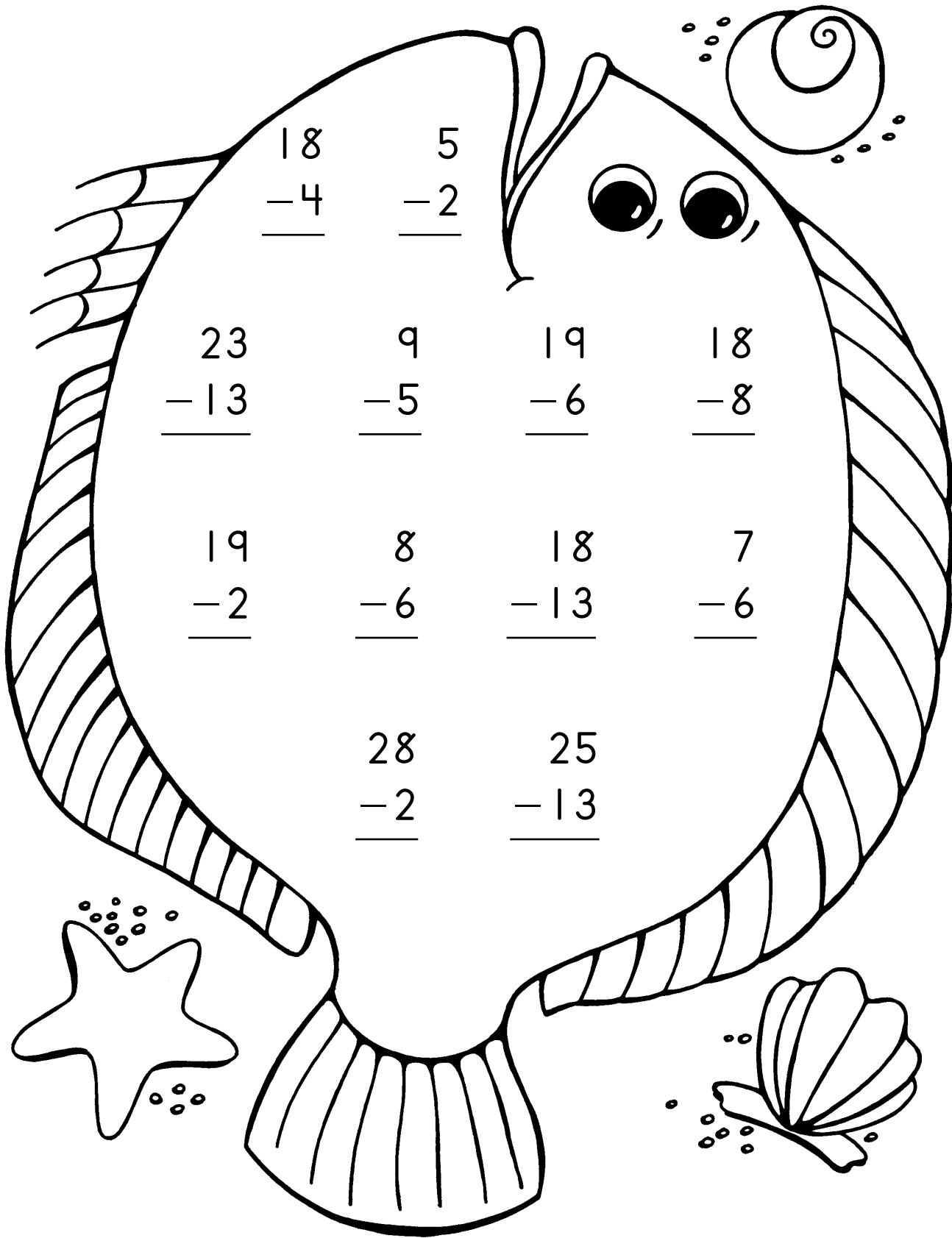
$$\begin{array}{r} 639 \\ - 420 \\ \hline \end{array}$$

$$\begin{array}{r} 162 \\ - 98 \\ \hline \end{array}$$

$$\begin{array}{r} 411 \\ - 311 \\ \hline \end{array}$$

Name _____

Subtract.



Name _____

Add.

$3 + 3 = \underline{\quad}$

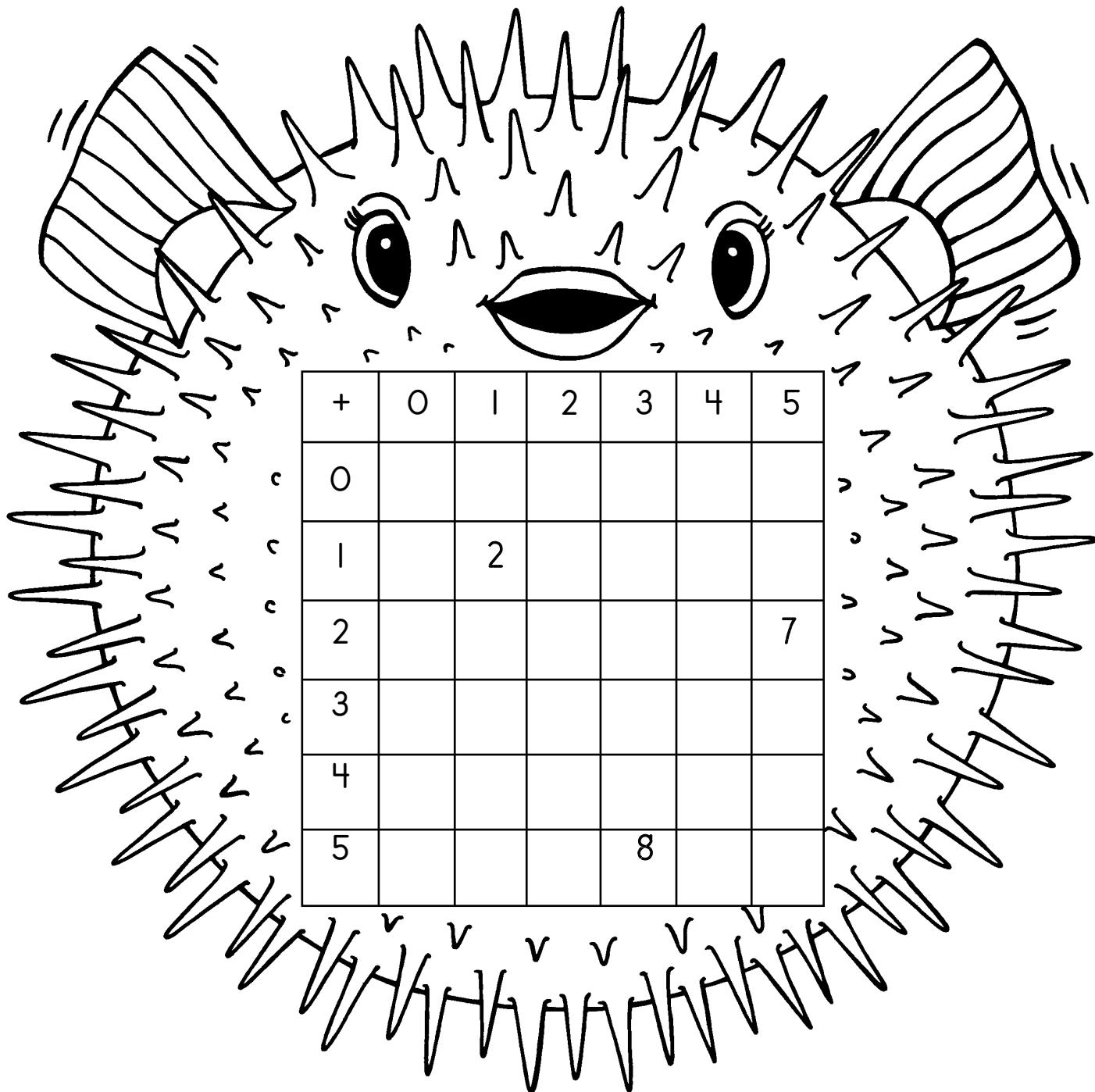
$5 + 0 = \underline{\quad}$

$2 + 4 = \underline{\quad}$

$1 + 1 = \underline{\quad}$

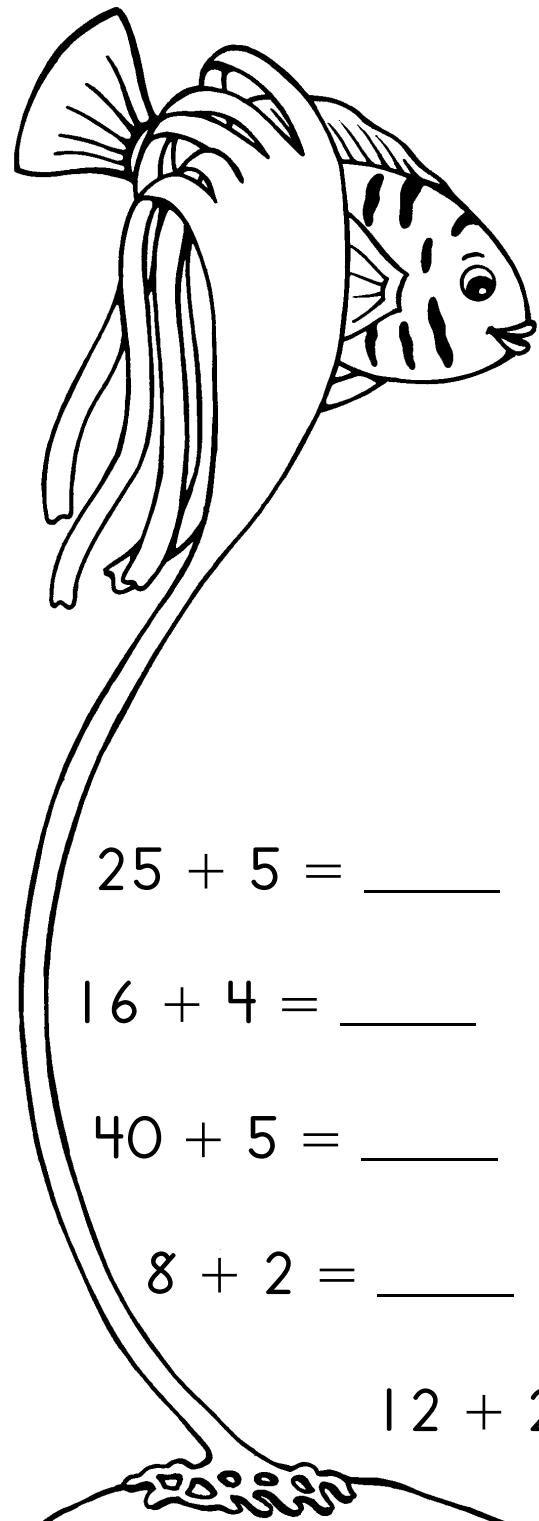
$4 + 4 = \underline{\quad}$

$5 + 3 = \underline{\quad}$



Name _____

Add.



$4 + 2 = \underline{\quad}$ $3 + 1 = \underline{\quad}$

$5 + 1 = \underline{\quad}$ $6 + 3 = \underline{\quad}$

$8 + 4 = \underline{\quad}$ $14 + 2 = \underline{\quad}$

$9 + 3 = \underline{\quad}$ $10 + 2 = \underline{\quad}$

$15 + 5 = \underline{\quad}$ $21 + 3 = \underline{\quad}$

$18 + 2 = \underline{\quad}$ $15 + 3 = \underline{\quad}$

$25 + 5 = \underline{\quad}$ $20 + 5 = \underline{\quad}$ $16 + 2 = \underline{\quad}$

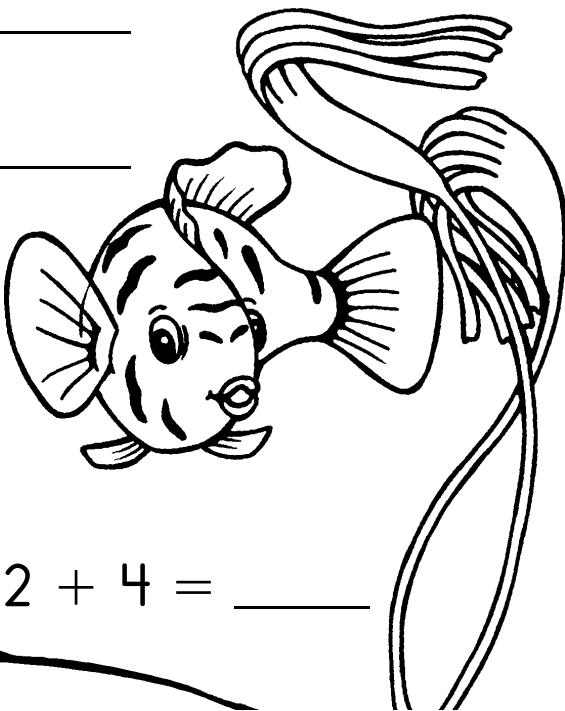
$16 + 4 = \underline{\quad}$ $24 + 6 = \underline{\quad}$

$40 + 5 = \underline{\quad}$ $6 + 2 = \underline{\quad}$

$8 + 2 = \underline{\quad}$

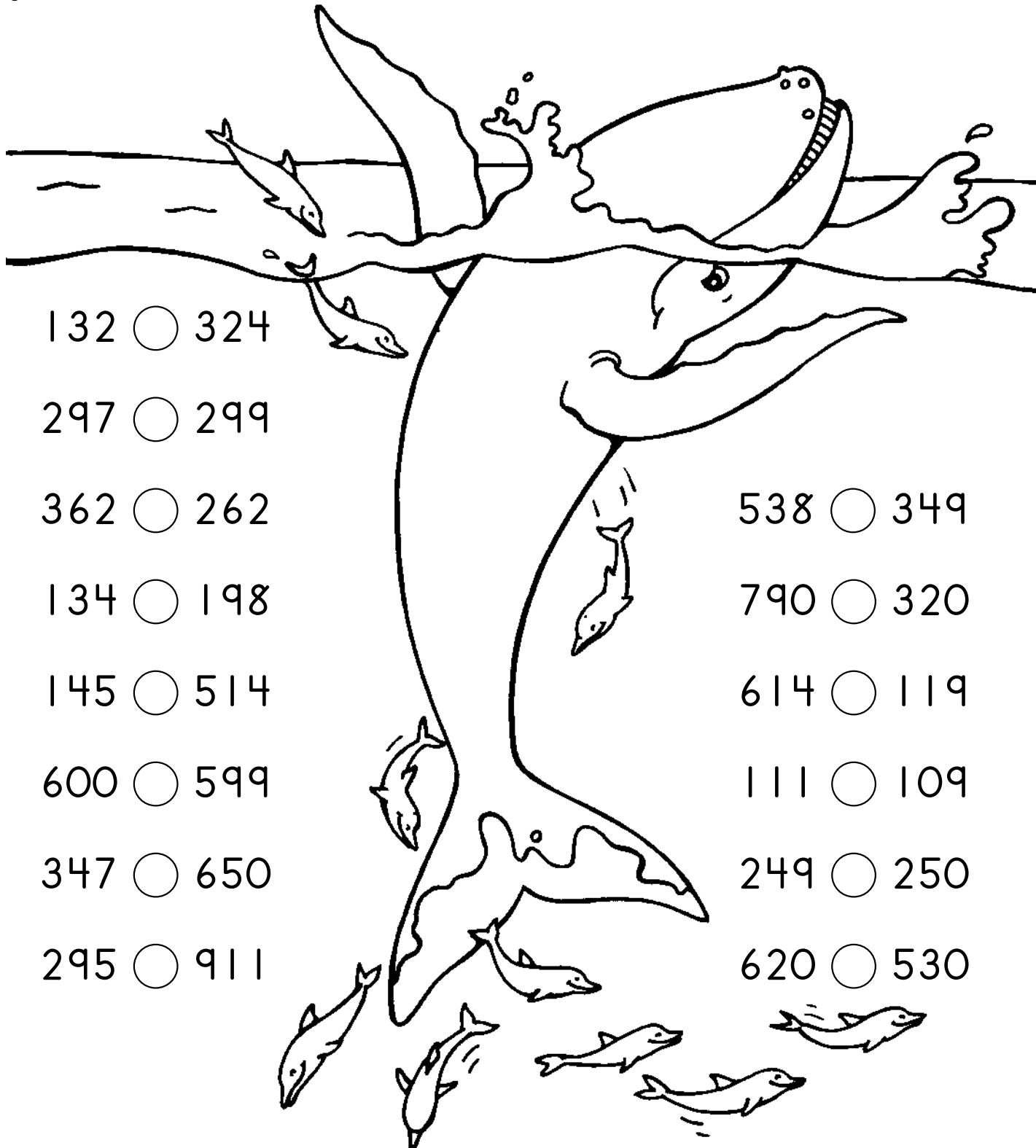
$12 + 2 = \underline{\quad}$

$12 + 4 = \underline{\quad}$



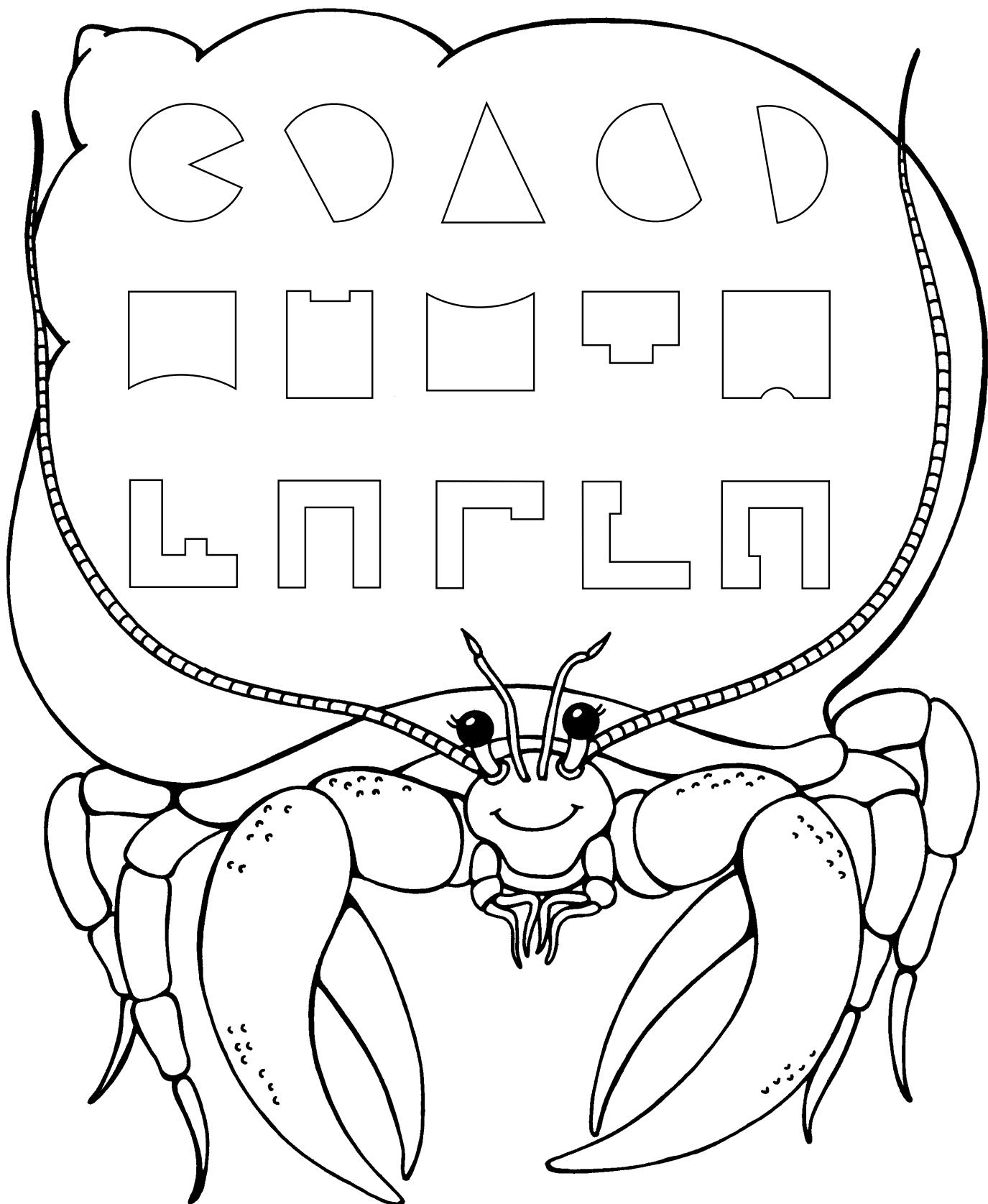
Name _____

Compare each pair of numbers. Write $>$ for greater than or $<$ for less than in each circle.



Name _____

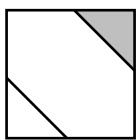
Circle the shapes that match in each line.



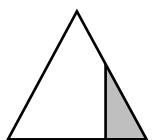
Name _____

Write the correct answer on each line below.

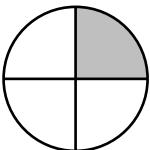
Which shaded shape shows $\frac{1}{2}$? _____



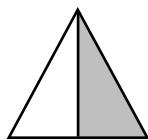
a.



b.

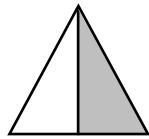


c.

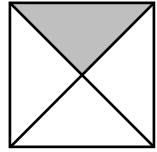


d.

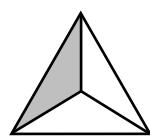
Which shaded shape shows $\frac{1}{3}$? _____



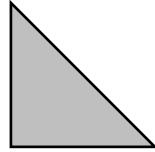
a.



b.

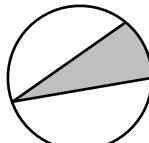


c.

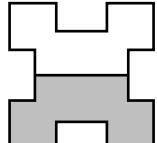


d.

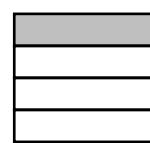
Which shaded shape shows $\frac{1}{4}$? _____



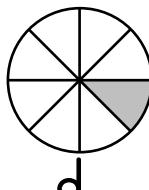
a.



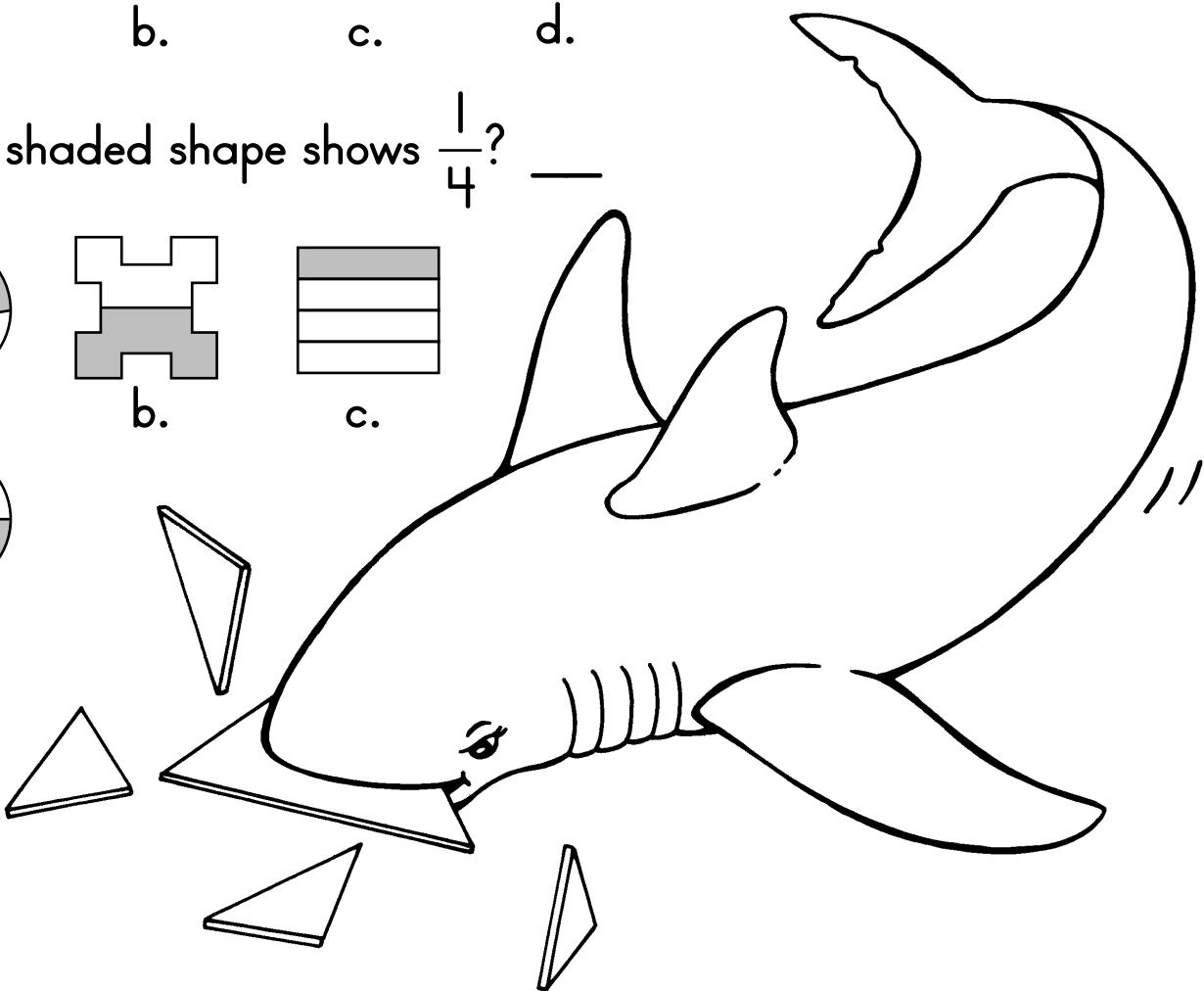
b.



c.

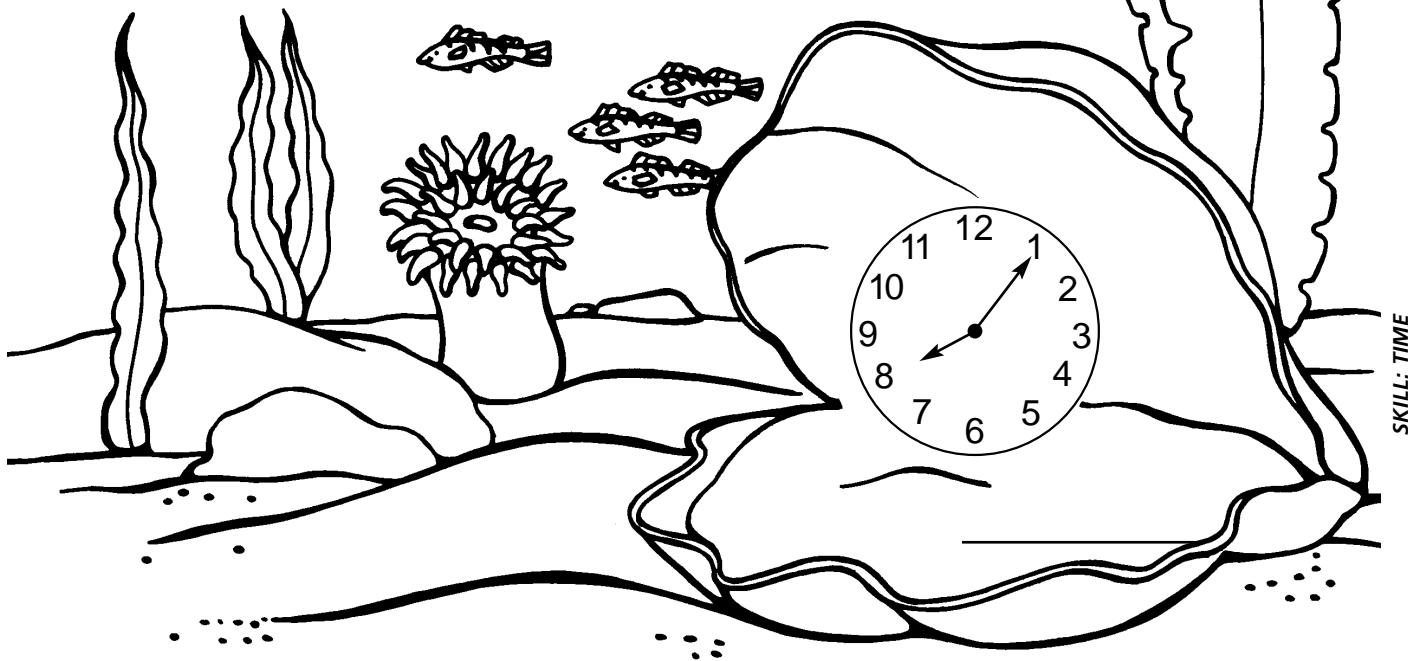
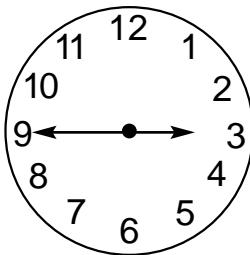
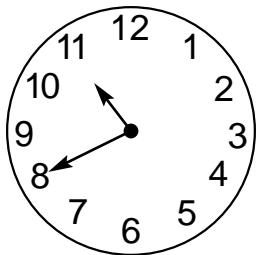
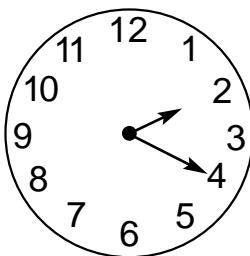
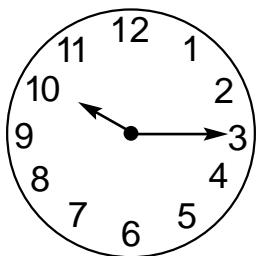
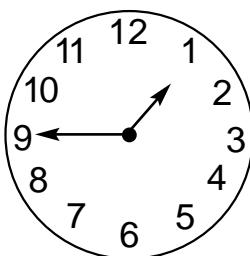
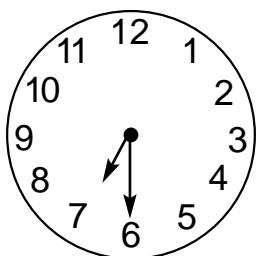


d.



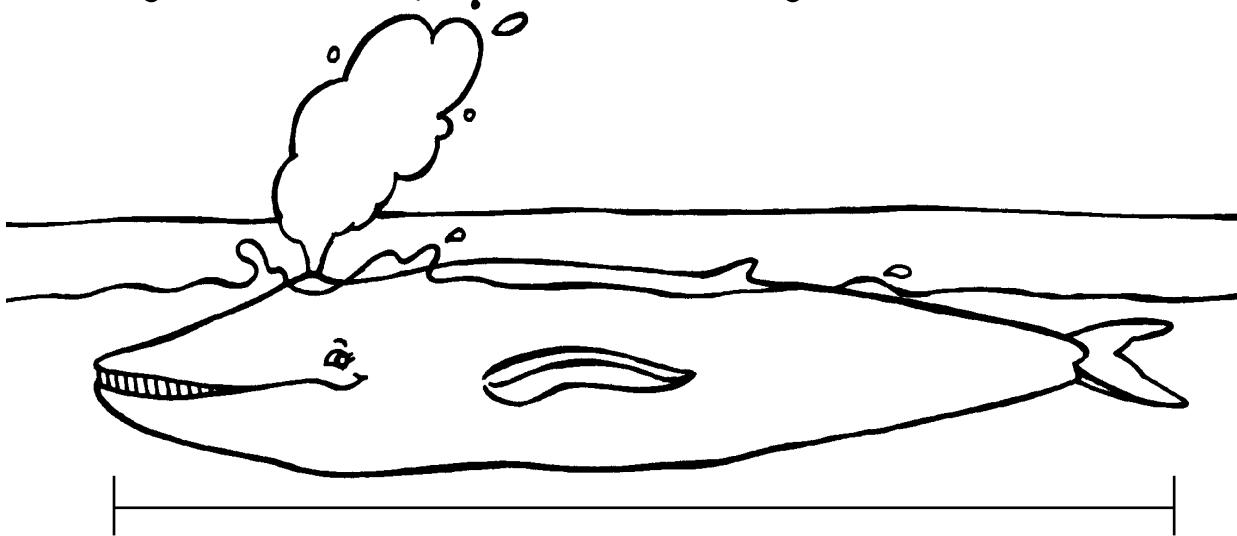
Name _____

Write on the line the correct time for each clock.



Name _____

How long is each shape? Measure using centimeters.



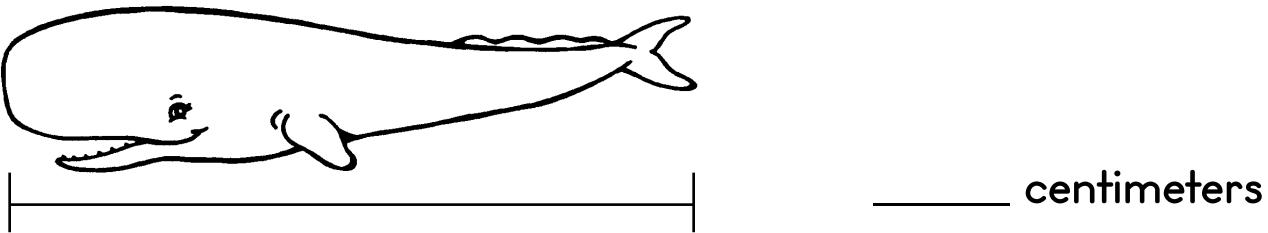
_____ centimeters



_____ centimeters



_____ centimeters



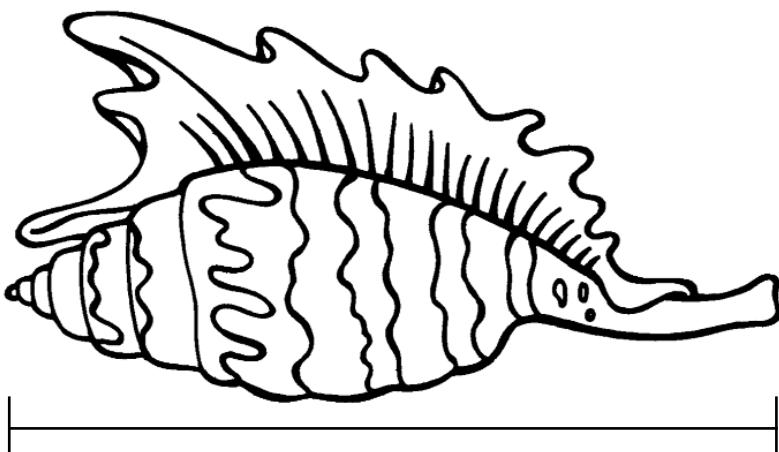
_____ centimeters



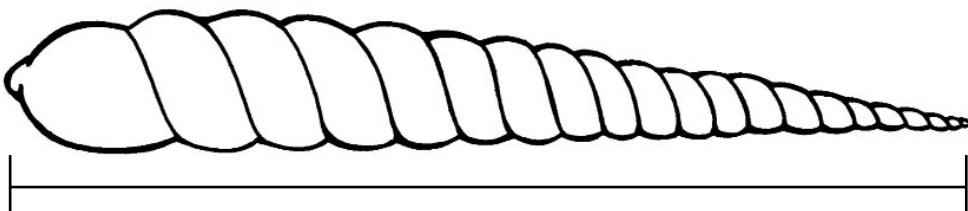
_____ centimeters

Name _____

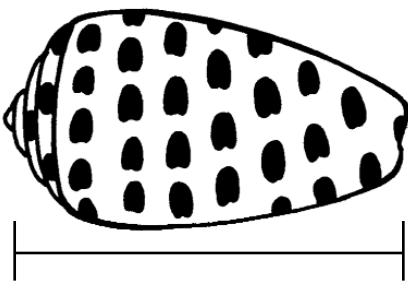
Measure each shape using inches.



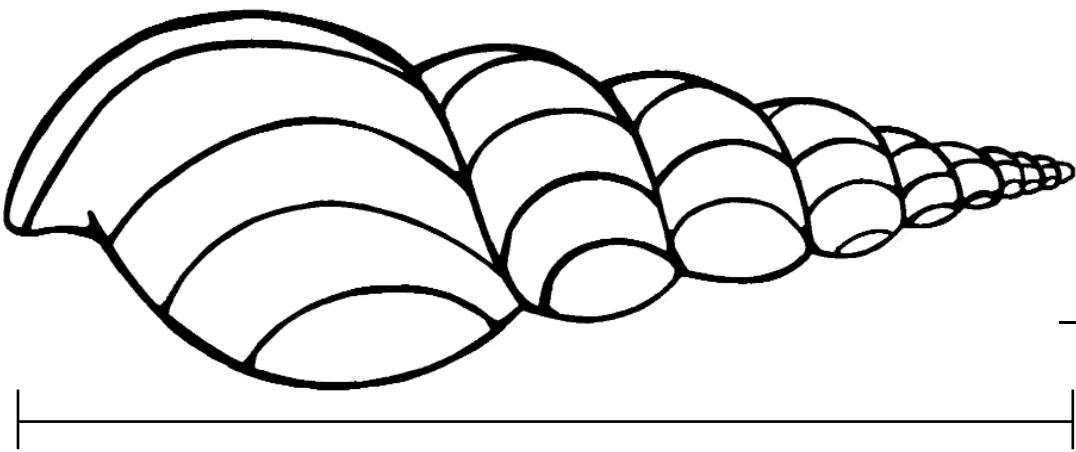
_____ inches



_____ inches



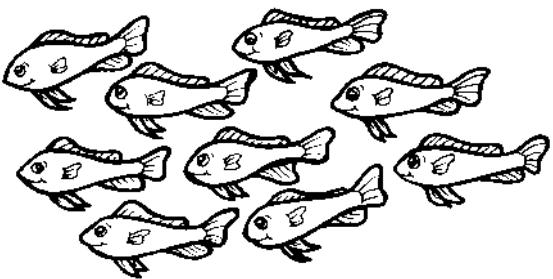
_____ inches



_____ inches

Name _____

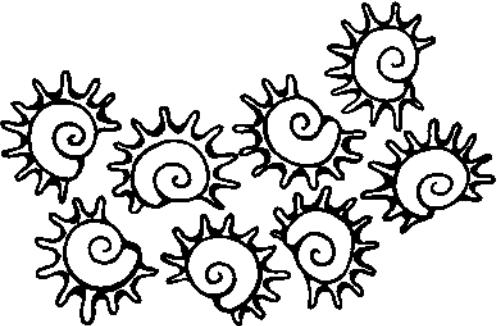
Problem solving.



Color 5 fish red. Color the rest yellow.

How many fish are yellow? _____

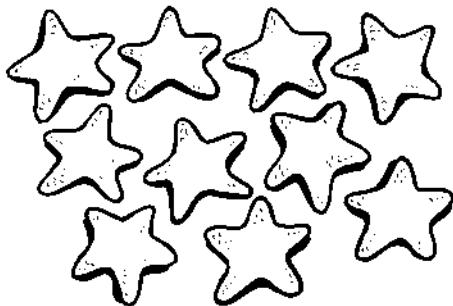
How many fish total? 5 + _____ = _____



Color 4 shells brown. Color the rest green.

How many shells are green? _____

How many shells total? 4 + _____ = _____



Color 6 starfish purple. Color the rest blue.

How many starfish are blue? _____

How many starfish total? 6 + _____ = _____

Name _____

Use the answers to the addition problems to color the picture.

$$14 + 8 = \underline{\quad} \text{ pink}$$

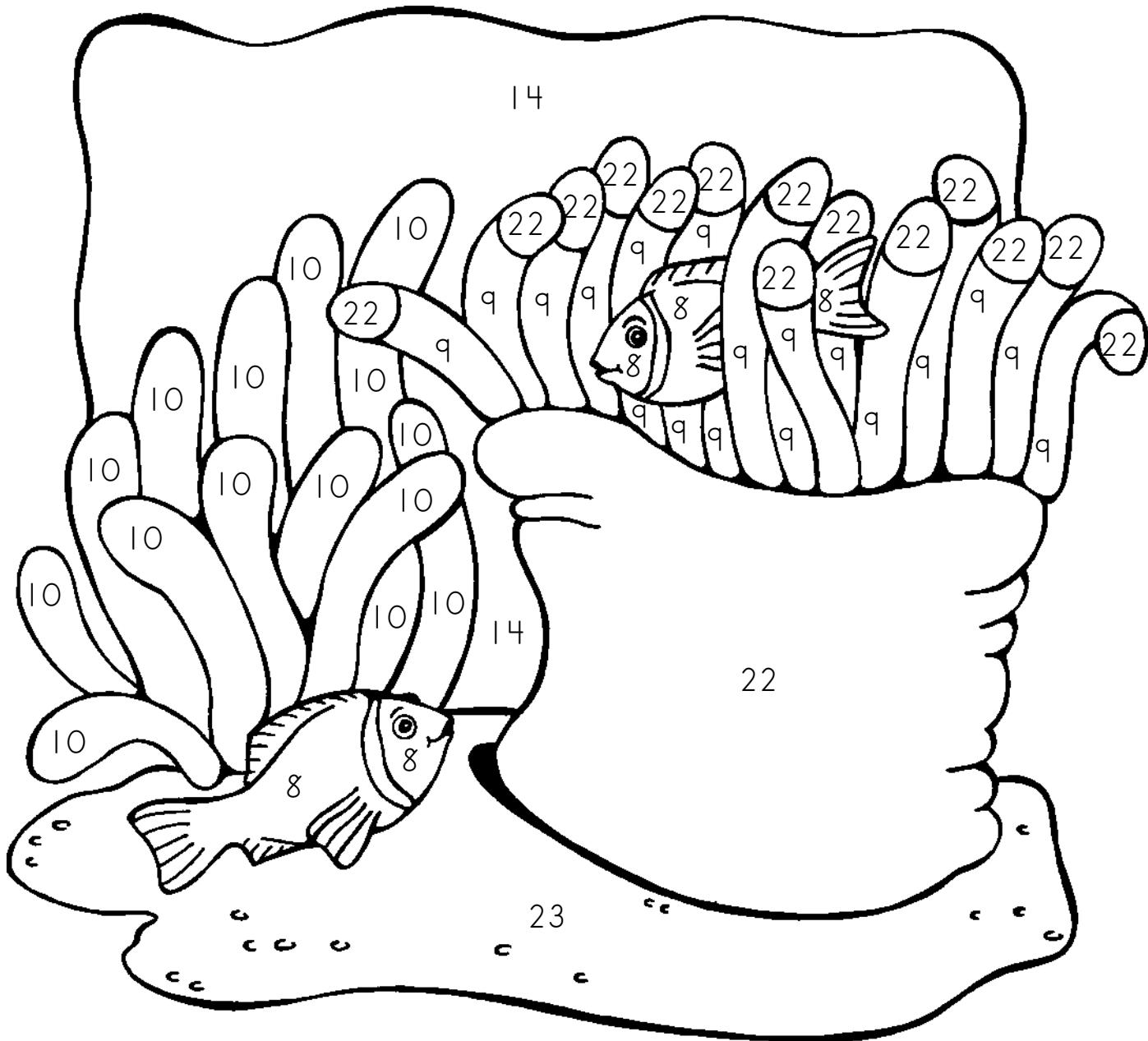
$$2 + 6 = \underline{\quad} \text{ orange}$$

$$8 + 2 = \underline{\quad} \text{ green}$$

$$15 + 8 = \underline{\quad} \text{ tan}$$

$$2 + 7 = \underline{\quad} \text{ yellow}$$

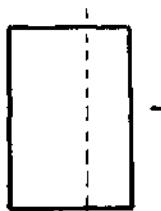
$$7 + 7 = \underline{\quad} \text{ blue}$$



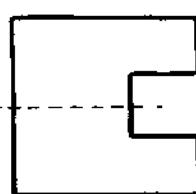
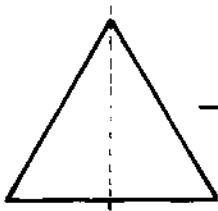
Name _____

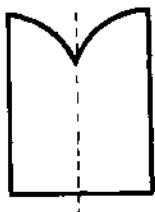
Is the dashed line a line of symmetry?

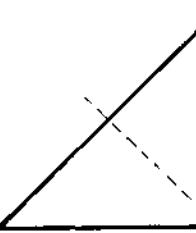
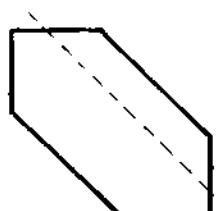
Write "yes" or "no."

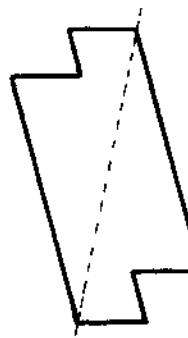


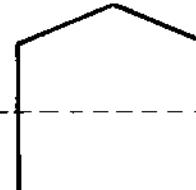
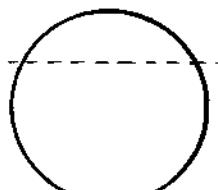
no

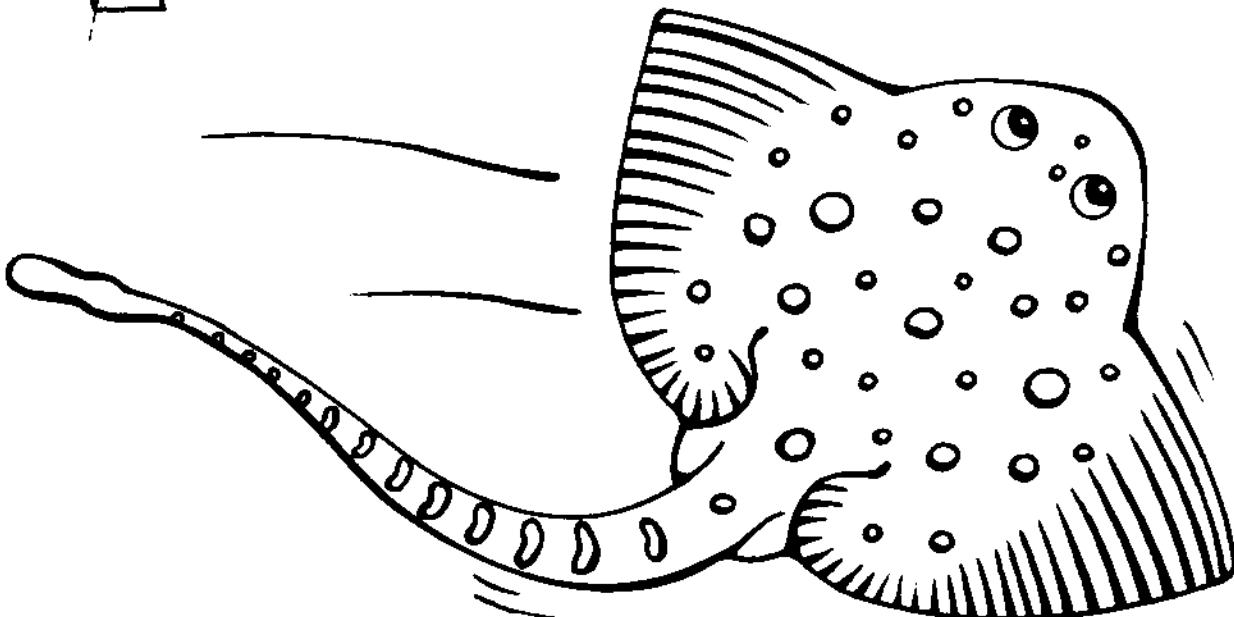












Name _____

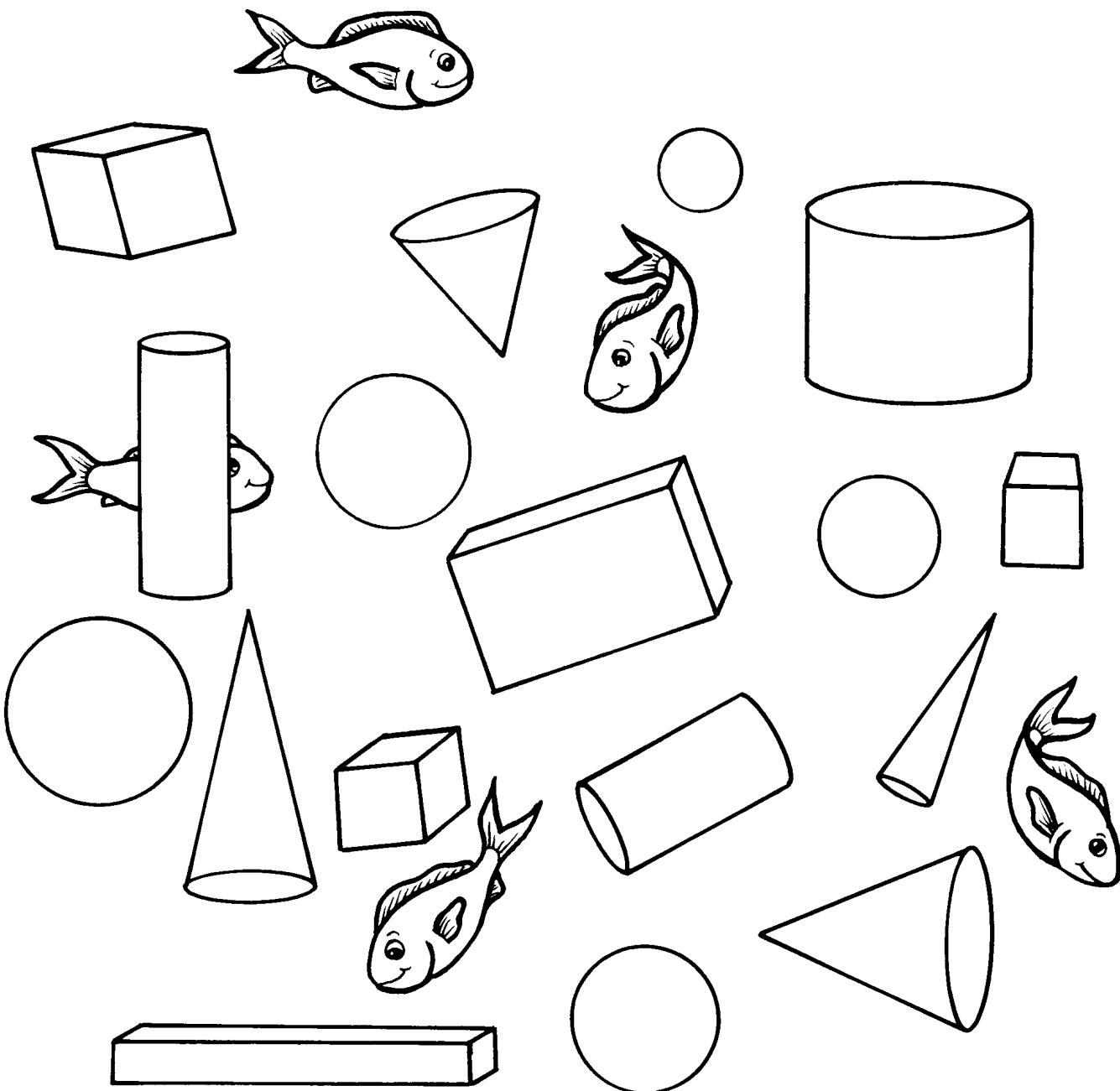
Put an X on the cubes. How many? _____

Put a ✓ on the spheres. How many? _____

Put a line through the cones. How many? _____

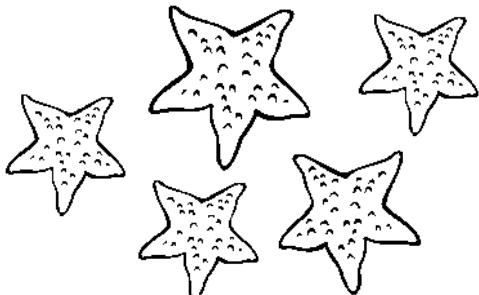
Circle the cylinders. How many? _____

How many rectangles? _____



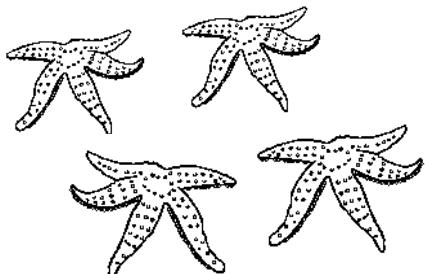
Name _____

A graph is a chart that helps us compare groups of things. Color the boxes in each row to show how many sea stars are in a tidepool on different days.



--	--	--	--	--	--	--	--	--	--

Day 1



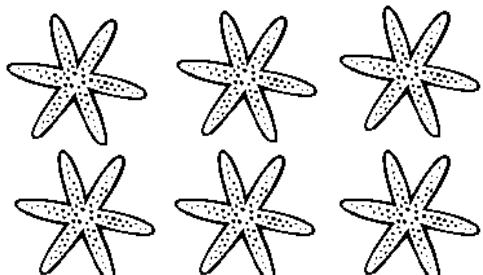
--	--	--	--	--	--	--	--	--	--

Day 2



--	--	--	--	--	--	--	--	--	--

Day 3



--	--	--	--	--	--	--	--	--	--

Day 4

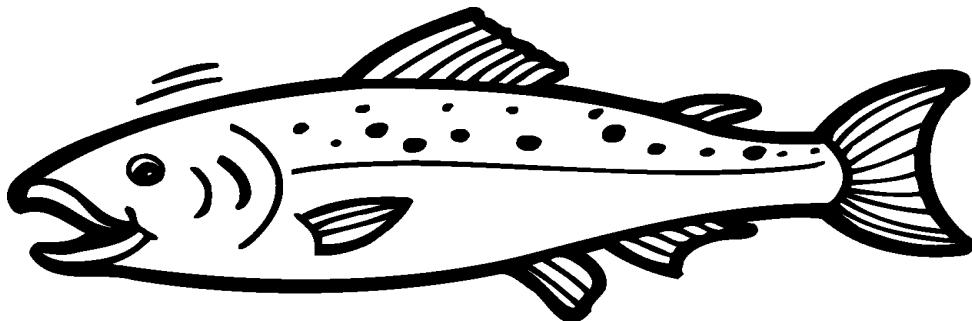


--	--	--	--	--	--	--	--	--	--

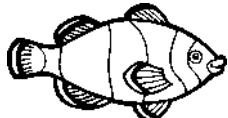
Day 5

Name _____

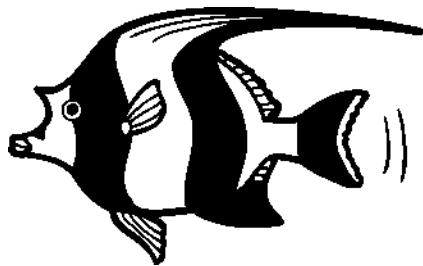
Measure the fish below. Use the ruler and round to
the nearest inch.



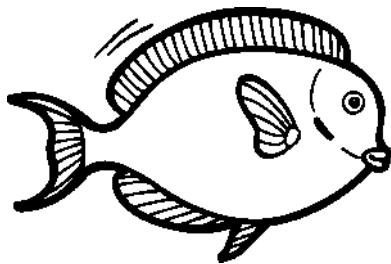
_____ inches



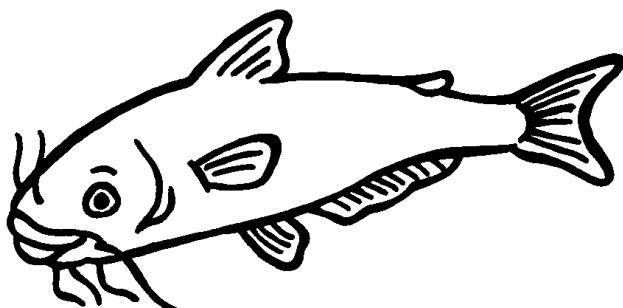
_____ inches



_____ inches



_____ inches



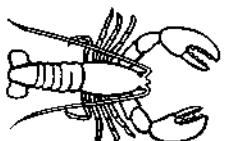
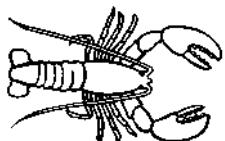
_____ inches

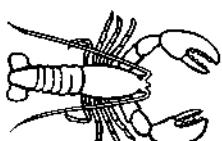
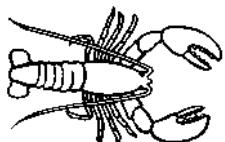


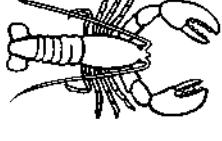
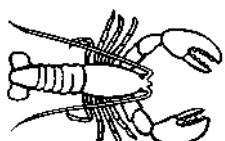
Name _____

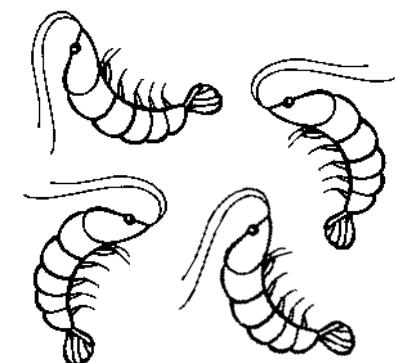
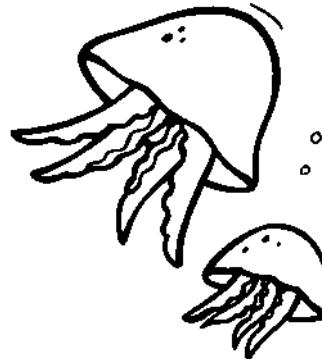
Count the ocean animals in each group and write the number words next to them.











one

two

three

four

five

Name _____

Find the answers by adding the numbers below.

$2 + 6 + 9 = \underline{\quad}$

$4 + 7 + 3 = \underline{\quad}$

$3 + 4 + 3 = \underline{\quad}$

$3 + 8 + 6 = \underline{\quad}$

$2 + 8 + 4 = \underline{\quad}$

$7 + 2 + 7 = \underline{\quad}$

$5 + 3 + 7 = \underline{\quad}$

$4 + 9 + 5 = \underline{\quad}$

$2 + 6 + 3 + 9 = \underline{\quad}$

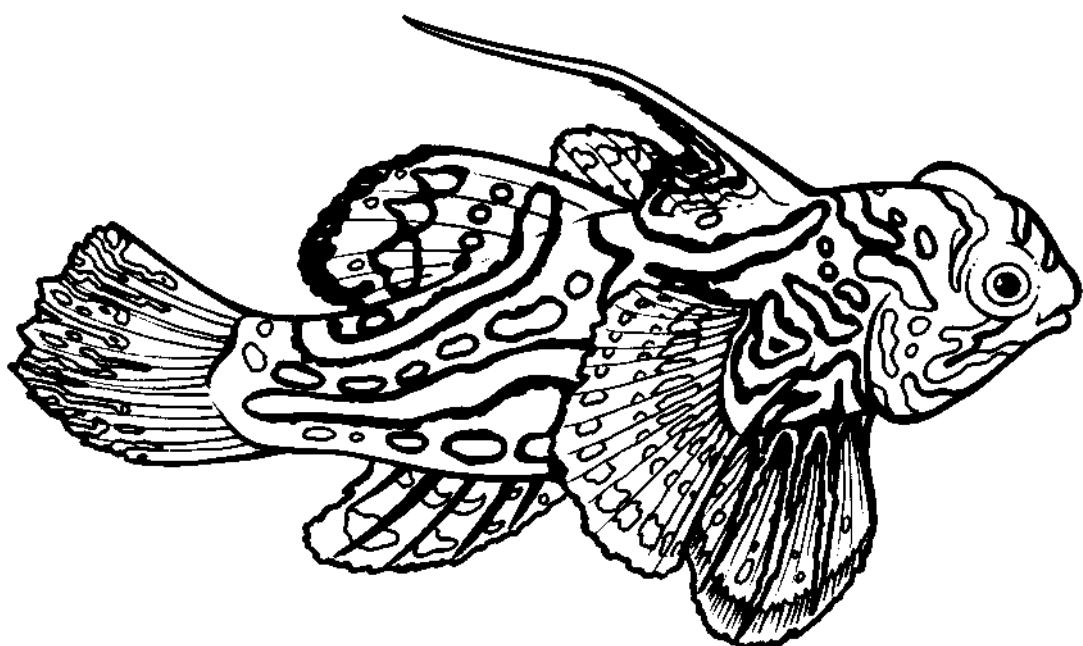
$6 + 2 + 8 + 3 = \underline{\quad}$

$7 + 7 + 3 + 5 = \underline{\quad}$

$1 + 6 + 6 + 8 = \underline{\quad}$

$6 + 1 + 9 + 4 = \underline{\quad}$

$8 + 4 + 2 + 6 = \underline{\quad}$



Name _____

Write the answer to each problem.

$11 + 7 = \underline{\hspace{2cm}}$

$7 + 7 = \underline{\hspace{2cm}}$

$10 - 3 = \underline{\hspace{2cm}}$

$16 - 3 = \underline{\hspace{2cm}}$

$4 + 8 = \underline{\hspace{2cm}}$

$5 + 7 = \underline{\hspace{2cm}}$

$18 + 3 = \underline{\hspace{2cm}}$

$7 - 5 = \underline{\hspace{2cm}}$

$5 - 5 = \underline{\hspace{2cm}}$

$19 - 3 = \underline{\hspace{2cm}}$

$7 + 9 = \underline{\hspace{2cm}}$

$19 + 3 = \underline{\hspace{2cm}}$

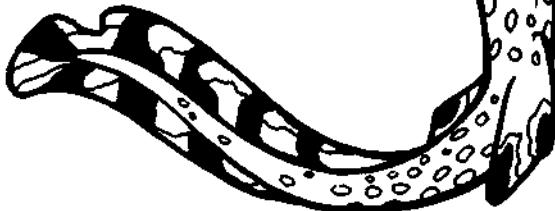
$15 - 2 = \underline{\hspace{2cm}}$

$8 + 3 = \underline{\hspace{2cm}}$

$8 + 4 = \underline{\hspace{2cm}}$

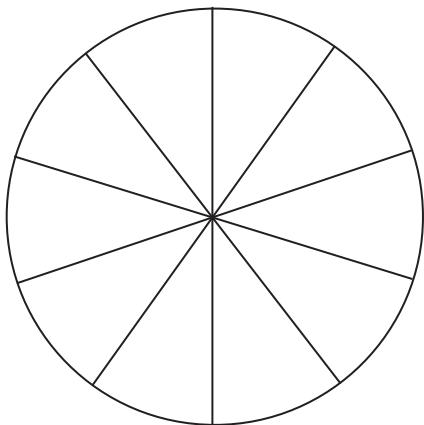
$12 - 4 = \underline{\hspace{2cm}}$

$16 - 8 = \underline{\hspace{2cm}}$

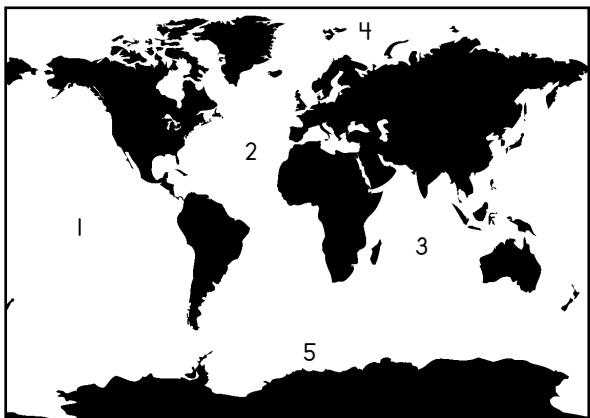


Name _____

Oceans or seas cover 70% or $\frac{7}{10}$ of the earth's surface with salt water.



Color $\frac{7}{10}$ of the circle to show how much of the earth's surface is covered by salt water.



Write the names of the oceans.

1. Pacific Ocean

Pacific Ocean

2. Atlantic Ocean

Atlantic Ocean

3. Indian Ocean

Indian Ocean

4. Arctic Ocean

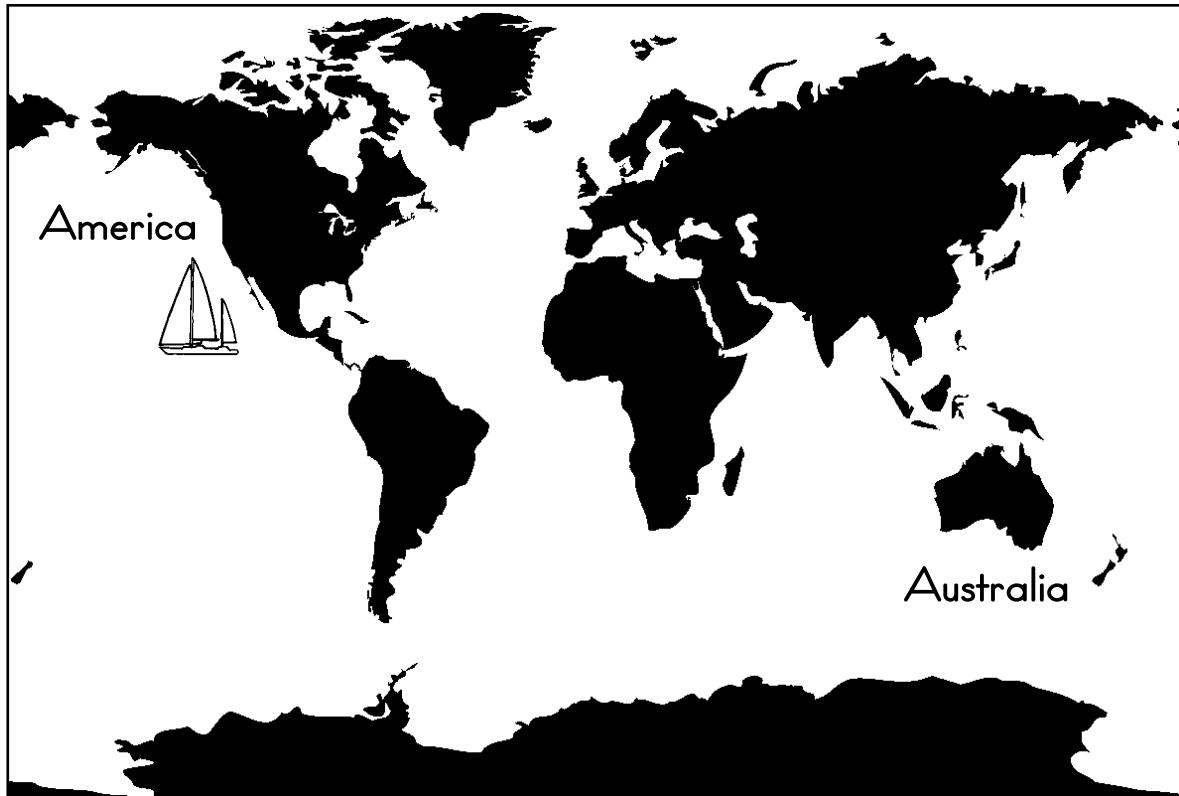
Arctic Ocean

5. Antarctic Ocean

Antarctic Ocean

Name _____

Draw a red line to show how the boat can sail from America to Australia. You must sail in all five oceans. Draw a blue line to show the quickest way back.

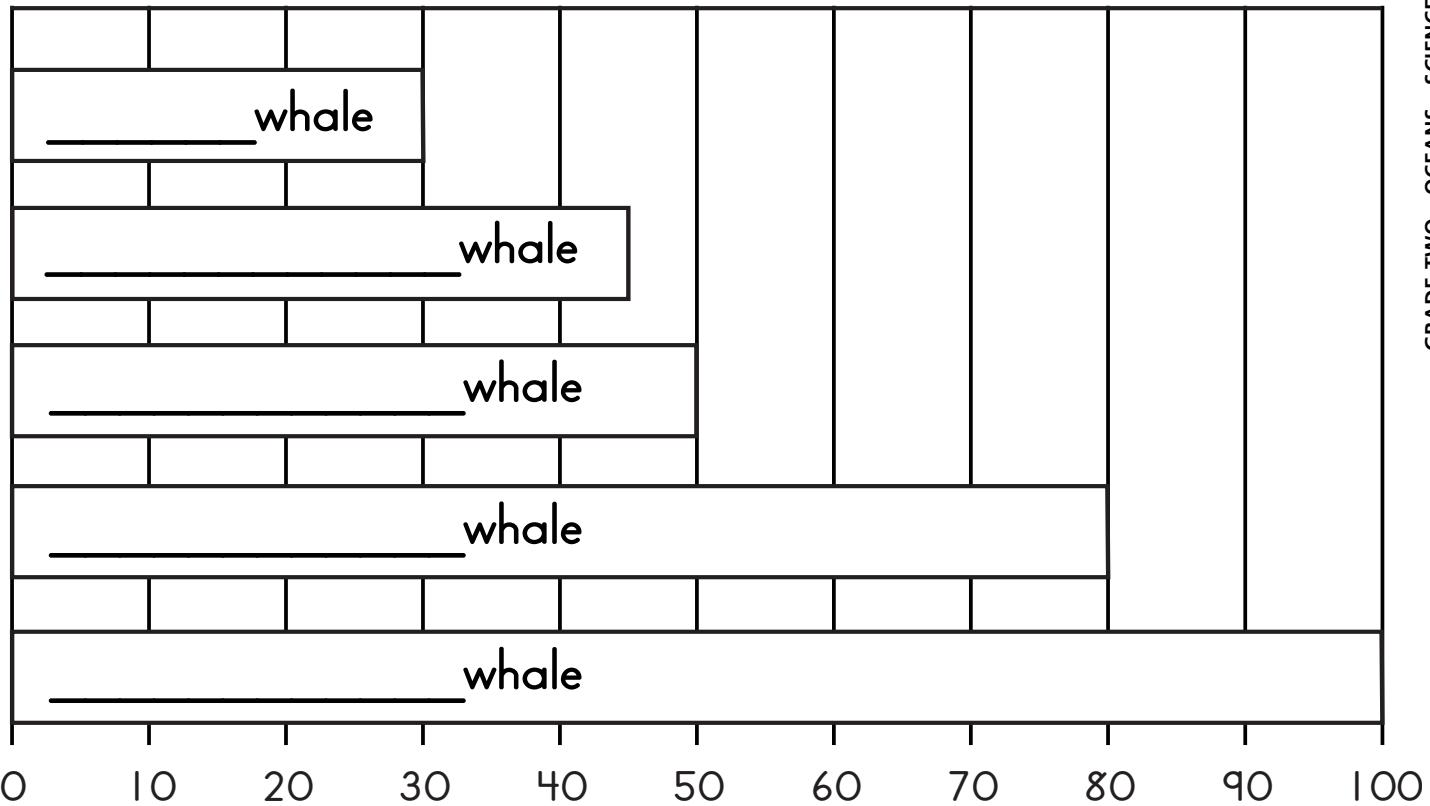


Write the oceans you crossed on the way back.

Name _____

Finish the bar graph by using the information below.

AVERAGE WHALE LENGTHS



Blue whale: 100 feet long

Humpback whale: 50 feet long

Fin whale: 80 feet long

Killer whale: 30 feet long

Gray whale: 45 feet long

1. Which whale is the longest?

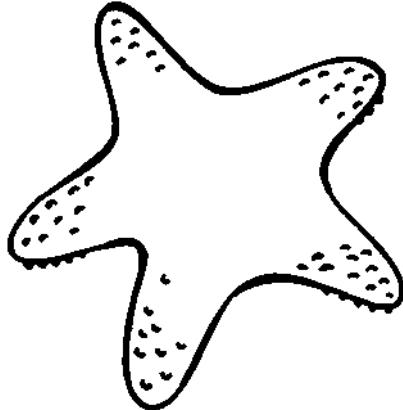
2. Which whale is the shortest?

3. Which is half the length
of the longest whale?

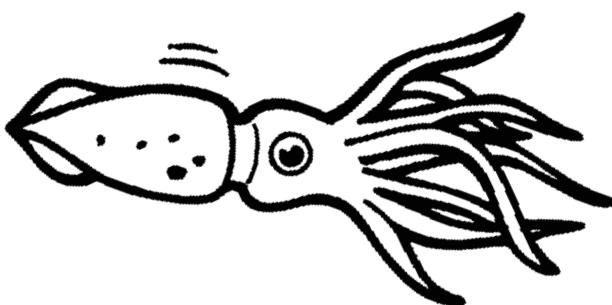
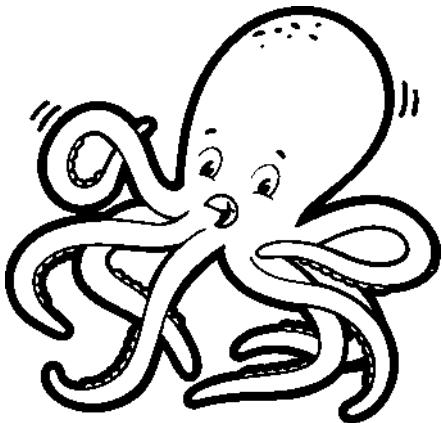
Name _____

Starfish have fish in their name, but they are not a fish.

They are also called sea stars. Fish have backbones and starfish don't. Animals without backbones are called invertebrates.



sea star



Write the invertebrate names under the correct picture.

sea star

squid

jelly fish

octopus

Name _____

The animals below belong to one of 3 orders.

Place the animal on the chart under the order it belongs to.

Pinnipedia	Cetacea	Lamniformes
Walrus		

Great white shark

Walrus

Whale shark

California sea lion

Blue whale

Killer whale

Northern elephant seal Hammerhead shark

Name _____

Write a "T" next to each true statement about the penguin. Write an "F" if the statement is false.

Penguins like to eat grass and leaves.

Penguins lay eggs.

Penguins are carnivores.

Most penguins are about 10 meters tall.

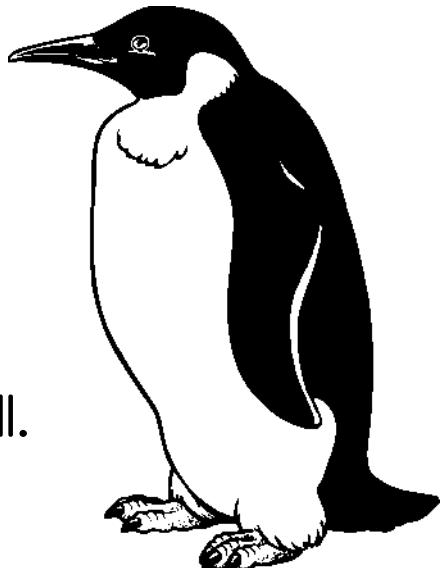
Penguins live where it is very cold.

Penguins use their wings to fly.

Penguins are mammals.

Penguins use their feet to swim with.

Draw a picture of a penguin's webbed foot (think of a duck's foot).



Name _____

Write the animals from the list in the correct columns.

octopus	manatee	sea lion	penguin	turtle
jellyfish	shark	whale	manta ray	seal

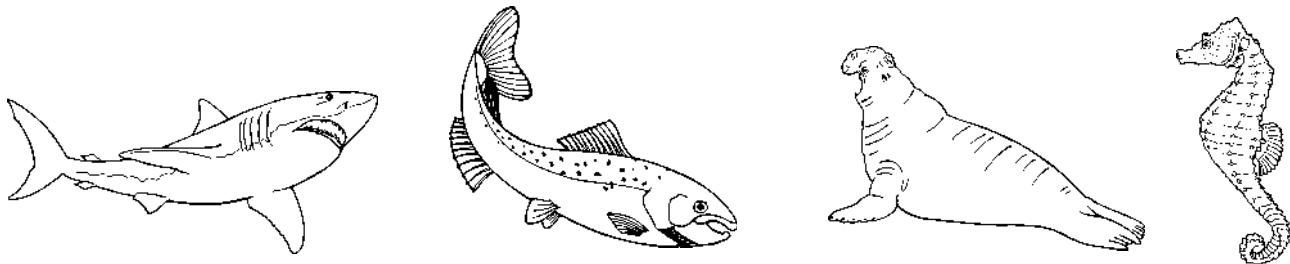
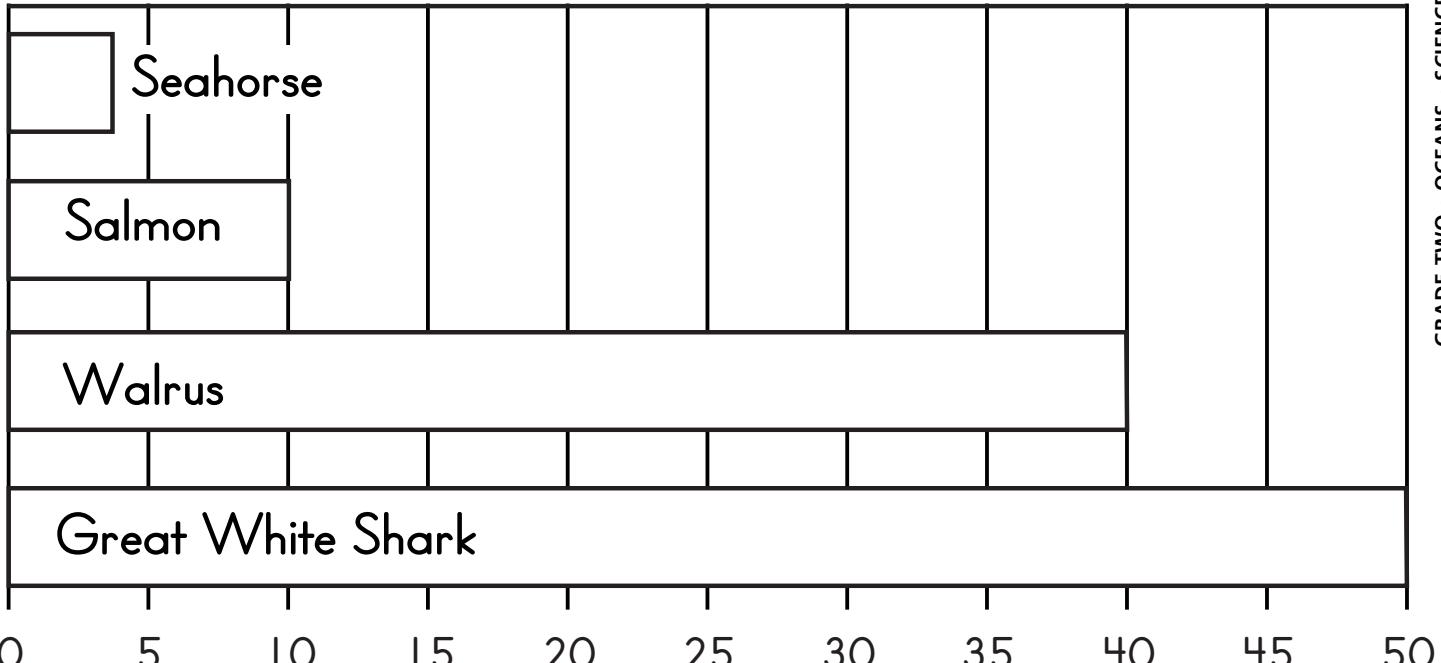
mammal	bird	fish	invertebrate	reptile
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Of the above animals, write the one which is not a carnivore (meat eater).

Name _____

Answer the questions using the graph.

Average Lifespan of Four Ocean Animals



Which animal has the longest possible lifespan?

How many years more does the walrus live than the salmon?

20

30

40

70

Which animal lives the shortest amount of time?

Name

Using the Fact Files, compare and contrast a dolphin and a shark. Then create a Venn diagram to show your results.

Compare

(Things that are the same)

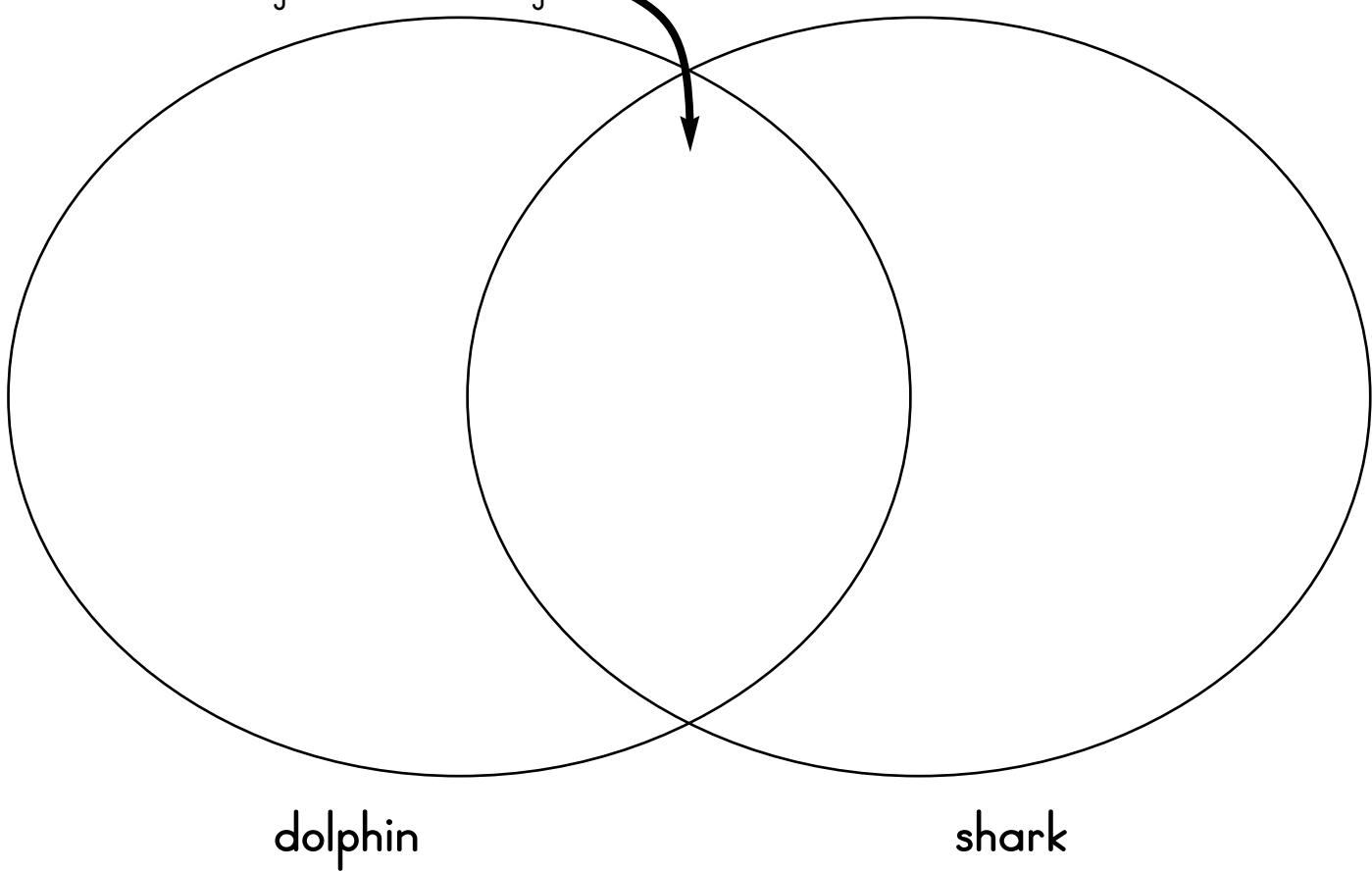
- 1.
 - 2.
 - 3.
 - 4.

Contrast

(Things that are different)

- 1.
 - 2.
 - 3.
 - 4.

Things that are the same go here

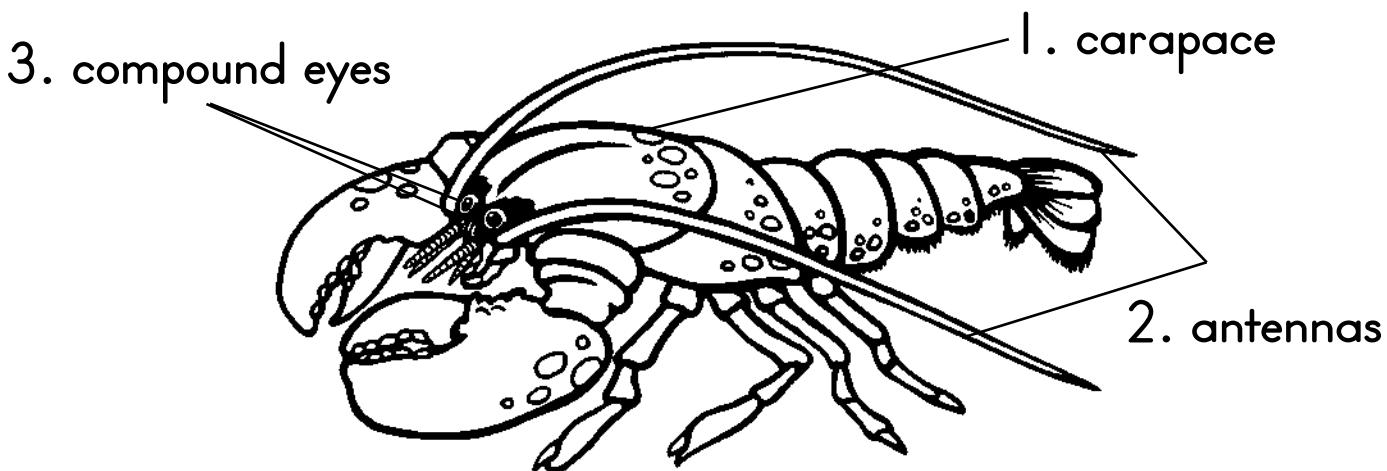


Name _____

Crustaceans do not have bones inside their bodies.

Instead they have an outside skeleton, with a hard plate covering the body called a carapace. The body is divided into two parts, has two pairs of antennas, and compound eyes set on stalks.

Lobsters, crabs, and shrimp are examples of crustaceans.



Write the parts of a crustacean's body. The first letter is written for you.

1. _____

C

2. _____

A

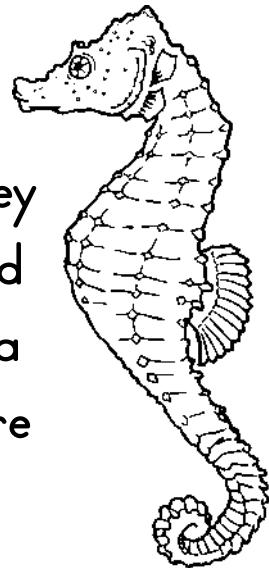
3. _____

C

Read the paragraph. Then answer the questions by circling True if the statement is true and False if the statement is false.

Sea horses are from 6 to 12 inches tall.

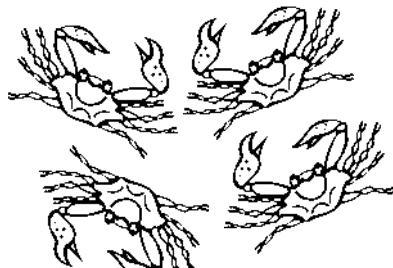
They have a head like a horse and an armor-covered body like an Ankylosaurus. They have a tail like a monkey that can wrap around things. Sea horses can also change colors like a chameleon! Even though they are fish, they are very poor swimmers.



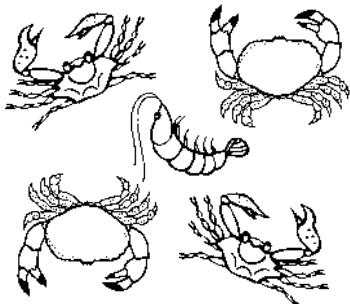
1. The tail of the sea horse looks like a dinosaur's tail. True False
2. Sea horses are as long as sharks. True False
3. Sea horses belong to the fish family. True False
4. This animal got its name because its head looks like a horse's head. True False
5. Sea horses are always blue. True False
6. This ocean animal is a fast swimmer. True False

Name _____

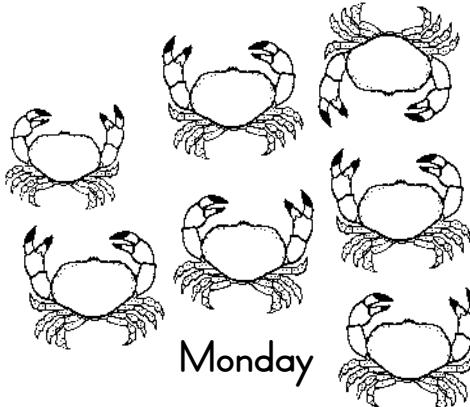
David went to the beach for a week. These are the crustaceans he saw among the rocks at low tide each day. (Crabs, shrimps, and lobsters are all *crustaceans*.)



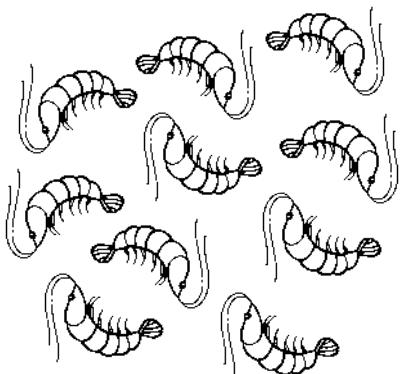
Sunday



Tuesday



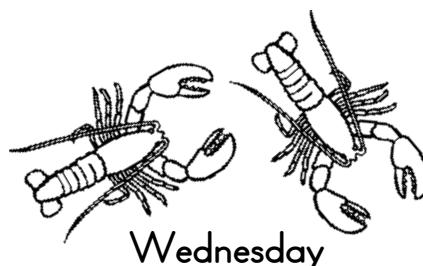
Monday



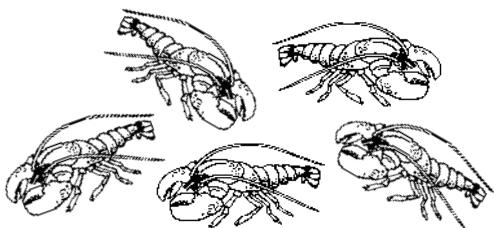
Saturday



Thursday



Wednesday



Friday

Color in one box for each crustacean David saw each day.

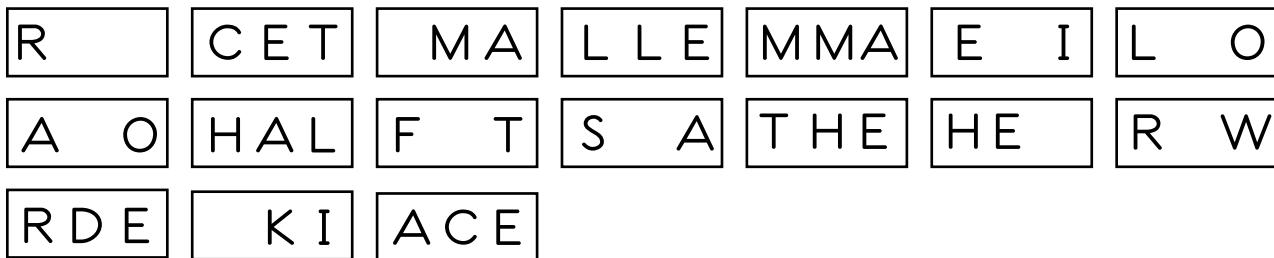
Name _____

Color the state where you live orange. Draw a red line from your state to the closest ocean or gulf. Draw a yellow line from your state to the Atlantic Ocean. Draw a green line from your state to the Pacific Ocean. Draw a purple line from your state to the Gulf of Mexico. Color all the water on the map blue.

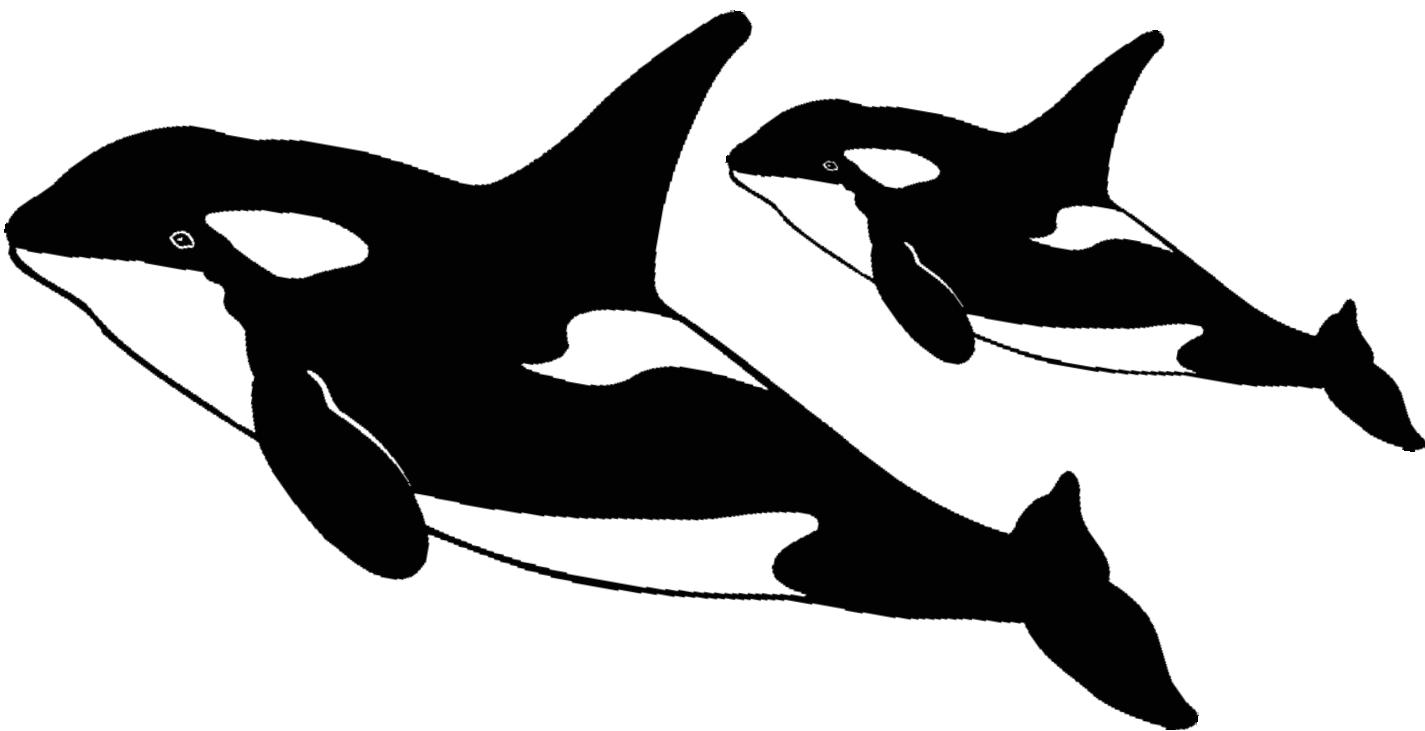


Name _____

Unscramble the tiles to reveal an ocean animal fact.



The							



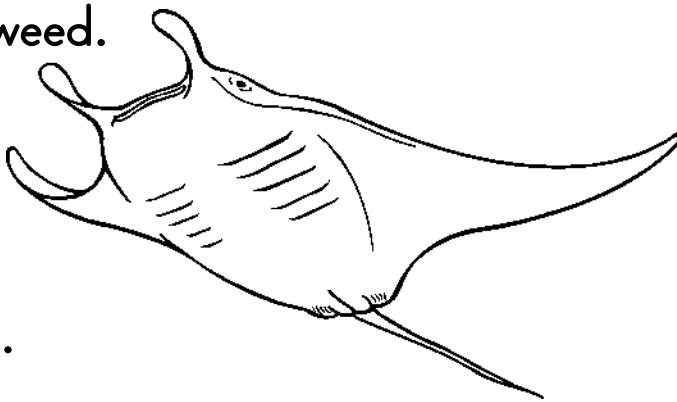
SKILL: OCEAN ANIMAL FACTS

The killer whale is a mammal of the cetacea order

Name _____

Write a "T" next to each true statement about the manta ray. Write an "F" if the statement is false. Use your Manta Ray Fact File.

___ Manta rays like to eat seaweed.



___ Manta rays have big teeth.

___ Manta rays are carnivores.

___ Most manta rays are about 3 meters long.

___ Manta rays live in the Atlantic Ocean.

___ Manta rays use their wings to 'fly' through the water.

___ Manta rays are mammals.

___ Manta rays are related to sharks.

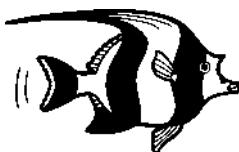
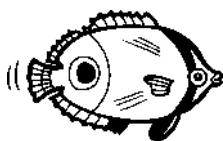
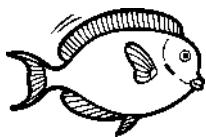
Draw a picture of a manta ray.

Name _____

Write the animals from the list in the correct columns.

squid	whale	octopus	seal	jellyfish
scallop	salmon	dolphin	shark	oyster

Of the above animals, write the ones which are fish.



Name _____

Choose an animal from the list to complete the sentences below.

walrus dolphin shark seahorse starfish

1. I am one of the oldest kinds of fish in the sea and my skin is

covered with tiny teeth. I am a shark.

2. I am known for being very intelligent and even saving people's

lives. I am a _____.

3. I am a large mammal, and I have long tusks that I can use to

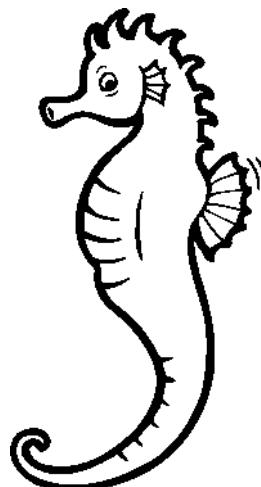
dig clams from the mud. I am a _____.

4. I have many arms, but no head. If I lose an arm, it will grow

back! I am a _____.

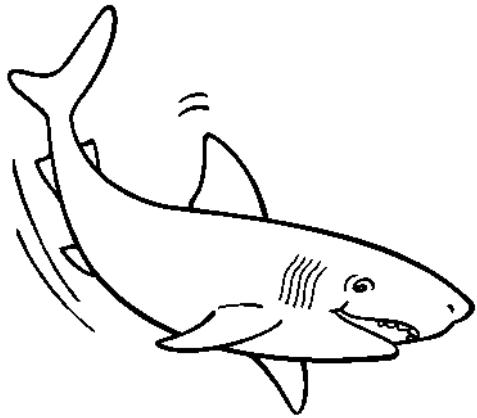
5. I am a fish, but I look more like a tiny pony.

I am a _____.



Name _____

Name the ocean animal, then circle the correct order for each one. Use your Fact Files.



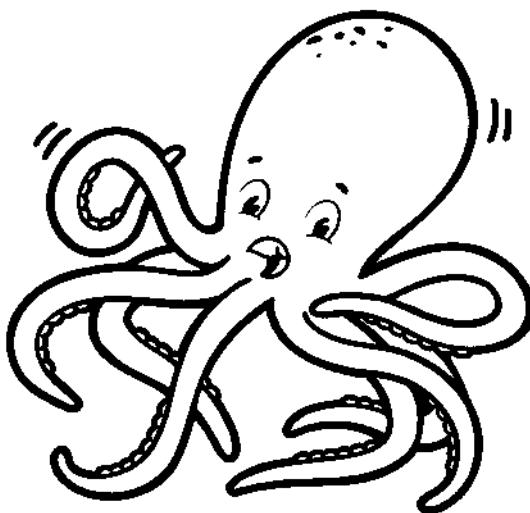
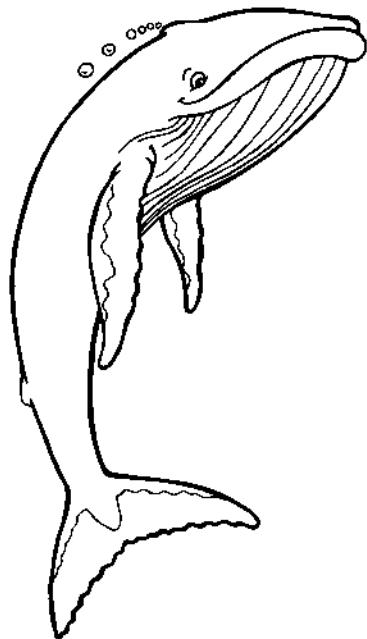
Cetacea

Lamniformes



Pinnipedia

Sphenisciformes



Cetacea

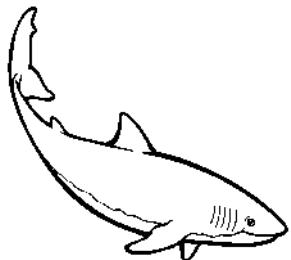
Chelonia

Octopoda

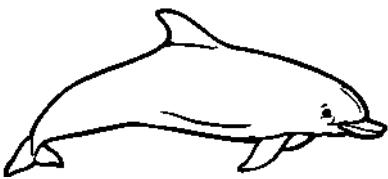
Sirenia

Name _____

Draw a line from each animal to its identifying fact.



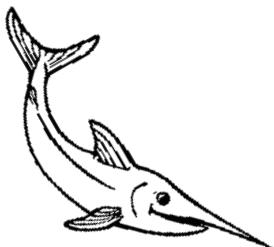
Great swimmer
and can
do tricks.



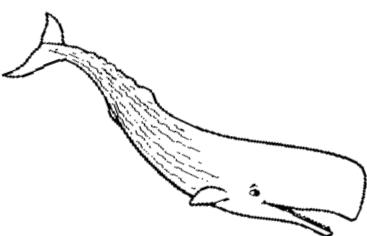
Has 2 long tusks
and spends lots of
time in the water



Very large
and aggressive
predator



“Sword” thought
to stun prey



Communicates
by clicking and
whistling



Favorite prey is
the giant squid

Name _____

Using the Fact Files, answer the following questions
about the group of animals called fish.

1. Which is the largest fish? _____

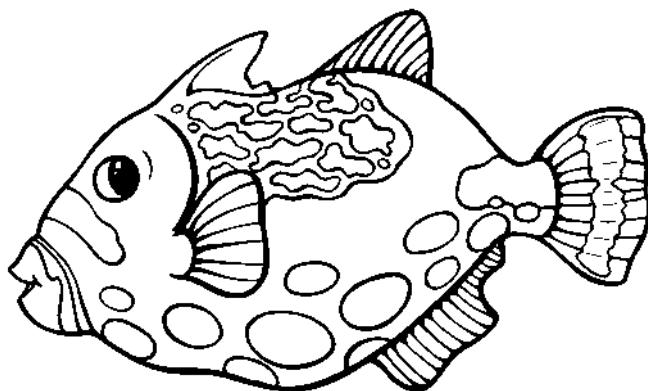
2. Which is the smallest fish? _____

3. Which fish lives the longest? _____

4. Which fish live in the Atlantic Ocean?

Which fish live in the Pacific Ocean?

5. Name three things that all fish have in common:



Use your Fact Files to determine which antonym is correct. Circle the correct one.

1. Killer whales live in (small large) family groups.
2. The manta ray leaps (up down) in the air when it plays.
3. When threatened, the octopus uses a cloud of (black white) ink to escape.
4. Dolphins can be (noisy quiet) when they communicate.
5. The blue whale is the (smallest largest) mammal.
6. The blue whale is (bigger smaller) than the largest dinosaur.
7. Sea lions are (horrible great) swimmers.
8. The great white shark lives in (warm cool) oceans.
9. If the polar bear stays on land in the summer, it gets (hot cold).
10. Walking on land for the penguin is (slower faster) than swimming.
11. Very (few many) of the swordfish's offspring survive.
12. Manatees are (nice mean) creatures.

Name _____

Write a rhyming word in the blank next to the following words.

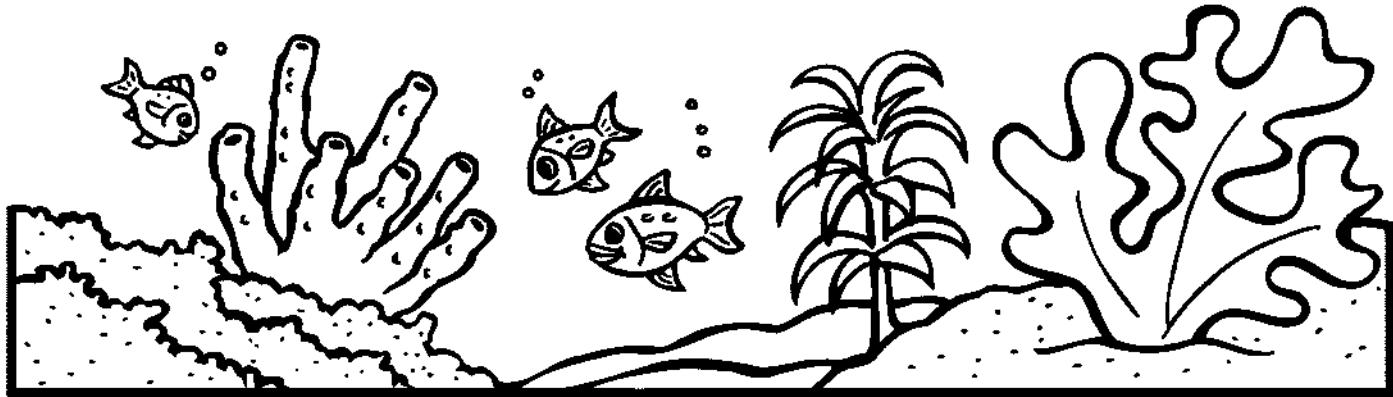
pool _____ sea _____

sea star _____ whale _____

reef _____ ocean _____

shark _____ crab _____

squid _____ fish _____



Name _____

Combine the words in the word box to create compound words of things that are found in or near the ocean.

salt	shore	land	main	water	life
sun	mass	under	wild	hole	sea
blow	water	off	light	land	bird

1. seashore

6. _____

2. _____

7. _____

3. _____

8. _____

4. _____

9. _____

5. _____

Using each word shown, write 3 or more compound words.

The word shown can be in the front or the back of the word.

1. sea _____

2. fish _____

Name _____

List 3 words that rhyme with the last word of the sentence in the space to the right. Then on the lines write a second sentence using one of those words to finish the rhyme.

1. The whale was swimming in a great big group.

2. Manatees like to keep things slow.

3. The leatherback is a turtle that's big.

4. The male seahorse is quite a Dad.

5. To stun its prey is the swordfish's way.

Name _____

Change the verb to its correct tense for the sentence.

Using the information in your Fact Files, determine if the sentence could be true or not. Circle T for true and F for false.

1. The salmon (swim) _____ up the river last night. T F
2. The sperm whale (dive) _____ deep when it chases the giant squid. T F
3. Yesterday, the sea lions (play) _____ in the sun all day. T F
4. The polar bear (eat) _____ when the penguin startled it. T F
5. The manatee (swim) _____ very quickly. T F
6. Hopefully, we (know) _____ more about the whale shark in the future. T F
7. The man-of-war (catch) _____ its prey with its tentacles. T F
8. The walrus (need) _____ to lose weight to keep warm. T F
9. A true helper, the male seahorse (carry) _____ the female's eggs in his brood pouch. T F
10. When the elephant seal thought it was in danger, it (make) _____ a loud noise with its flippers. T F

Name _____

Write the correct vowels to make the long o sound:

o, o—e, oa, ow.

n ____ s ____ s

fl ____ t

sl ____

c ____ stlines

c ____ v ____

____ cean

sh ____

ag ____

b ____ t

foll ____

c ____ n ____

____ val

j ____ k ____

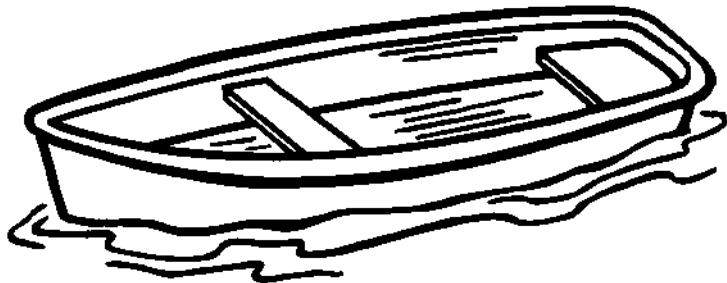
h ____ l ____

rainb ____

c ____ t

p ____ tat ____

thr ____



Name _____

Write the correct vowels to make the long *a* sound:
a, ai, a-e, ay.

wh ____ | ____

p ____ —

invertebr ____ + ____

p| ____ —

d ____ —

insul ____ + ____

fem ____ | ____

communic ____ + ____

cr ____ — fish

vertebr ____ + ____

m ____ —

m ____ d ____

m ____ | ____

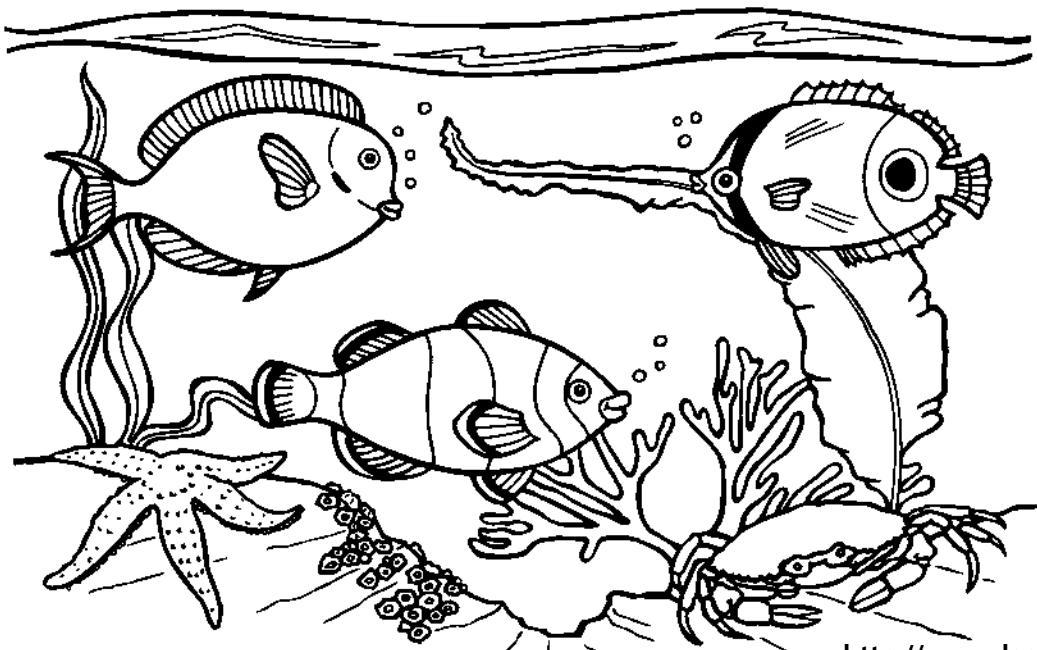
br ____ — n

esc ____ p ____

tr ____ — l

pl ____ c ____

p ____ — nt



Name _____

Write the correct vowels to make the long *u* sound:
u, ue, u-e, ew.

__ s __

f __ ture

h __ g __

ref __ s __

bl __ __

ch __ __

c __ t __

am __ s __

h __ man

h __ __

f __ __

m __ l __

c __ be

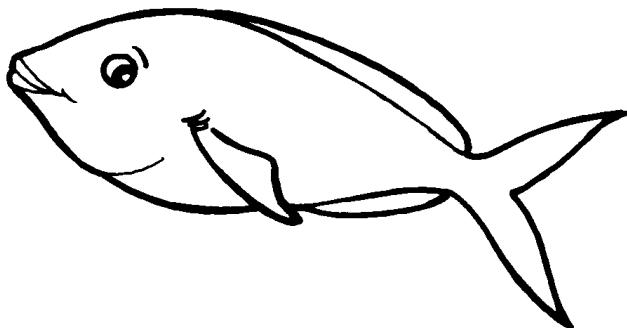
h __ mid

t __ n __

c __ __

m __ sic

purs __ __



Name _____

Write the correct vowels to make the long *i* sound:
i, i-e, y, igh.

rept ____ l ____

r _____ t

wh ____ t ____

prov ____ d ____

worldw ____ d ____

t ____ m ____

coastl ____ n ____

fl ____

s _____ t

surv ____ v ____

sh ____

wr ____ t ____

m ____ ld

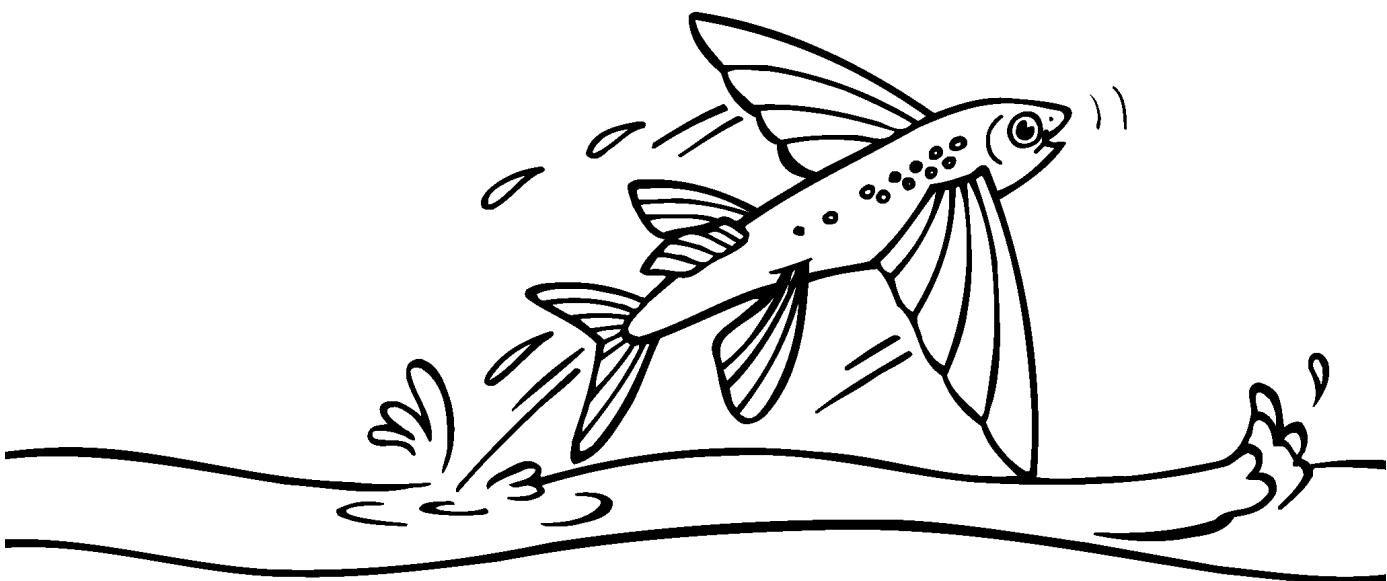
inv ____ t ____

l ____ f ____ span

d ____ v ____

— cy

h _____



SKILL: LONG VOWEL /

Name _____

Write the correct vowels to make the long e sound:

ee, ea, ey, e.

— — t

fr — — ze

m — — t

f — — t

monk — —

s — — stars

s — — horse

k — — p

y — — rs

s — — w — — d

f — — der

overh — — t

l — — ve

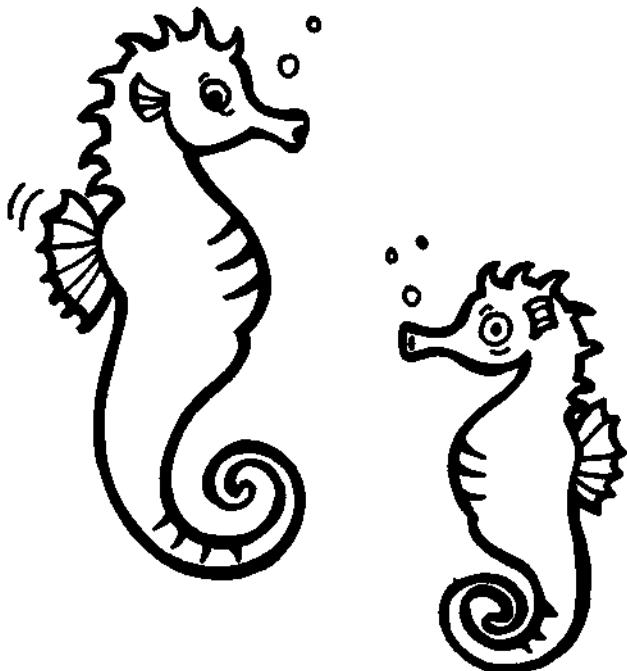
k — —

b —

s — — ls

b — —

turk — —



Name _____

Sentences must have a predicate part and a subject part. If a sentence is missing one of these parts it is called a fragment. Read the following fragments. Add words to each fragment to make a complete sentence. Use your Fact Files for ideas.

1. The salmon _____

2. rests on rocks in the sun. _____

3. lives in the Antarctic. _____

4. Ocean mammals _____

5. eat plankton. _____

6. Vertebrates _____

Name _____

Read each line. If the words make a complete sentence, write complete on the line. If the words do not make a complete sentence, add words to the fragment to make it a complete sentence.

1. Fish in the ocean. _____

2. Dolphins are small whales. _____

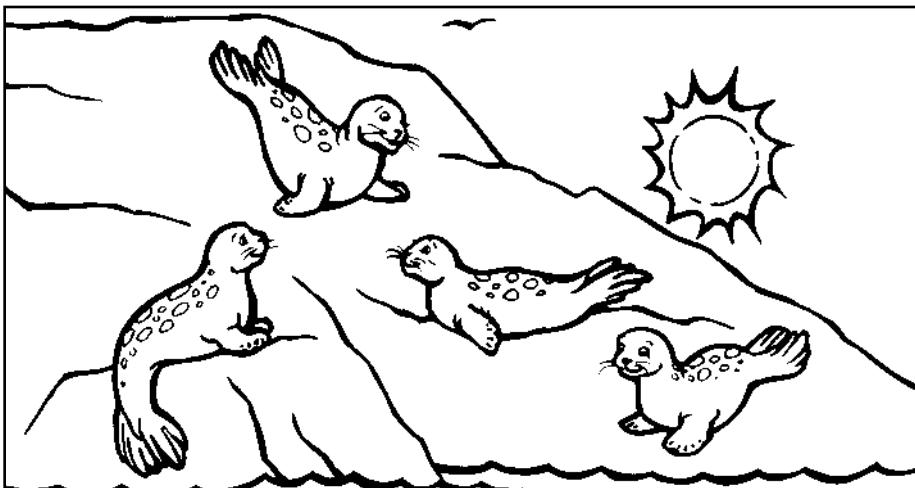
3. The manatee shallow water. _____

4. Like to eat fish. _____

Name _____

When you list three or more items in a sentence, you separate them with a comma. This is also true of three or more actions. Add commas to the following sentences.

1. The penguin polar bear and walrus live in cold regions.
2. The California sea lions are known to play swim and sunbathe.
3. The walrus California sea lion and northern elephant seal are all pinnepeds.
4. The male sea horse nurtures protects and carries the seahorse eggs.
5. The bottle-nosed dolphin swims jumps and plays in the ocean.
6. Killer whales blue whales and sperm whales are all mammals.



SKILL: COMMAS

Name _____

A possessive noun names who or what owns something.

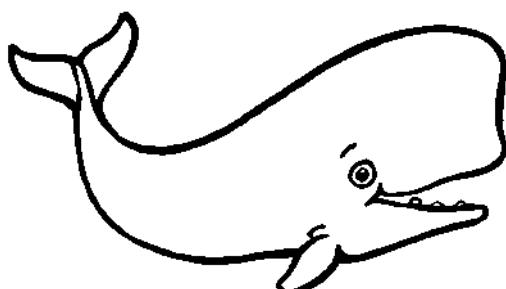
Add 's to make most singular nouns possessive.

Add ' to make most plural nouns possessive.

Add 's to plural nouns that don't end in s.

Make the underlined words possessive.

1. The polar bears homes. _____
2. The fish mouth. _____
3. The manatee food. _____
4. The whales enemy. _____
5. The sea lions babies. _____
6. The dolphin mate. _____
7. The penguin rocks. _____
8. The seahorse pouch. _____



Name _____

Imagine you are an ocean animal.

What ocean animal would you be?

I am a(n) _____

This is what I look like: _____

(Use a separate piece of paper to draw what you look like.)

This is a story about where I live. _____

Name _____

A haiku poem has three lines. Each line contains a set number of syllables.

Line 1: five syllables

Line 2: seven syllables

Line 3: five syllables

Example: In the ocean blue
 swimming fishes jump and play
 in their wonderland.

Write a haiku poem about the ocean.

Draw a picture to illustrate your poem, using a separate sheet.

Name _____

A cinquain poem has five lines. Each line contains a set number of syllables.

- Line 1: two syllables
- Line 2: four syllables
- Line 3: six syllables
- Line 4: eight syllables
- Line 5: two syllables

Example:

Dolphins
Bottle-noses
Diving in the ocean
Whistling, clicking to each other
Friendly

Write a cinquain poem about an ocean.

Draw a picture to illustrate your poem, using a separate sheet.

Name _____

An adjective is a word that describes a noun.

Adjectives can describe how a person, place, or thing looks, feels, sounds, tastes, or smells.

tall tree

salty chips

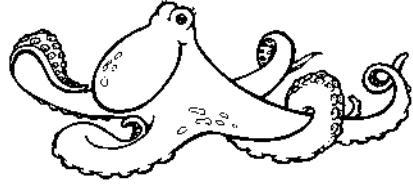
dry heat

Choose the best adjective from the list below to fill in the blanks. Use your Fact Files.

black	huge	hard	gentle	largest
-------	------	------	--------	---------

1. The _____ living fish is the whale shark.

2. The octopus released a cloud of
_____ ink and swam away.



3. The _____ manatee swam through
the water.

4. The _____ walrus weighs up to
3,696 pounds.

5. The clam is protected by its _____ shell.

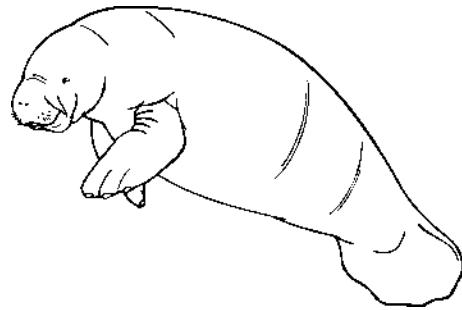
Name _____

Choose 3 adjectives from the list that describe a manatee. Use your Fact Files.

Choose 3 adjectives from the list that describe a dolphin. Use your Fact Files.

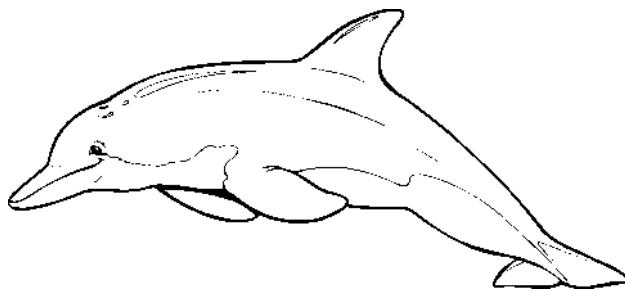
intelligent	gentle	quick
rare	slow	playful

Adjectives that describe a manatee:



Write a sentence about a manatee using one of the adjectives. _____

Adjectives that describe a dolphin:

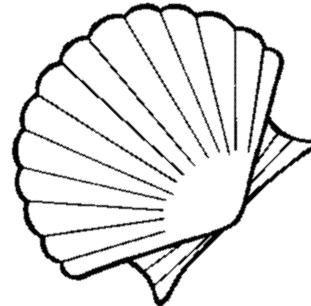


Write a sentence about a dolphin using one of the adjectives. _____

Name _____

Sentences that ask a question end with a question mark (?). Write a question mark after the sentences that ask a question. If the sentence does not ask a question, write a period (.).

1. Do you want to look for seashells _____



2. We saw dolphins playing in the water _____

3. Where did the octopus hide _____

4. How many oceans are there _____

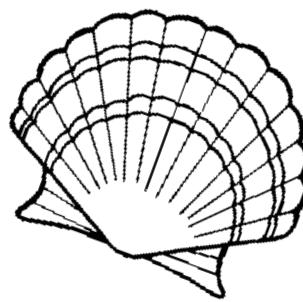
5. When dolphins communicate with each other
they make clicking sounds _____



6. When will we see the killer whale _____

7. Who wants to build a sand castle _____

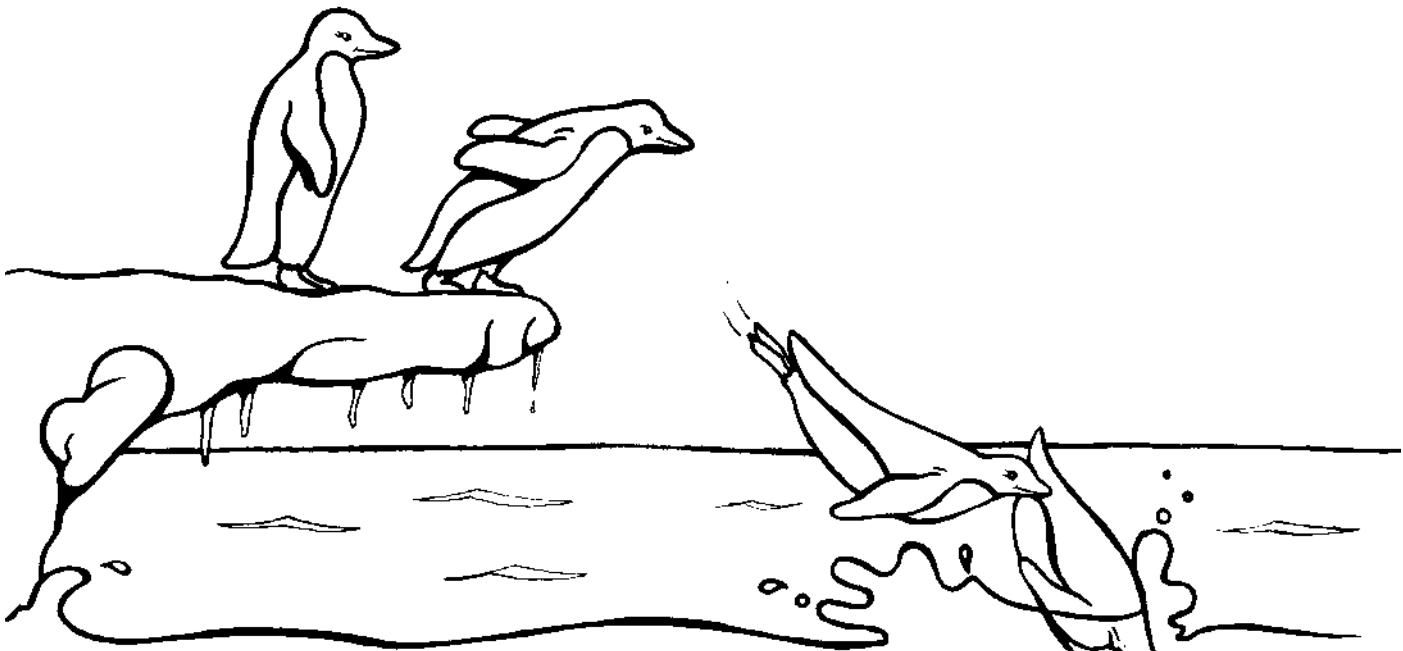
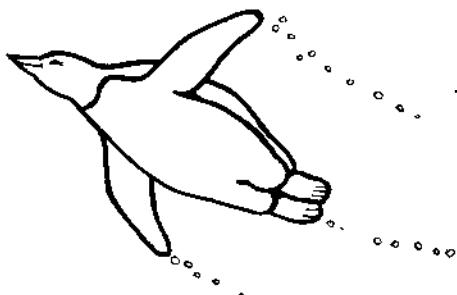
8. A whale shark is the biggest living fish _____



9. What do Atlantic salmon like to eat _____

Name _____

Find the answers to these addition problems.


$$\begin{array}{r} 5 \\ + 4 \\ \hline \end{array}$$
$$\begin{array}{r} 2 \\ + 4 \\ \hline \end{array}$$
$$\begin{array}{r} 4 \\ + 2 \\ \hline \end{array}$$
$$\begin{array}{r} 3 \\ + 4 \\ \hline \end{array}$$
$$\begin{array}{r} 7 \\ + 1 \\ \hline \end{array}$$
$$\begin{array}{r} 2 \\ + 6 \\ \hline \end{array}$$
$$\begin{array}{r} 3 \\ + 2 \\ \hline \end{array}$$
$$\begin{array}{r} + 4 \\ \hline \end{array}$$
$$\begin{array}{r} + 2 \\ \hline \end{array}$$


$$\begin{array}{r} 5 \\ 6 \\ 2 \\ + 3 \\ \hline \end{array}$$

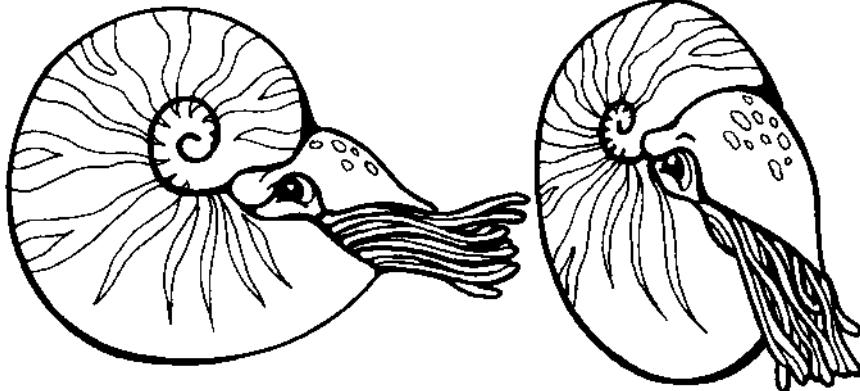
$$\begin{array}{r} 6 \\ 0 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ 0 \\ 3 \\ + 4 \\ \hline \end{array}$$

SKILL: ADDITION OF 3 OR MORE NUMBERS

Name _____

Subtract the problems.



$$\begin{array}{r} 846 \\ -231 \\ \hline \end{array}$$

$$\begin{array}{r} 780 \\ -419 \\ \hline \end{array}$$

$$\begin{array}{r} 530 \\ -371 \\ \hline \end{array}$$

$$\begin{array}{r} 673 \\ -443 \\ \hline \end{array}$$

$$\begin{array}{r} 734 \\ -185 \\ \hline \end{array}$$

$$\begin{array}{r} 417 \\ -330 \\ \hline \end{array}$$

$$\begin{array}{r} 379 \\ -207 \\ \hline \end{array}$$

$$\begin{array}{r} 237 \\ -27 \\ \hline \end{array}$$



Name _____

Find the answers to these multiplication problems.

$$\begin{array}{r} 2 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 1 \\ \hline \end{array}$$

$$\begin{array}{r} - \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} - \\ \times 9 \\ \hline \end{array}$$

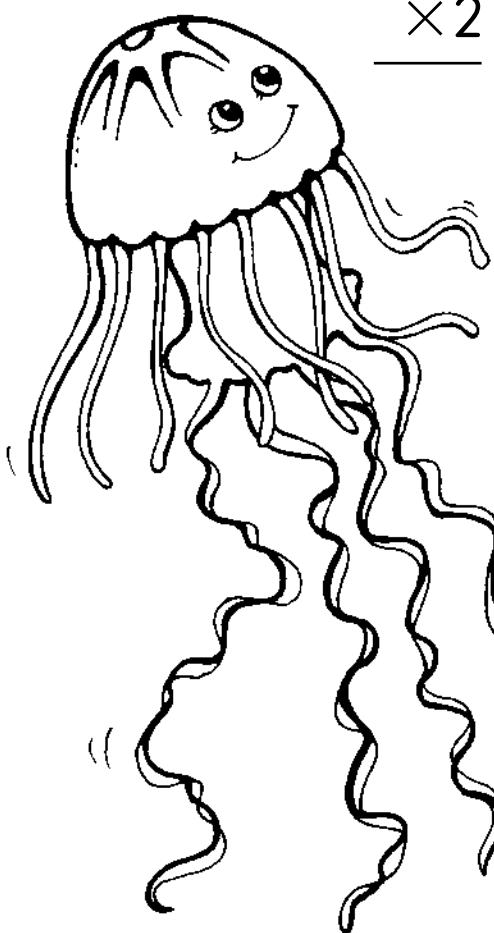


$$\begin{array}{r} 7 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array}$$

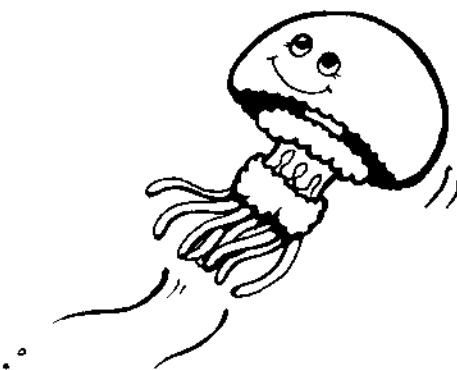
$$\begin{array}{r} 2 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$



$$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 3 \\ \hline \end{array}$$



Name _____

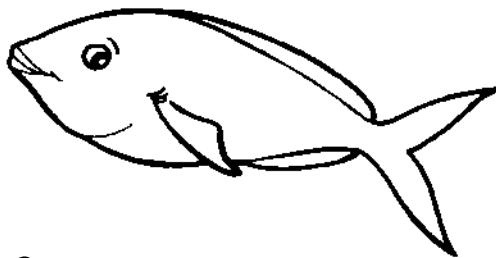
Fill in the multiplication table.

\times	0	1	2	3	4	5
0						
1						
2						10
3						
4						
5				15		

Name _____

Find the answers to these division problems.

$6 \div 2 = \underline{\quad}$



$4 \div 1 = \underline{\quad}$

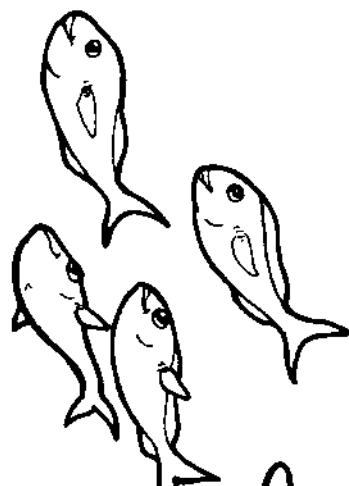
$21 \div 3 = \underline{\quad}$

$15 \div 5 = \underline{\quad}$

$9 \div 3 = \underline{\quad}$

$12 \div 4 = \underline{\quad}$

$14 \div 2 = \underline{\quad}$



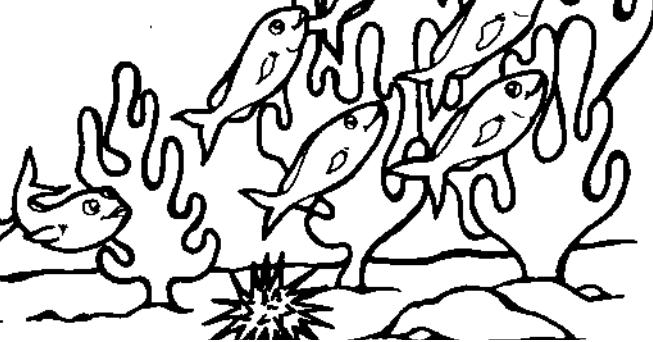
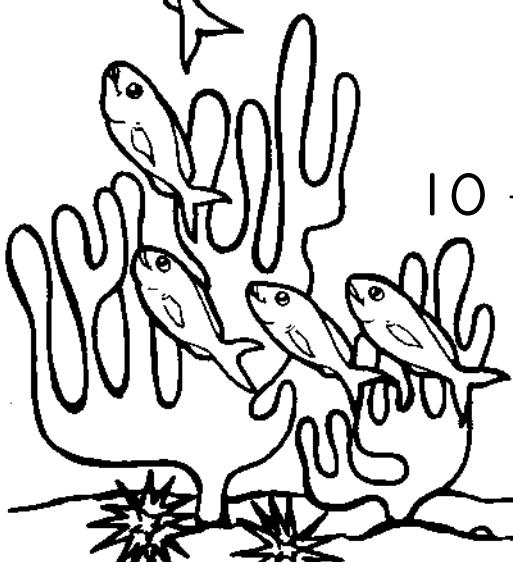
$8 \div 4 = \underline{\quad}$

$15 \div 3 = \underline{\quad}$



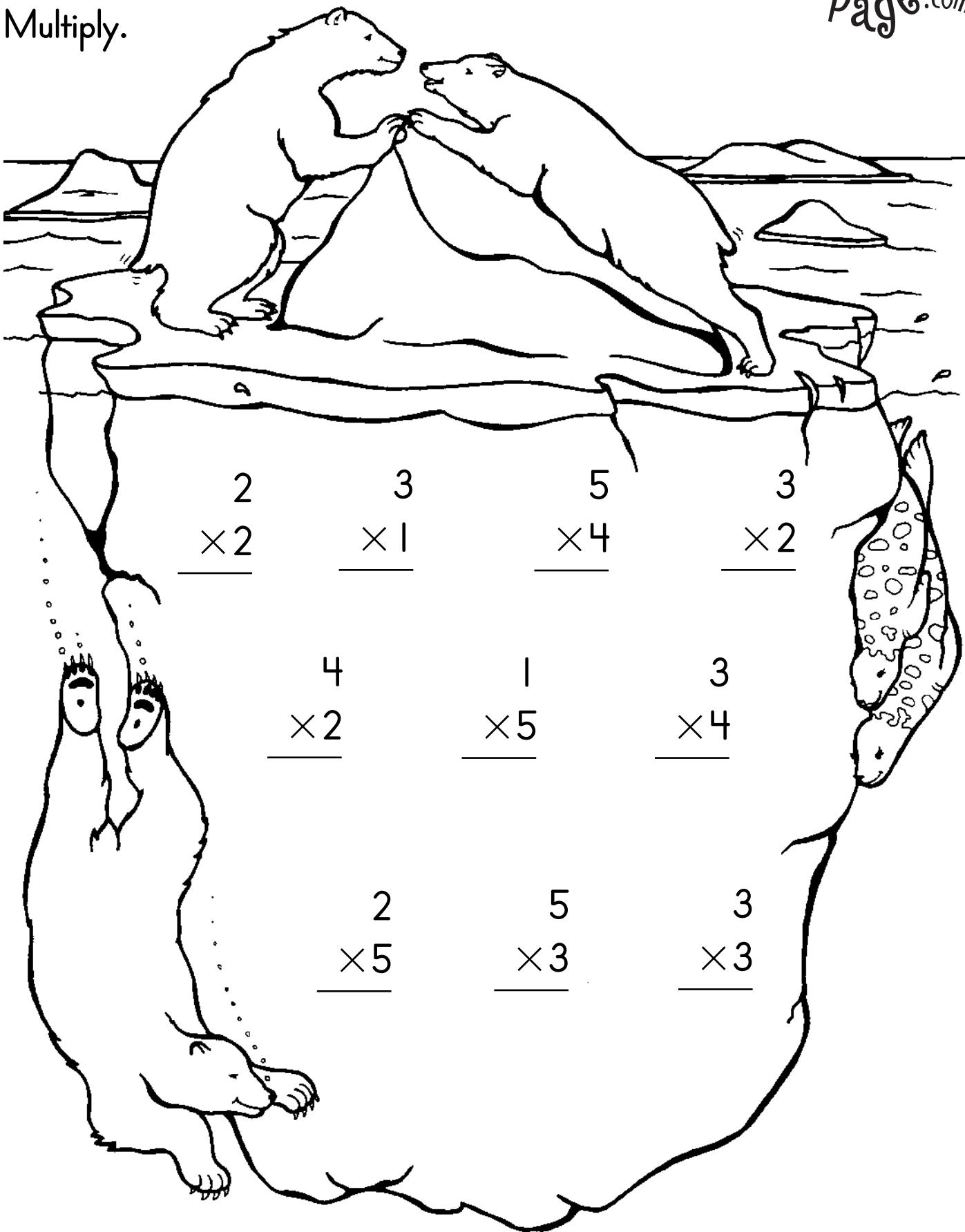
$8 \div 4 = \underline{\quad}$

$10 \div 2 = \underline{\quad}$



Name _____

Multiply.



Name _____

Find the answers to the division problems.

$10 \div 5 = \underline{\quad}$

$6 \div 3 = \underline{\quad}$

$8 \div 2 = \underline{\quad}$

$5 \div 1 = \underline{\quad}$

$16 \div 2 = \underline{\quad}$

$9 \div 3 = \underline{\quad}$

$10 \div 2 = \underline{\quad}$

$6 \div 2 = \underline{\quad}$

$12 \div 4 = \underline{\quad}$

$8 \div 4 = \underline{\quad}$



Name _____

Circle the number that is closest to the one in the box.

70 76 80

70 76 80

15 18 20

15 18 20

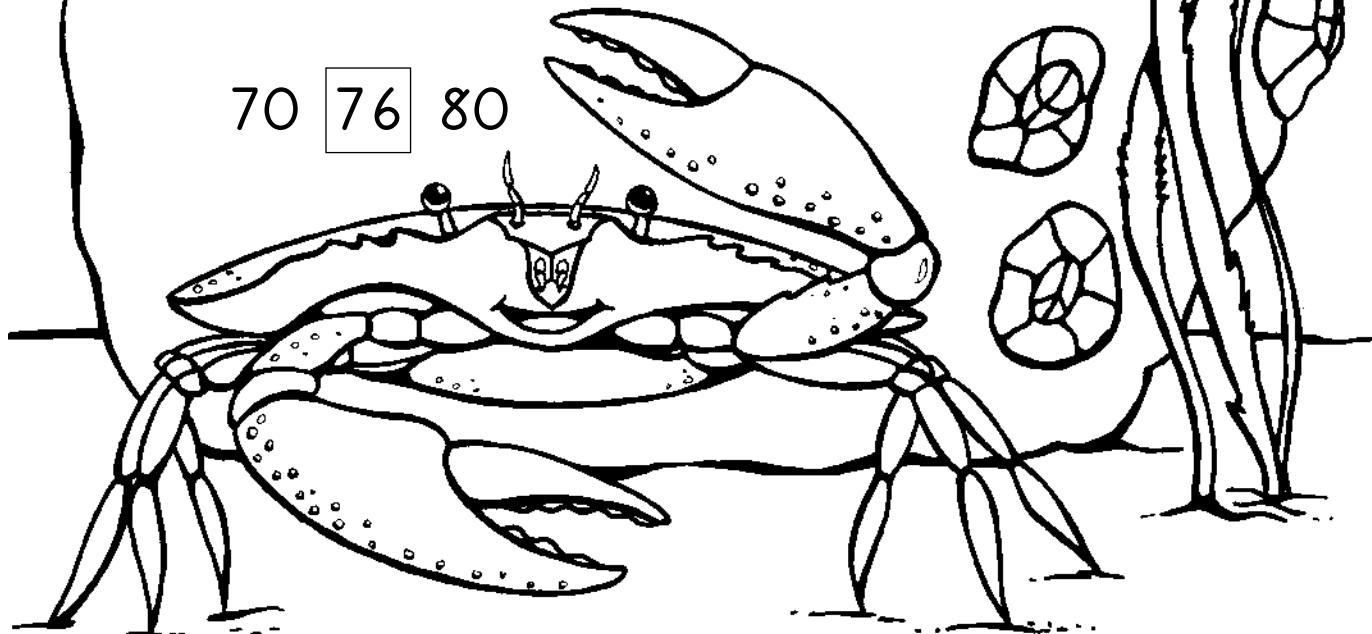
40 41 45

40 41 45

50 57 60

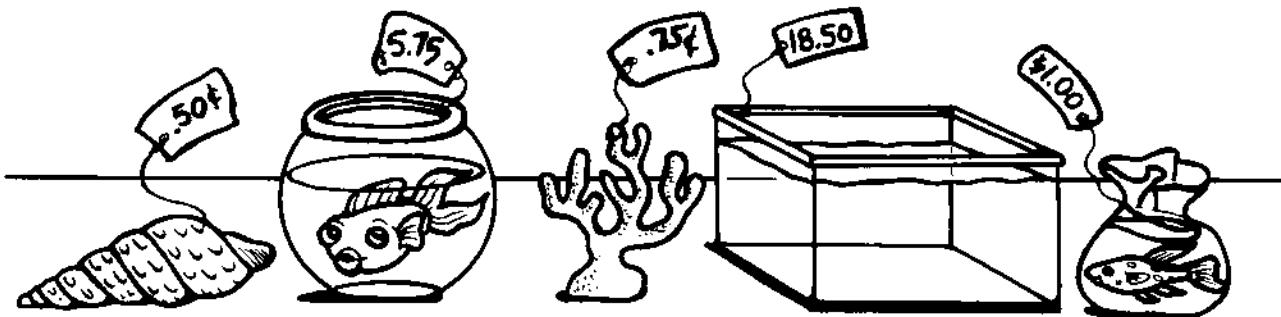
50 57 60

70 76 80

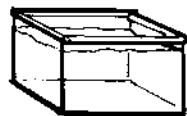


Name _____

Add.



$$\begin{array}{r} 100 \\ + .50 \\ \hline \end{array}$$



$$\begin{array}{r} \hline \\ + \hline \end{array}$$



$$\begin{array}{r} \hline \\ + \hline \end{array}$$



$$\begin{array}{r} \hline \\ + \hline \end{array}$$



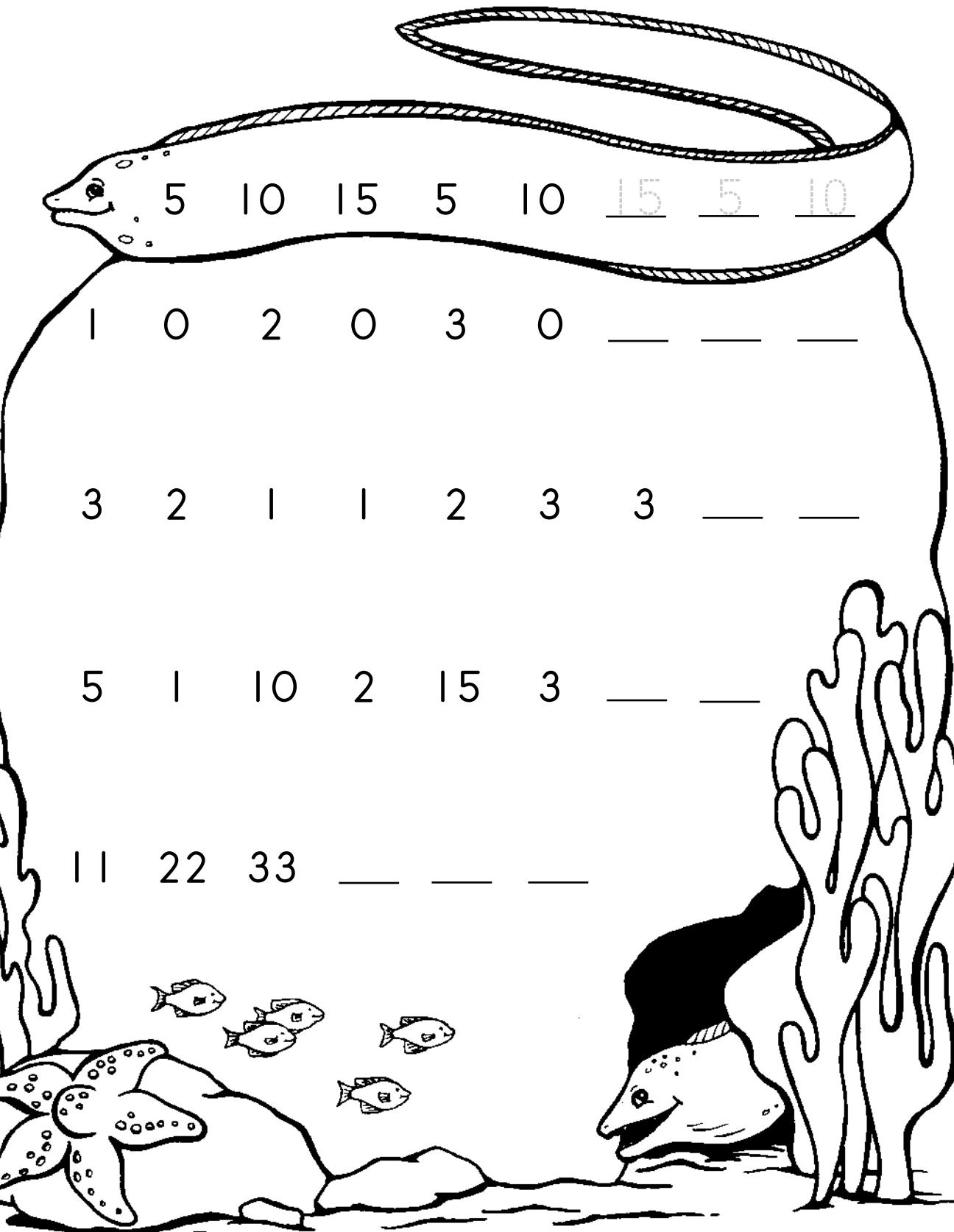
$$\begin{array}{r} \hline \\ + \hline \end{array}$$



$$\begin{array}{r} \hline \\ + \hline \end{array}$$

Name _____

Fill in the missing numbers to complete the pattern.



Name _____

Robert went on an ocean cruise. He saw six kinds of ocean animals. Fill in one box for each animal he saw. Look at the chart and answer the questions.

He saw:

2 octopuses	6 sea horses
3 sperm whales	3 swordfish
5 dolphins	1 whale shark

octopuses					
dolphins					
swordfish					
sperm whales					
sea horses					
whale shark					

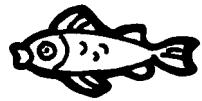


1. Which ocean animal did he see the most of? _____
2. Which ocean animal did he see the least of? _____
3. How many animals did he see in all? _____
4. How many more seahorses did he see than dolphins? _____
5. How many ocean animals did he see that start with S? _____

Bonus question: Was Robert's cruise in a warm ocean or a cold ocean? _____

Name _____

Rebecca and Stephanie went scuba diving. Rebecca dove down 20 feet. Stephanie dove down 10 feet deeper than Rebecca.



1. How many feet down was Stephanie? _____

2. Rebecca saw a school of 28 fish. When the fish saw her, 12 of them swam away. How many fish were left? _____

3. There were 10 fish by Stephanie. The 12 fish that swam away from Rebecca joined the fish by Stephanie. How many fish were now by Stephanie?

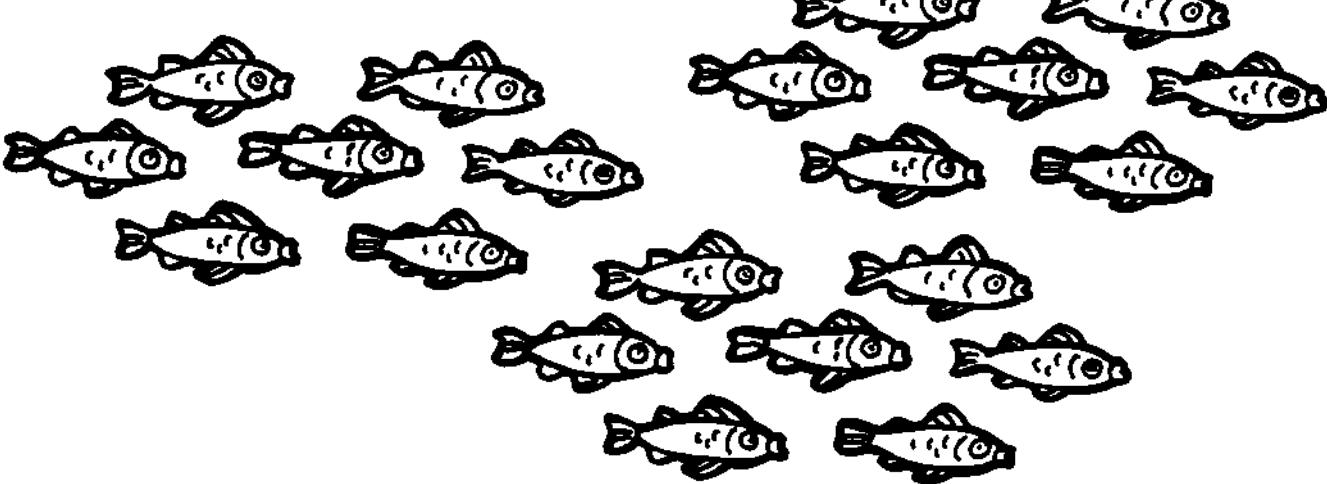


4. Now, how many more fish are by Stephanie than there are by Rebecca? _____

5. If the fish by both Rebecca and Stephanie joined together, how many fish would there be? _____



6. If half of all of the fish swam away, how many would be left? _____

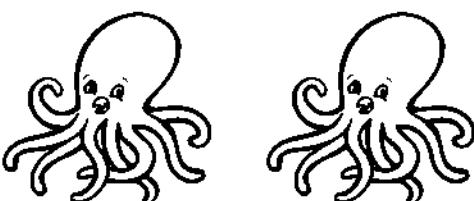


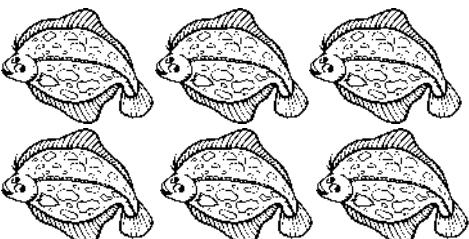
Name _____

Look at the ocean animals on this page.

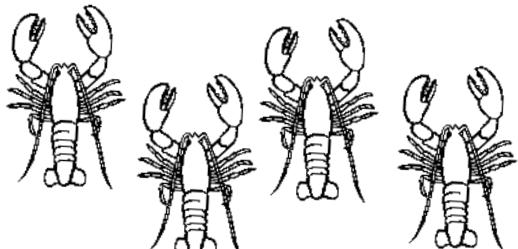
Use multiplication to find the totals.

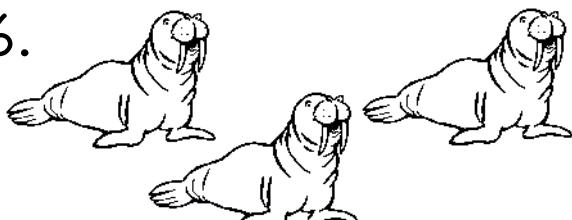
1.  _____ \times _____ = _____
sea stars arms total number of arms

2.  _____ \times _____ = _____
octopuses arms total number of arms

3.  _____ \times _____ = _____
fish eyes total number of eyes

4.  _____ \times _____ = _____
sea lions noses total number of noses

5.  _____ \times _____ = _____
lobsters legs total number of legs

6.  _____ \times _____ = _____
walruses flippers total number of flippers

7.  _____ \times _____ = _____
manatees flippers total number of flippers

Name _____

Add the numbers.

$$\begin{array}{r} 285 \\ +100 \\ \hline \end{array}$$

$$\begin{array}{r} 113 \\ +526 \\ \hline \end{array}$$

$$\begin{array}{r} 261 \\ +126 \\ \hline \end{array}$$

$$\begin{array}{r} 444 \\ +235 \\ \hline \end{array}$$

$$\begin{array}{r} 625 \\ +372 \\ \hline \end{array}$$

$$\begin{array}{r} 158 \\ +421 \\ \hline \end{array}$$

$$\begin{array}{r} 305 \\ +250 \\ \hline \end{array}$$

$$\begin{array}{r} 812 \\ +183 \\ \hline \end{array}$$

$$\begin{array}{r} 285 \\ +357 \\ \hline \end{array}$$

$$\begin{array}{r} 145 \\ +554 \\ \hline \end{array}$$

$$\begin{array}{r} 586 \\ +246 \\ \hline \end{array}$$

$$\begin{array}{r} 852 \\ +122 \\ \hline \end{array}$$

$$\begin{array}{r} 186 \\ +653 \\ \hline \end{array}$$

$$\begin{array}{r} 359 \\ +281 \\ \hline \end{array}$$

$$\begin{array}{r} 286 \\ +336 \\ \hline \end{array}$$

$$\begin{array}{r} 743 \\ +119 \\ \hline \end{array}$$

$$\begin{array}{r} 951 \\ +252 \\ \hline \end{array}$$

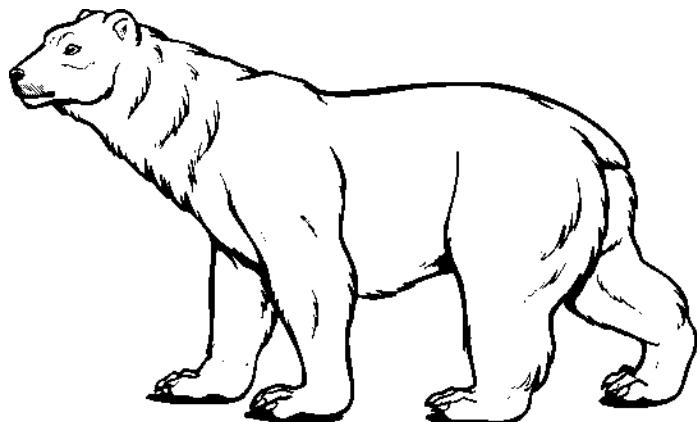
$$\begin{array}{r} 642 \\ +622 \\ \hline \end{array}$$

$$\begin{array}{r} 354 \\ +434 \\ \hline \end{array}$$

$$\begin{array}{r} 226 \\ +515 \\ \hline \end{array}$$

$$\begin{array}{r} 253 \\ +475 \\ \hline \end{array}$$

$$\begin{array}{r} 152 \\ +586 \\ \hline \end{array}$$



$$\begin{array}{r} 695 \\ +222 \\ \hline \end{array}$$

$$\begin{array}{r} 362 \\ +111 \\ \hline \end{array}$$

$$\begin{array}{r} 855 \\ +121 \\ \hline \end{array}$$

$$\begin{array}{r} 241 \\ +758 \\ \hline \end{array}$$

Name _____

Subtract the numbers.

$$\begin{array}{r} 526 \\ - 100 \\ \hline \end{array}$$

$$\begin{array}{r} 285 \\ - 131 \\ \hline \end{array}$$

$$\begin{array}{r} 261 \\ - 126 \\ \hline \end{array}$$

$$\begin{array}{r} 555 \\ - 235 \\ \hline \end{array}$$

$$\begin{array}{r} 685 \\ - 472 \\ \hline \end{array}$$

$$\begin{array}{r} 658 \\ - 421 \\ \hline \end{array}$$

$$\begin{array}{r} 205 \\ - 204 \\ \hline \end{array}$$

$$\begin{array}{r} 312 \\ - 303 \\ \hline \end{array}$$

$$\begin{array}{r} 357 \\ - 326 \\ \hline \end{array}$$

$$\begin{array}{r} 554 \\ - 246 \\ \hline \end{array}$$

$$\begin{array}{r} 500 \\ - 345 \\ \hline \end{array}$$

$$\begin{array}{r} 752 \\ - 142 \\ \hline \end{array}$$

$$\begin{array}{r} 653 \\ - 218 \\ \hline \end{array}$$

$$\begin{array}{r} 359 \\ - 119 \\ \hline \end{array}$$

$$\begin{array}{r} 268 \\ - 129 \\ \hline \end{array}$$

$$\begin{array}{r} 743 \\ - 222 \\ \hline \end{array}$$

$$\begin{array}{r} 951 \\ - 522 \\ \hline \end{array}$$

$$\begin{array}{r} 642 \\ - 195 \\ \hline \end{array}$$

$$\begin{array}{r} 354 \\ - 252 \\ \hline \end{array}$$

$$\begin{array}{r} 515 \\ - 350 \\ \hline \end{array}$$

$$\begin{array}{r} 253 \\ - 175 \\ \hline \end{array}$$

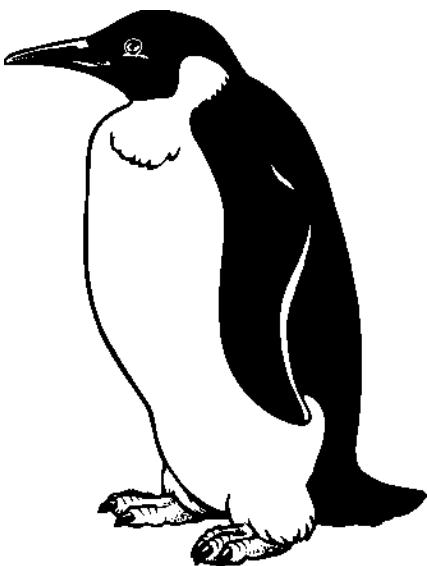
$$\begin{array}{r} 550 \\ - 326 \\ \hline \end{array}$$

$$\begin{array}{r} 600 \\ - 222 \\ \hline \end{array}$$

$$\begin{array}{r} 311 \\ - 150 \\ \hline \end{array}$$

$$\begin{array}{r} 855 \\ - 758 \\ \hline \end{array}$$

$$\begin{array}{r} 941 \\ - 241 \\ \hline \end{array}$$



Name _____

Divide the problems.

$$5) \overline{125}$$

$$2) \overline{144}$$

$$2) \overline{226}$$

$$7) \overline{595}$$

$$3) \overline{108}$$

$$6) \overline{270}$$

$$8) \overline{504}$$

$$3) \overline{255}$$

$$8) \overline{216}$$

$$6) \overline{444}$$

$$4) \overline{240}$$

$$6) \overline{168}$$

$$6) \overline{180}$$

$$6) \overline{234}$$

$$4) \overline{396}$$

$$9) \overline{198}$$

$$8) \overline{280}$$

$$11) \overline{770}$$

$$4) \overline{264}$$

$$3) \overline{183}$$

$$8) \overline{416}$$

$$5) \overline{250}$$

$$3) \overline{999}$$

$$5) \overline{375}$$

$$2) \overline{176}$$

$$7) \overline{315}$$

$$7) \overline{280}$$

$$9) \overline{225}$$

$$6) \overline{300}$$

$$7) \overline{504}$$

Name _____

Divide the problems.

$$5) \overline{25}$$

$$2) \overline{44}$$

$$2) \overline{26}$$

$$7) \overline{49}$$

$$3) \overline{12}$$

$$6) \overline{36}$$

$$4) \overline{48}$$

$$3) \overline{15}$$

$$8) \overline{56}$$

$$6) \overline{24}$$

$$4) \overline{40}$$

$$6) \overline{54}$$

$$6) \overline{18}$$

$$6) \overline{42}$$

$$4) \overline{28}$$

$$9) \overline{81}$$

$$8) \overline{32}$$

$$11) \overline{77}$$

$$4) \overline{36}$$

$$3) \overline{18}$$

$$8) \overline{72}$$

$$5) \overline{45}$$

$$3) \overline{99}$$

$$5) \overline{25}$$

$$2) \overline{18}$$

$$7) \overline{63}$$

$$7) \overline{21}$$

$$9) \overline{63}$$

$$6) \overline{30}$$

$$7) \overline{42}$$

Name _____

Subtract the problems.

$$\begin{array}{r} 452 \\ - 222 \\ \hline \end{array}$$

$$\begin{array}{r} 999 \\ - 111 \\ \hline \end{array}$$

$$\begin{array}{r} 752 \\ - 468 \\ \hline \end{array}$$

$$\begin{array}{r} 653 \\ - 425 \\ \hline \end{array}$$

$$\begin{array}{r} 887 \\ - 526 \\ \hline \end{array}$$

$$\begin{array}{r} 352 \\ - 68 \\ \hline \end{array}$$

$$\begin{array}{r} 328 \\ - 319 \\ \hline \end{array}$$

$$\begin{array}{r} 443 \\ - 233 \\ \hline \end{array}$$

$$\begin{array}{r} 884 \\ - 629 \\ \hline \end{array}$$

$$\begin{array}{r} 369 \\ - 225 \\ \hline \end{array}$$

$$\begin{array}{r} 963 \\ - 852 \\ \hline \end{array}$$

$$\begin{array}{r} 389 \\ - 278 \\ \hline \end{array}$$

$$\begin{array}{r} 843 \\ - 122 \\ \hline \end{array}$$

$$\begin{array}{r} 985 \\ - 655 \\ \hline \end{array}$$

$$\begin{array}{r} 739 \\ - 458 \\ \hline \end{array}$$

$$\begin{array}{r} 493 \\ - 182 \\ \hline \end{array}$$

$$\begin{array}{r} 552 \\ - 294 \\ \hline \end{array}$$

$$\begin{array}{r} 375 \\ - 125 \\ \hline \end{array}$$

$$\begin{array}{r} 754 \\ - 232 \\ \hline \end{array}$$

$$\begin{array}{r} 943 \\ - 345 \\ \hline \end{array}$$

$$\begin{array}{r} 154 \\ - 79 \\ \hline \end{array}$$

$$\begin{array}{r} 827 \\ - 331 \\ \hline \end{array}$$

$$\begin{array}{r} 951 \\ - 357 \\ \hline \end{array}$$

$$\begin{array}{r} 364 \\ - 282 \\ \hline \end{array}$$

$$\begin{array}{r} 498 \\ - 315 \\ \hline \end{array}$$

$$\begin{array}{r} 564 \\ - 36 \\ \hline \end{array}$$

$$\begin{array}{r} 157 \\ - 58 \\ \hline \end{array}$$

$$\begin{array}{r} 582 \\ - 258 \\ \hline \end{array}$$

$$\begin{array}{r} 551 \\ - 356 \\ \hline \end{array}$$

$$\begin{array}{r} 476 \\ - 238 \\ \hline \end{array}$$

Name _____

Multiply the problems.

$$\begin{array}{r} 1 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 2 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 1 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 11 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 4 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 3 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 4 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 6 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ \times 5 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ \times 9 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 7 \\ \times 6 \\ \hline \end{array}$$

$$\begin{array}{r} 2 \\ \times 7 \\ \hline \end{array}$$

$$\begin{array}{r} 5 \\ \times 6 \\ \hline \end{array}$$

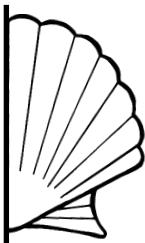
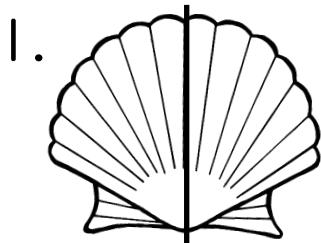
$$\begin{array}{r} 3 \\ \times 8 \\ \hline \end{array}$$

$$\begin{array}{r} 3 \\ \times 3 \\ \hline \end{array}$$

Name _____

Color the pieces for each fraction. Solve the problem.

Write your answer in the lowest term.



Lowest term

$$1. \quad \frac{2}{2} - \frac{1}{2} = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}}$$

$$2. \quad \begin{array}{c} \text{circle} \\ \text{---} \\ \frac{3}{4} \end{array} - \begin{array}{c} \text{circle} \\ \text{---} \\ \frac{1}{4} \end{array} = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}}$$

$$3. \quad \begin{array}{c} \text{circle} \\ \text{---} \\ \frac{5}{6} \end{array} - \begin{array}{c} \text{circle} \\ \text{---} \\ \frac{2}{6} \end{array} = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}}$$

$$4. \quad \begin{array}{c} \text{circle} \\ \text{---} \\ \frac{7}{8} \end{array} - \begin{array}{c} \text{circle} \\ \text{---} \\ \frac{5}{8} \end{array} = \underline{\hspace{2cm}} \quad \underline{\hspace{2cm}}$$

Name _____

There are five oceans and many seas on our planet.

List the five oceans. Write the sea life names from the word box under the oceans they live in. Some sea life live in more than one ocean.

1. _____

4. _____

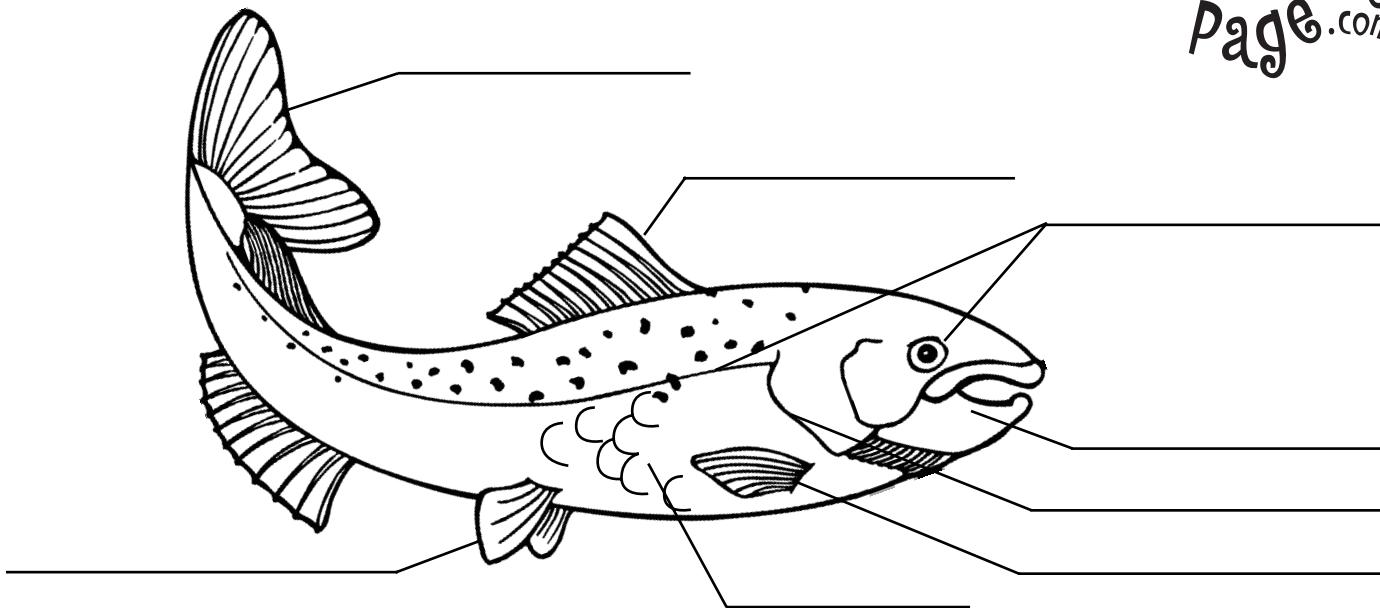
2. _____

5. _____

3. _____

Manta ray
Polar bear
Great white shark
Walrus
Northern elephant seal
Emperor penguin
Octopus

Name _____



Read the sentences below and write each underlined term on the corresponding line above.

1. Most fish have scales covering their skin. The scales are covered with a layer of mucus, which helps protect against infection.
2. Dorsal fin: used for sudden direction changes and to add stability
Pectoral fin: used for steering, stopping, and balancing
Pelvic fin: adds stability
Tail fin: used for moving through the water
3. Fish can feel vibrations with their motion detectors, which help them find other animals. The motion detectors are openings around each eye and along the sides of their bodies.
4. Fish get oxygen through their gills. Water goes in through their mouth, over the gills, and out through the gill slit.
5. Most fish have jaws with teeth for grabbing and biting.

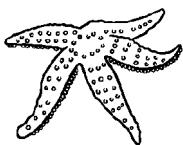
Bonus question: What is the study of fish called?

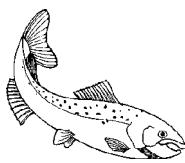
Name _____

Ocean animals belong to different groups. Read about the following groups.

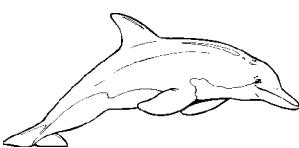
1. Mammals—warm blooded, breathe air, vertebrates; babies grow inside the mother's body
2. Fish—most are cold-blooded, have gills for breathing; are vertebrates; live underwater
3. Invertebrates—animals that do not have backbones

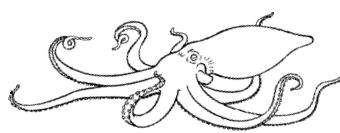
Decide which group each of the following animals belongs to. In the box next to each picture, write the number 1, 2, or 3 that corresponds to the above groups. Write the ocean animal name on the line next to the box.

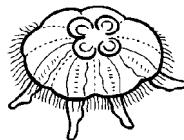


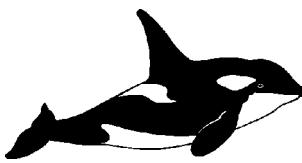




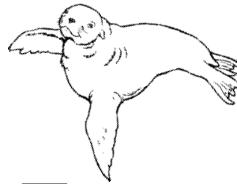












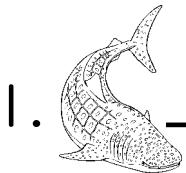
Name _____

One of these animals does not belong in the group.

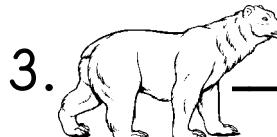
Write the name of each ocean animal in the blank next

to its picture. Then circle the animal that does not belong.

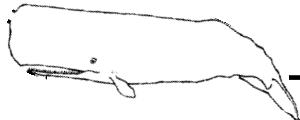
Use your Fact Files to help you.



1. _____

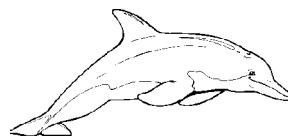


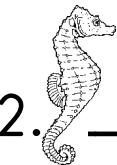
3. _____



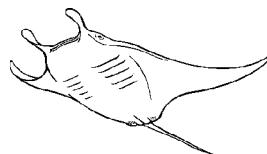








2. _____







octopus	killer whale	dolphin	penguin	polar bear
sea horse	whale shark	sperm whale		
hammerhead shark		manta ray		

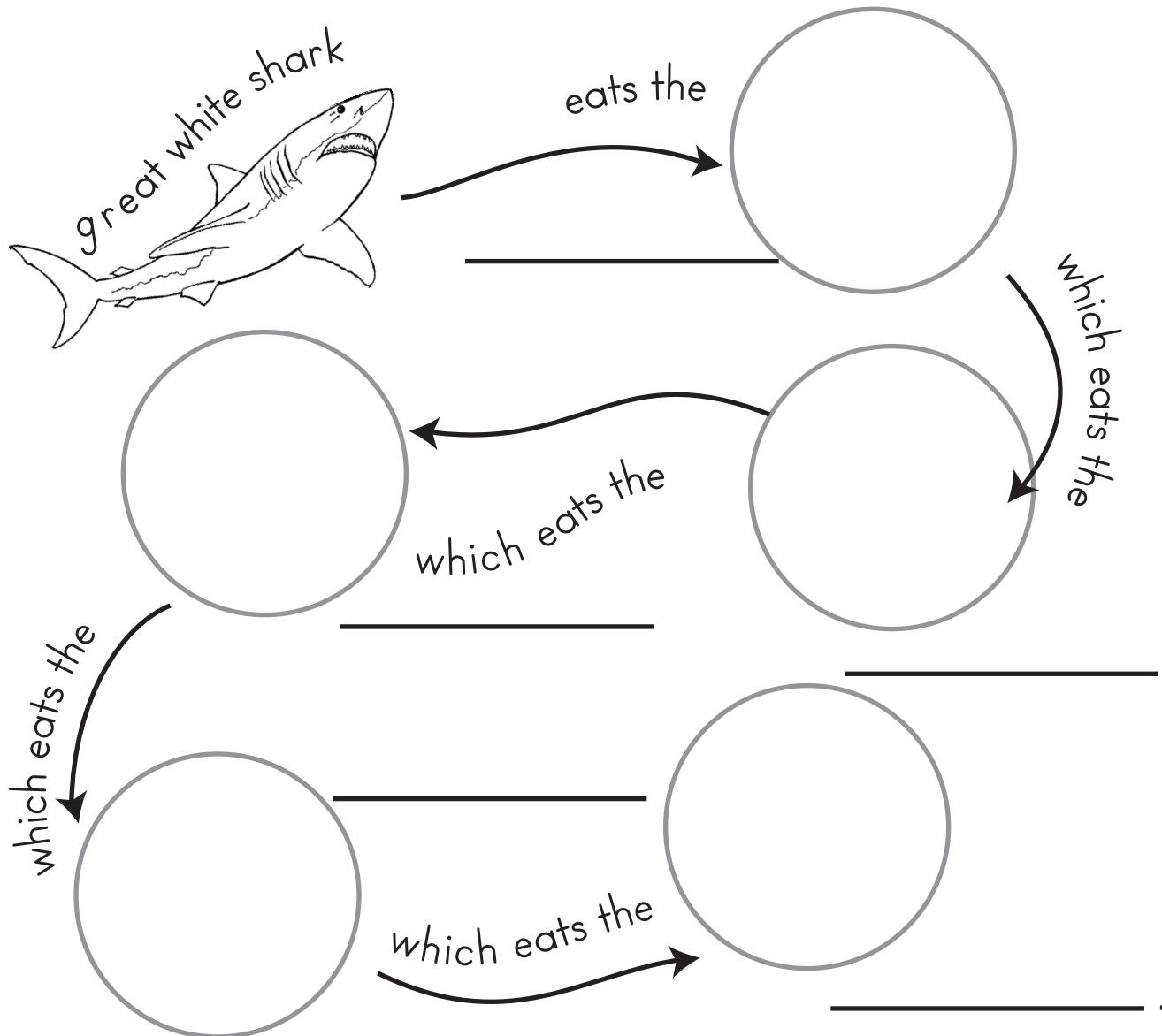
Name _____

Plankton are the microscopic plants and animals that float in the ocean. Animal plankton eat plant-like plankton. Some fish eat plankton. Other fish eat fish. A bigger fish will eat a smaller fish and then get eaten by an even bigger fish. This pattern of eating is called a food chain. Show the following in a food chain, starting with the great white shark. Draw a picture of each link.

plant-like plankton
squid

sea horse
northern elephant seal

great white shark
animal plankton



Name _____

Zones of the Ocean Floor



Name _____

At the edge of the continents, the ocean floor slopes down to the deep part of the ocean. This is called the continental margin.

The ocean floor is divided into three parts: the continental shelf, the continental slope, and the continental margin. Read the definitions and label the parts of the continental margin and the abyssal plain on Funsheet 6.

Continental Shelf: This is the part of the ocean floor that slants slowly from the land out to the ocean. It is the shallower part of the ocean.

Continental Slope: This is the part of the ocean floor that extends from the end of the continental shelf to the beginning of the continental rise. It is like a cliff, steeper and deeper than the shelf.

Continental Rise: This is the part of the ocean floor that extends from the edge of the slope to the abyssal plain. It is made of sand and mud sediment.

Abyssal Plain: The deepest and flattest part of the ocean. The only parts deeper are the deep sea trenches. They are covered by thick sediment.

Name _____

Different areas, or zones, of the ocean support different kinds of sea life, depending on how much sunlight they receive. Read the definitions and label the different zones on Funsheet 6. Then draw one ocean creature in each zone.

Sublittoral Zone: This zone receives the most sunlight and is warmer than the others. It is about 650 feet deep, and is the same depth as the continental shelf. Most of the ocean life lives in this zone. Examples of life in this zone are man-of-wars, leatherback turtles, and salmon.

Bathyal Zone: This zone receives very little sunlight. It reaches from about 650 feet to 6,500 feet, and is the same depth as the continental slope. It is darker and colder than the sublittoral zone. There is not enough sunlight in this zone to support plant life. Examples of life in this zone are sperm whales and octopuses.

Abyssal Zone: This zone receives no sunlight. It is dark, still, and very cold. It reaches from about 6,500 feet to the deepest part of the ocean. It is the same depth as the continental rise and the deep sea floor, or the abyssal plain. Ocean life in this zone is small, nearly blind creatures, such as eels and lanternfish. Many creatures reside on the abyssal floor, including starfish and sea cucumbers.

Name _____



Features of the Ocean Floor

SKILL: OCEAN GEOGRAPHY PART 1 OF 2

GRADE THREE • OCEANS • SCIENCE • 009

The ocean floor has many features, such as volcanic islands, sea mounts, guyouts, hydrothermal vents, and deep sea trenches. Read the definitions and label the features on Funsheet 9.

Volcanic Islands: Where hot, molten rock comes up, or erupts, through holes in the earth's surface. These islands grow higher after each eruption. When the volcanoes grow tall enough to break through the surface of the ocean, they form islands.

Seamounts: These are submerged mountains. They do not extend above the surface of the ocean. They are formed in the same way as volcanic islands are formed.

Sea Peaks: Seamounts that are pointed on top.

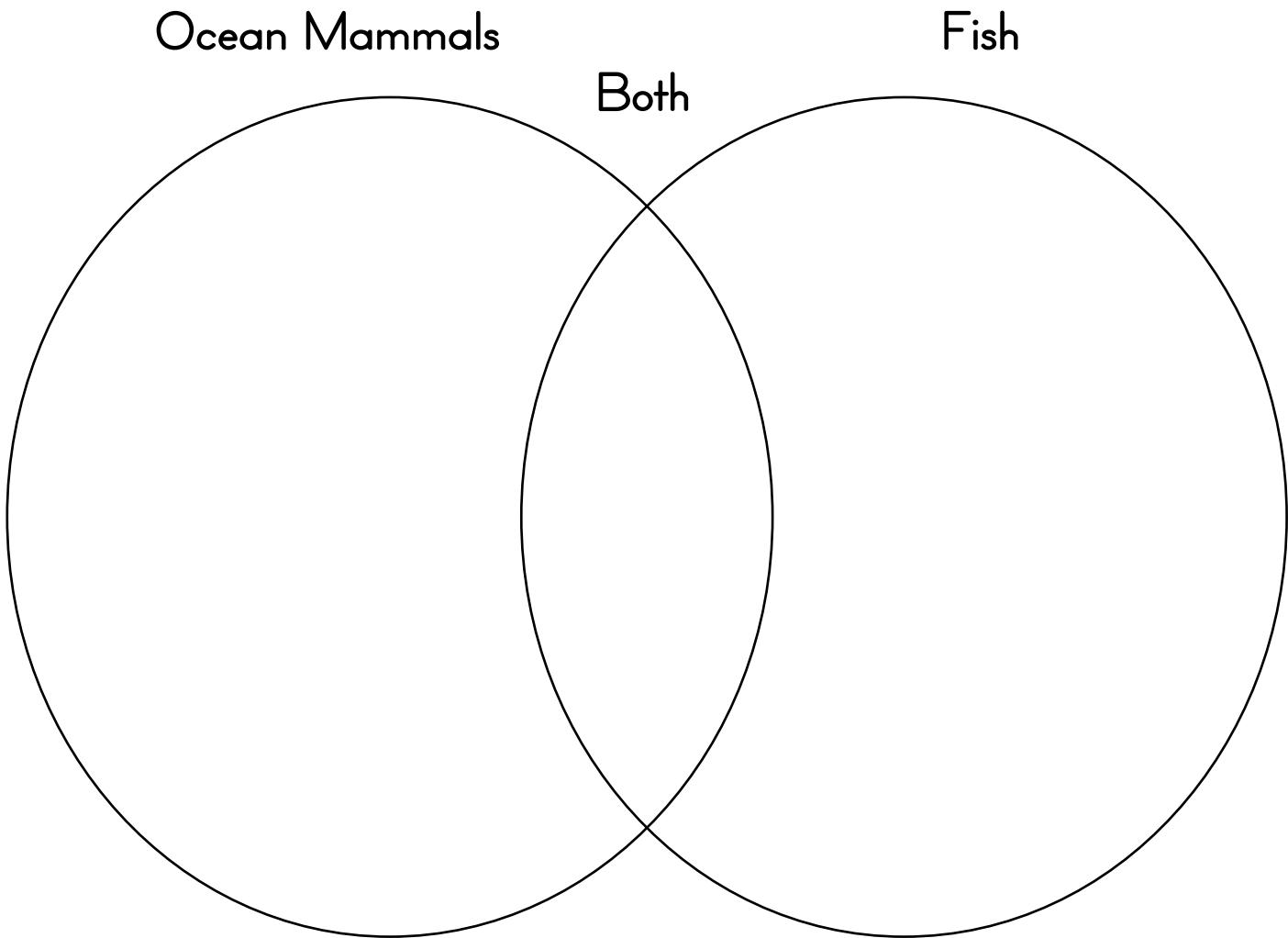
Guyouts: Seamounts that are flat on top. They are volcanoes that used to be islands but sank when the sea floor under them collapsed.

Hydrothermal vents: Cracks in the ocean floor where very hot water gushes out. Chimneys form around the cracks from the minerals deposited around them.

Deep Sea Trenches: These are the deepest part of the ocean. They occur where the two plates meet, and one plate melts back into the earth.

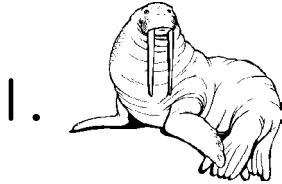
Name _____

Using your Oceans Fact Files and your Oceans Funsheet 3, make a numbered list of eight facts about ocean animals, including both mammals and fish. Use a separate piece of paper. Write the number for each fact in the correct section of the Venn diagram below.

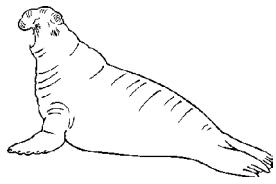


Name _____

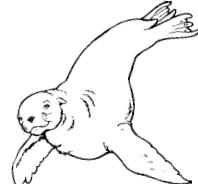
Write one or more characteristics that each set of sea animals has in common. Use your Fact Files to help you.



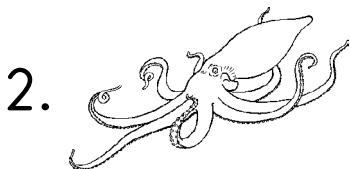
Walrus



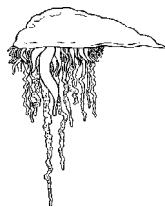
Elephant Seal



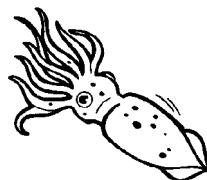
Sea Lion



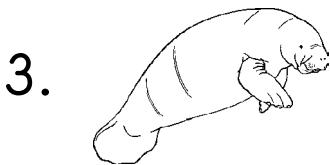
Octopus



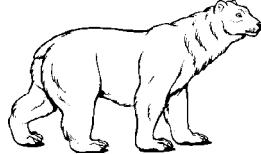
Man-of-War



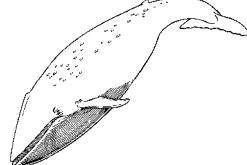
Squid



Manatee



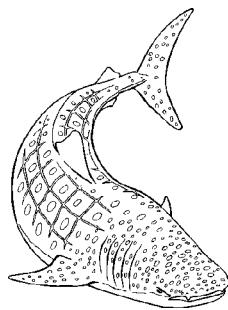
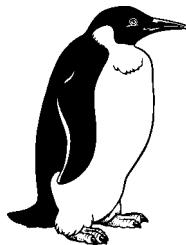
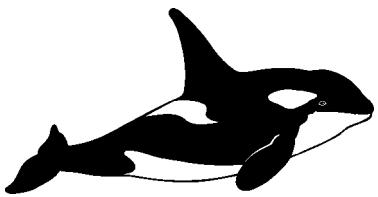
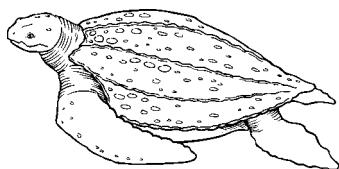
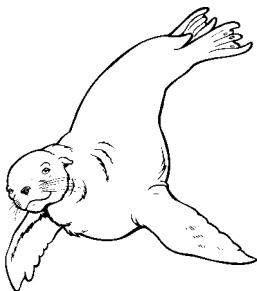
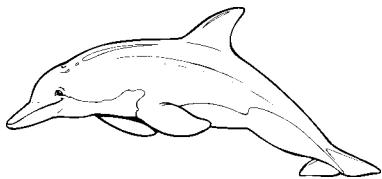
Polar Bear



Blue Whale

Name _____

Using your Fact Files, put the ocean animals in size order from biggest to smallest. Write each animal's name on the list, and put the correct number on the line below the animal.



1. _____

4. _____

2. _____

5. _____

3. _____

6. _____

Name _____

Read about the differences between sea lions and true seals. Then answer the questions below.

Sea lions have small flaps of skin that cover their internal ears. True seals do not have ear flaps.

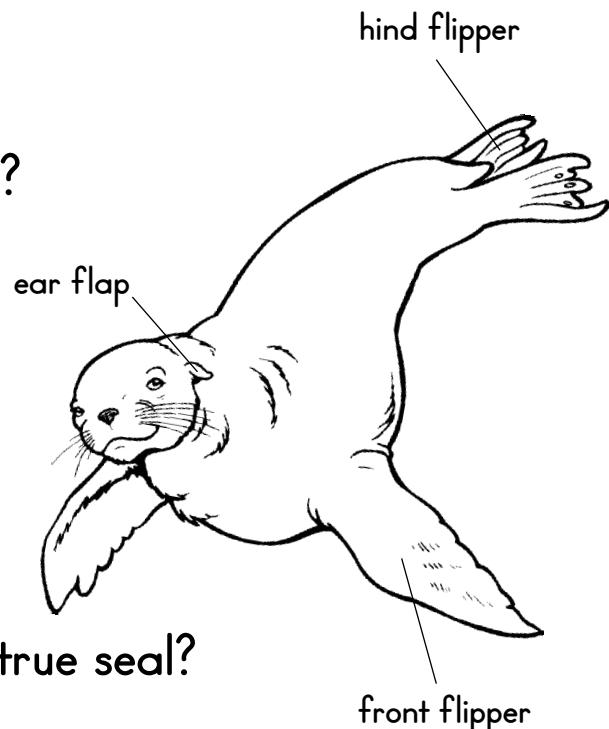
Sea lions swim using their front flippers. Their rear flippers help steer them through the water. True seals swim using their hind flippers. They use their front flippers to steer. On land, a sea lion uses its front and hind flippers to move. A true seal uses its front flippers or just the muscles in its body to move across land.

1. Which animals uses its front flippers to steer?

2. Which animal has small ear flaps?

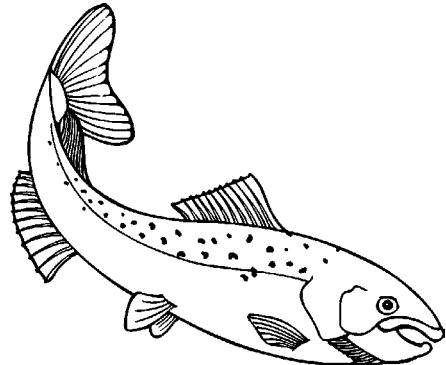
3. Which animal uses all four of its flippers to travel with on land?

4. Is this a picture of a sea lion or a true seal?



Name _____

Look at the pictures. From the list below, write the things that people and fish have in common. Then write the things that they don't have in common.



eyes	fins	mouth	legs
tail	body	scales	head

Things that people and fish have in common:

1. _____

2. _____

3. _____

4. _____

Things that people and fish don't have in common:

1. _____

2. _____

3. _____

4. _____

Write one more thing that is different between people and fish. _____

Name _____

Draw a line from the hammerhead shark to the statements that are true. Use your Fact Files.

Hammerhead sharks
are mammals.

Hammerhead sharks
eat fish.

Hammerhead sharks
have 10 to 30 young
at a time.

Hammerhead sharks
can be 225 feet long.

Hammerhead sharks
live in cold northern waters.

Hammerhead sharks
are carnivores.

Hammerhead sharks
are herbivores.

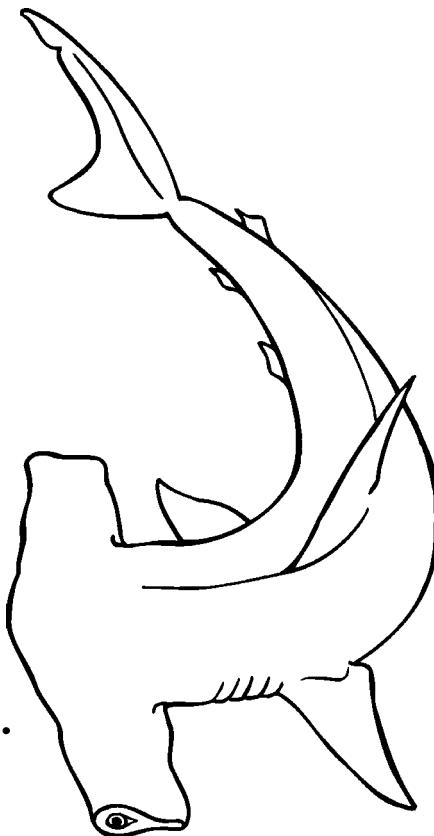
Hammerhead sharks
live in tropical waters.

Hammerhead sharks
live 20 to 30 years.

Hammerhead sharks
can be 14 feet long.

Hammerhead sharks
eat mostly turtles.

Hammerhead sharks
live 15 to 20 years.



Name _____

Use the paragraph below and your Fact Files
to answer the questions.

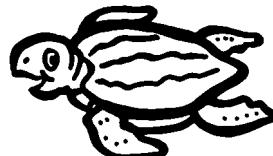
The female leatherback turtle might swim thousands of miles to lay her eggs on the beach where she herself was hatched. She digs a hole in the sand in which to lay her soft-shelled eggs. When the young hatch, they head for the ocean. Many are eaten by seabirds and other predators before they reach the ocean. The surviving young swim until they reach the deep ocean waters.

1. How many eggs does a female leatherback turtle lay?

2. What type of egg shells do leatherback turtle eggs have?

3. Why won't all of the baby leatherback turtles make it safely to the ocean? _____

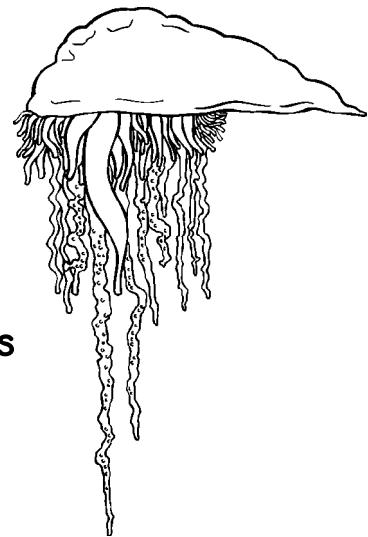
4. How long might a leatherback turtle live?



5. Why does the female leatherback turtle dig a hole in the sand? _____

The Portuguese man-of-war is moved by the wind and ocean currents. A gas float sits on top of the water, and long tentacles drift below the water. The tentacles have stinging cells on them. When a small fish touches the tentacles, the cells release venom that stuns or kills the fish. Then the long tentacles pull the prey up to where the Portuguese man-of-war can start to digest it.

Answer the questions by filling in the correct bubble. T = True, F = False



T F

The Portuguese man-of-war uses its teeth to catch prey.

Long tentacles on the Portuguese man-of-war have stinging cells on them.

The Portuguese man-of-war eats small fish.

The Portuguese man-of-war uses long flippers to swim.

The Portuguese man-of-war goes where the wind and ocean currents take it.

The gas float on the Portuguese man-of-war sits on top of the water.

Name _____

The manatee is an endangered animal. This means that it is in danger of becoming extinct. When an animal is extinct, it means that all of that type of animal have died. Some other endangered animals endangered are the blue whale, the tiger, and the giant panda.

Draw the tail and front flippers on this manatee.



What does it mean when an animal is endangered?

Name _____

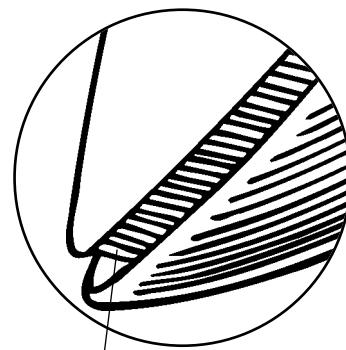
All whales belong to the order *Cetacea*.

There are two different types of whales. One type is the baleen whale, and the other is the toothed whale.

Baleen whales eat mostly plankton. They use the baleen in their mouths to filter the plankton out of the water. Toothed whales have teeth and eat mostly fish and squid. They have to swim and catch their prey.

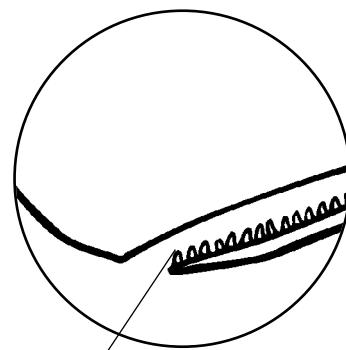
Write which whales in the Fact Files use baleen to catch food and which use teeth.

Use baleen: _____



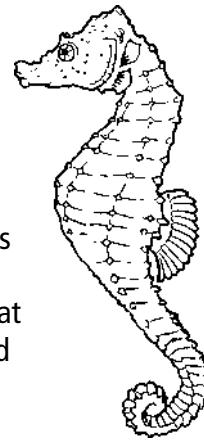
baleen

Use teeth: _____



teeth

Setting Up an OCEANS Learning Center



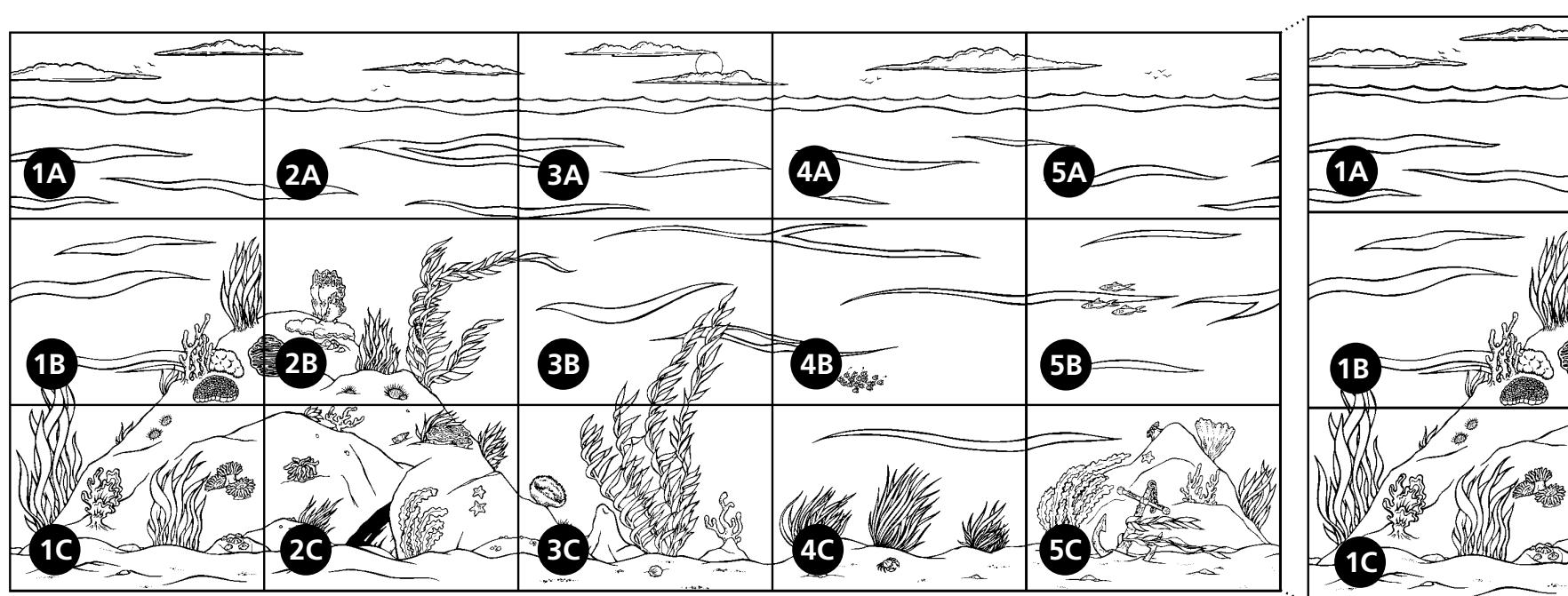
The Oceans Learning Center is an inviting and stimulating special interest annex that enriches the classroom work in the Unit. Make it a visually interesting display to invite and entice! It should be available to students at all times as they work on lessons or independent projects that you assign or that they initiate. Add your own ideas to the following list of suggestions and add to it as the Unit progresses. Keep a record for yourself of its contents to use in upcoming years.

- **Begin** gathering your ideas for a special interest center in your classroom a few weeks before beginning the Unit on Oceans.
- **Set** up a table large enough for displays and a work area for a few students, a bulletin board, and shelves for books, games, and materials. Have storage boxes with lids for files, magazines, etc. (these could be permanent storage places for you). Place round bins under the table for toys, counters, and manipulatives.
- **Make** a big sign announcing the topic with a catchy name. Liven up the area with banners: "Book Making," "Supplies," "Art Materials," "Books." Use props such as sunglasses, child's flippers and mask, fish netting, sun hat, etc. Hang travel posters picturing beach destinations.
- **Contact** your school and local city librarians to let them know that you will be beginning an Oceans Unit soon; ask them to begin gathering both non-fiction and picture books and reserving them for you. Continue collecting outdated natural history magazines to use for ideas, color pictures for bulletin boards, and collages.
- **Arrange** the books on a shelf separated into fiction and nonfiction titles and in alphabetical order by author. Ask students to replace the books correctly to make it easier for others to find them. To encourage good library habits, leave a box of cards or a sign-out sheet near the books so students can check them out of the classroom.
- **Provide** games; look for games and simple jigsaw puzzles, plastic toys, and models, and counters or manipulatives in the shape of fish and shells.
- **Tools of the Trade:** An aquarium and/or terrarium. Magnifying glass, compass, telescope; a very large jar filled with lots of shells in all varieties; a metal pail filled with field guides to fish, shells, and seashore life, the Marine Biology Coloring Book; a tackle box filled with (harmless, no sharp edges) fishing gear; ocean-related props hung from fish netting stapled to the bulletin board. There could be a sign: "Catch of the Day"; each day add a fish-shaped card with a student's name on it, chosen for good behavior or class participation.
- **Hang** interesting lightweight objects, from the ceiling if possible, such as stuffed fish, or a mobile made from Oceans Cutouts from a previous year, or made as samples.
- **Have** boxes for art supplies, horizontal stacking file bins for papers and materials to make books, and a place for instruction sheets and independent assignment suggestions. Use large coffee cans (all sharp edges removed, covered with contact paper) to store scissors, pencils, rulers, and glue.
- **Show** reduced samples of the Learning Page Fact Files on the bulletin board, pasted on colored construction paper and fanned out. Post maps, student artwork and other eye-catching materials to make the Center more inviting. Be creative!
- **Involve** the parents. Send a note home asking for suggestions and the loan of items related to Oceans. (Be sure items are labeled and returned at the end of the Unit.) Look for someone with expertise who can come in and talk to the class.
- **Materials to collect:** Solicit donations of shells, coral and driftwood; clean meat trays, paper milk cartons, plastic fruit baskets; yarn and fabric scraps, egg cartons, shoe boxes; ice cream and tongue depressor sticks; printers are a good source of leftover paper. Discount craft stores carry supplies such as felt and "googly" eyes. Large containers of fish crackers are available at membership discount warehouses. Fish crackers are good for counting, estimating numbers, grouping, sorting—the possibilities are endless! And don't forget eating!!

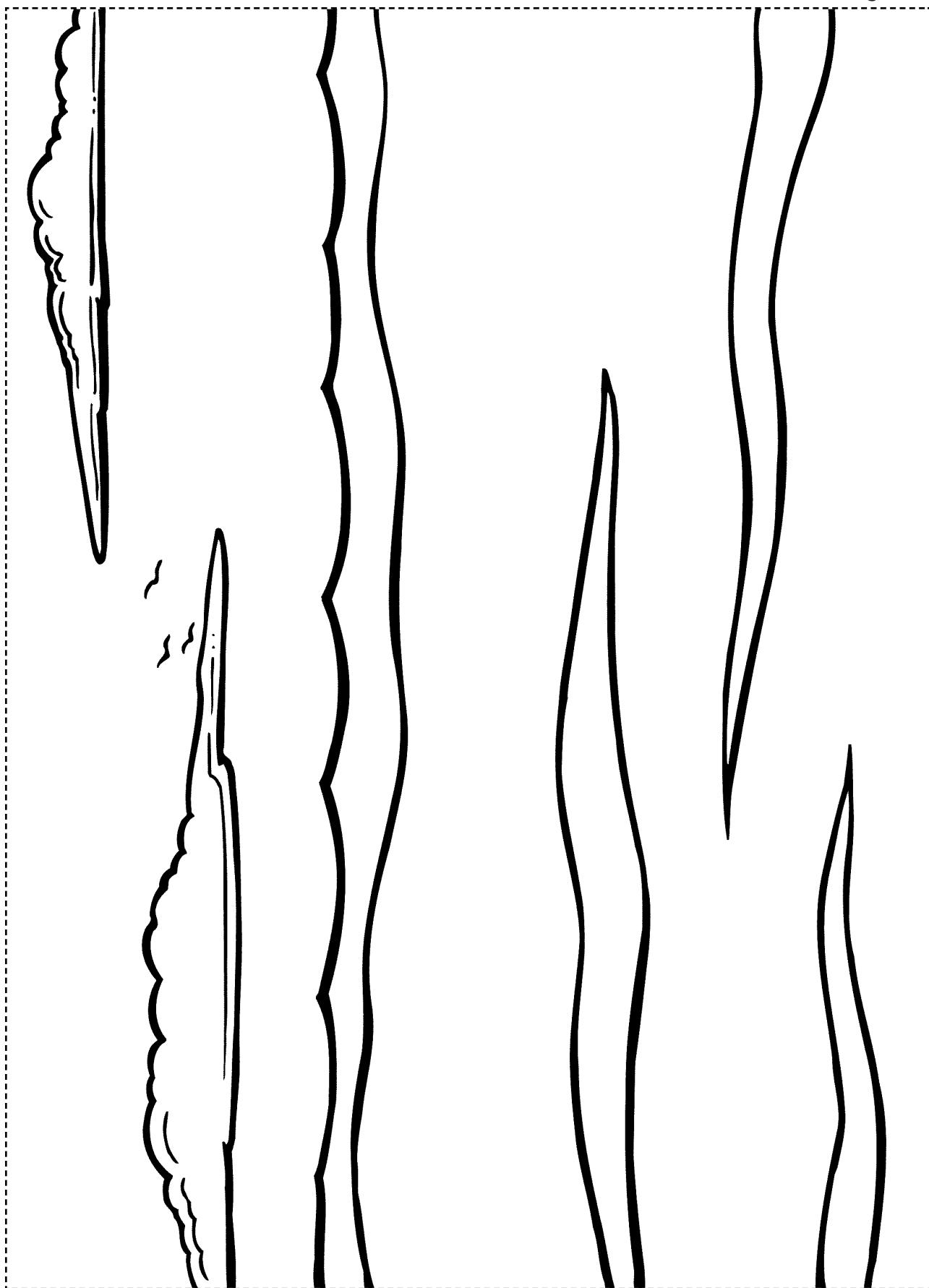
Teaching Notes

Oceans Mural

Print out the 15 sheets which make up the mural. Each sheet has a code printed in the bottom left corner, which corresponds to those on the key below. Have your students color the sheets before cutting off the edges and taping together. Tape on the back of the sheets. To make a longer mural, you can print another set, which you can attach to the right side of the existing one. Once the mural is assembled and attached to the wall, students can place their cut out ocean animals on the mural.



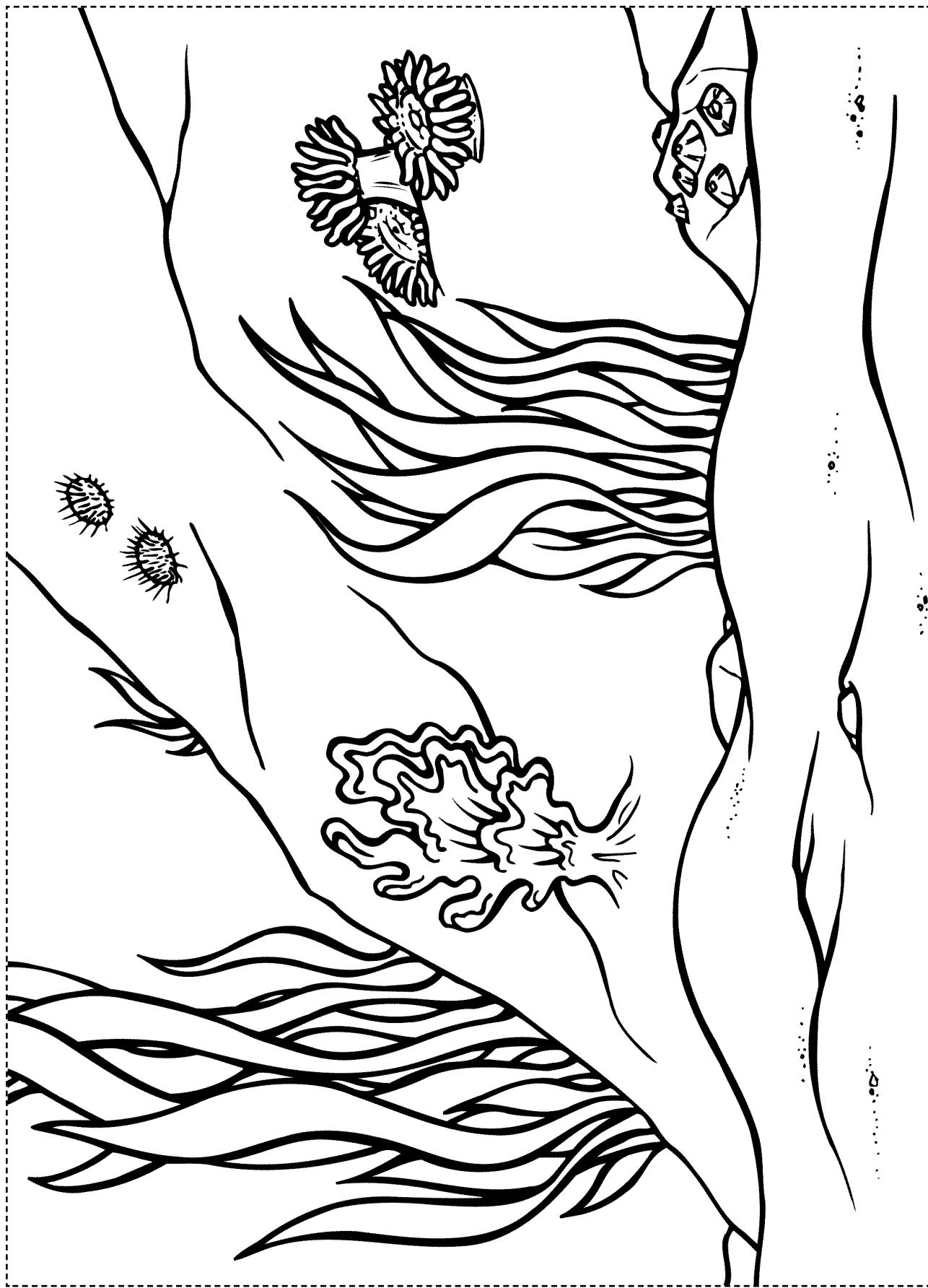
Name _____



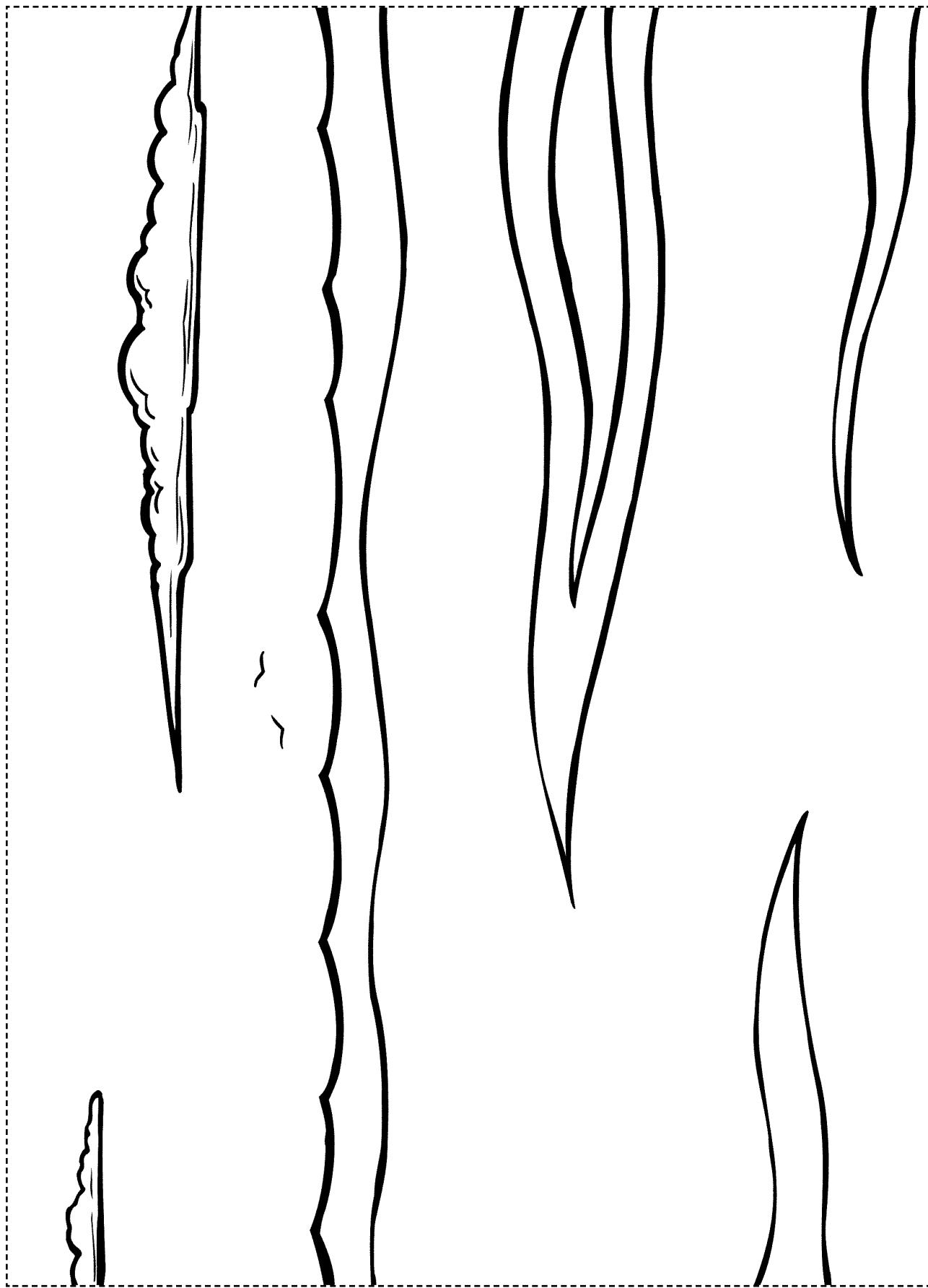
Name _____



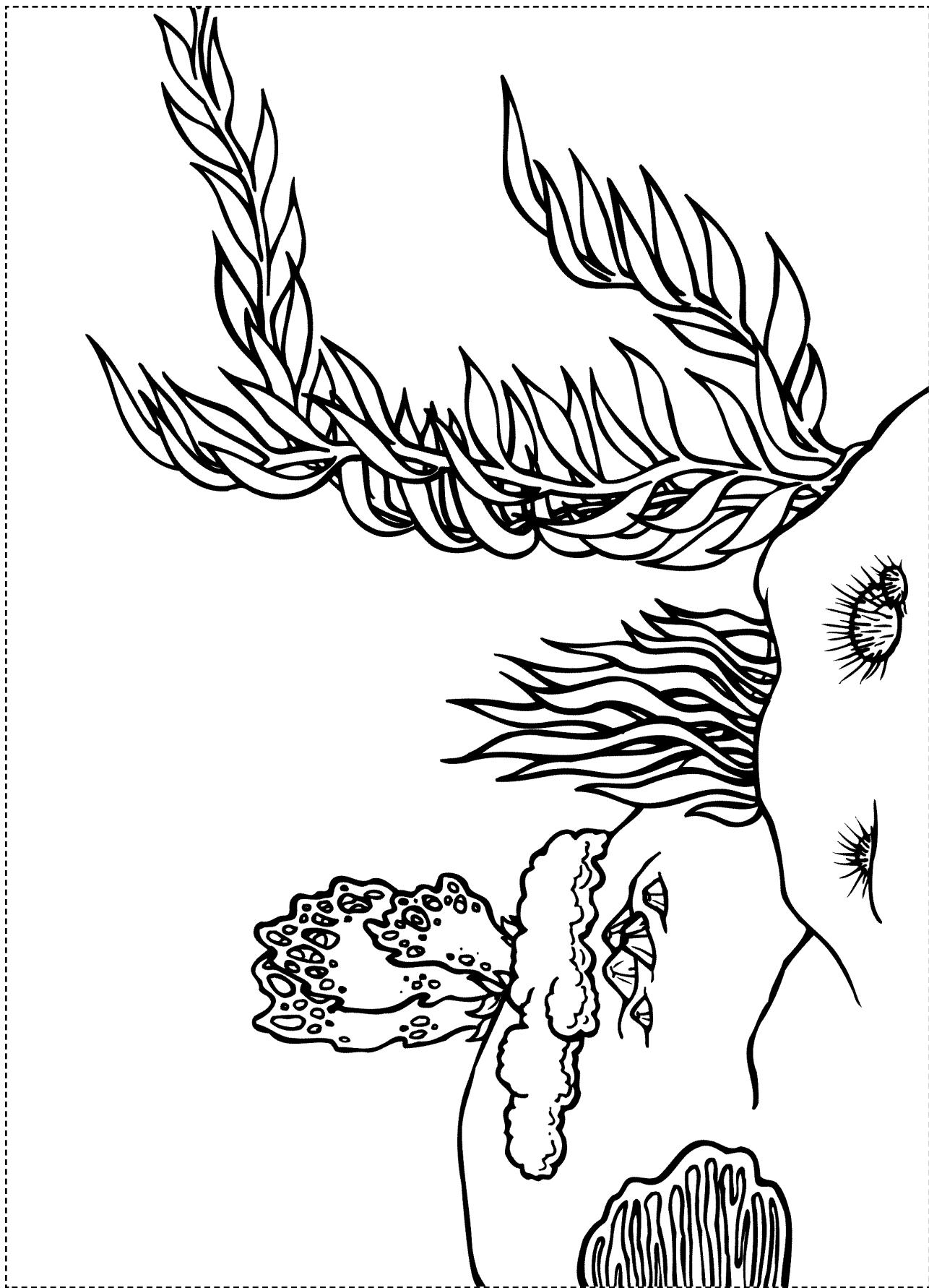
Name _____



Name _____



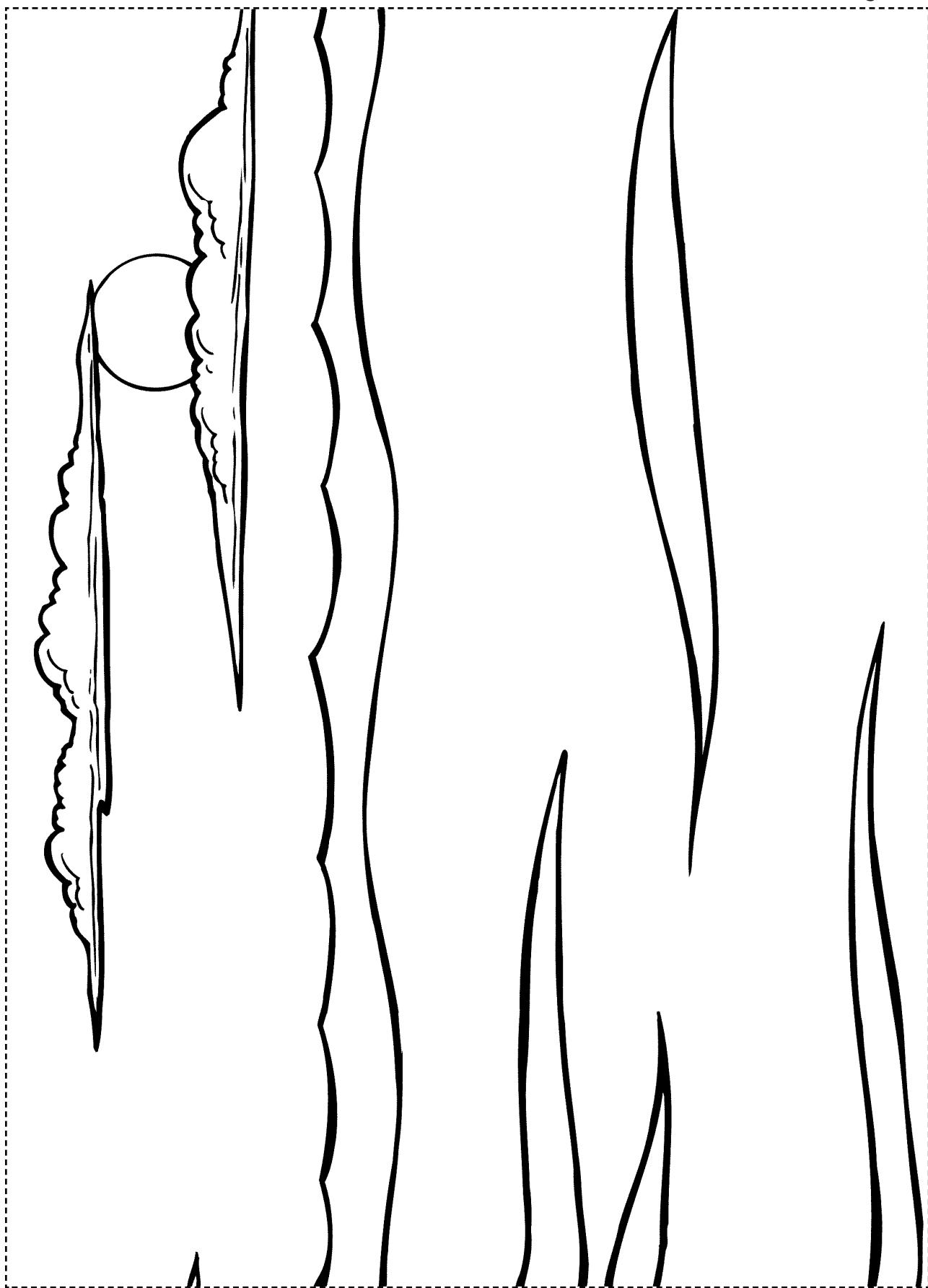
Name _____



Name _____



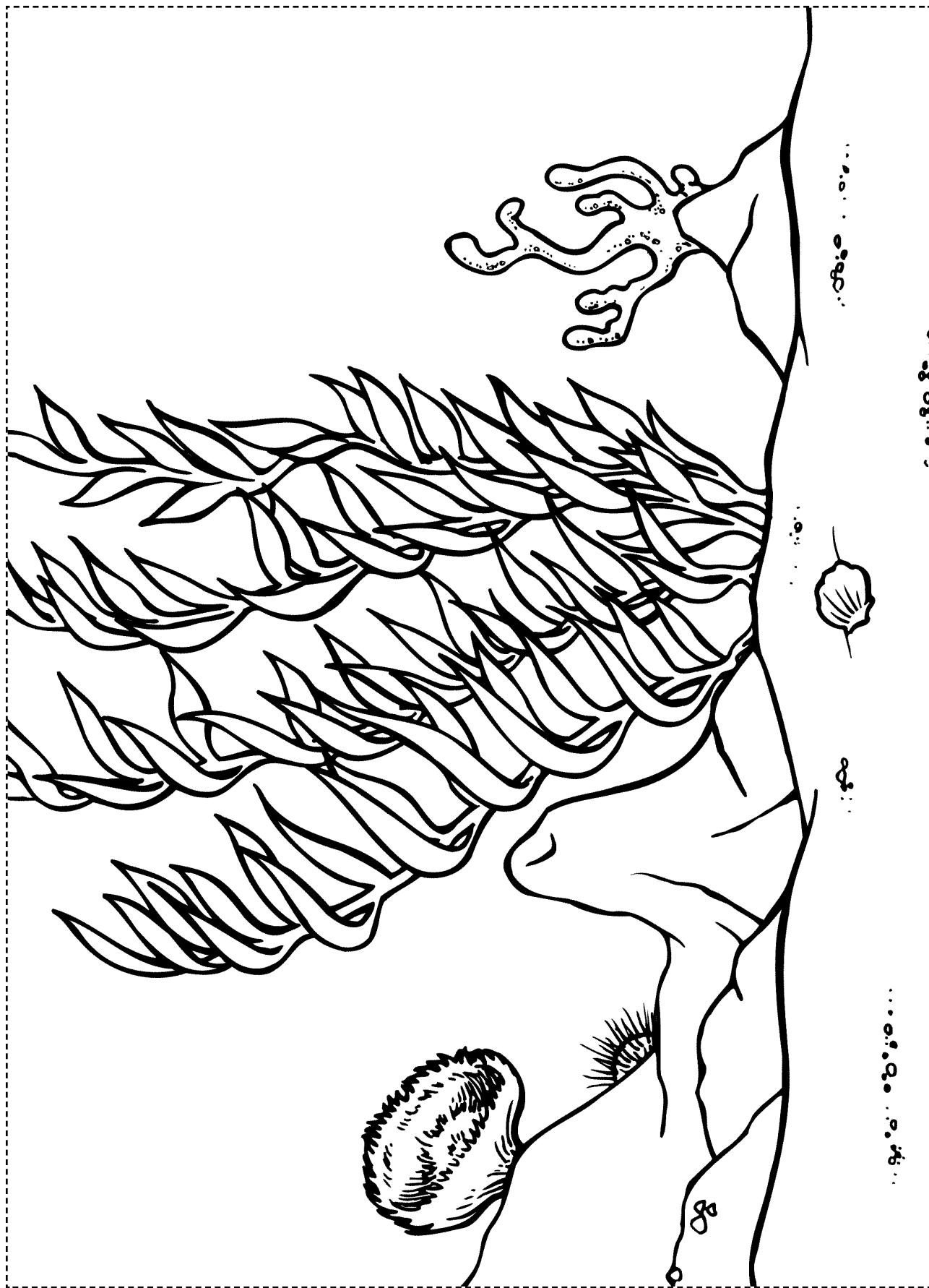
Name _____



Name _____



Name _____



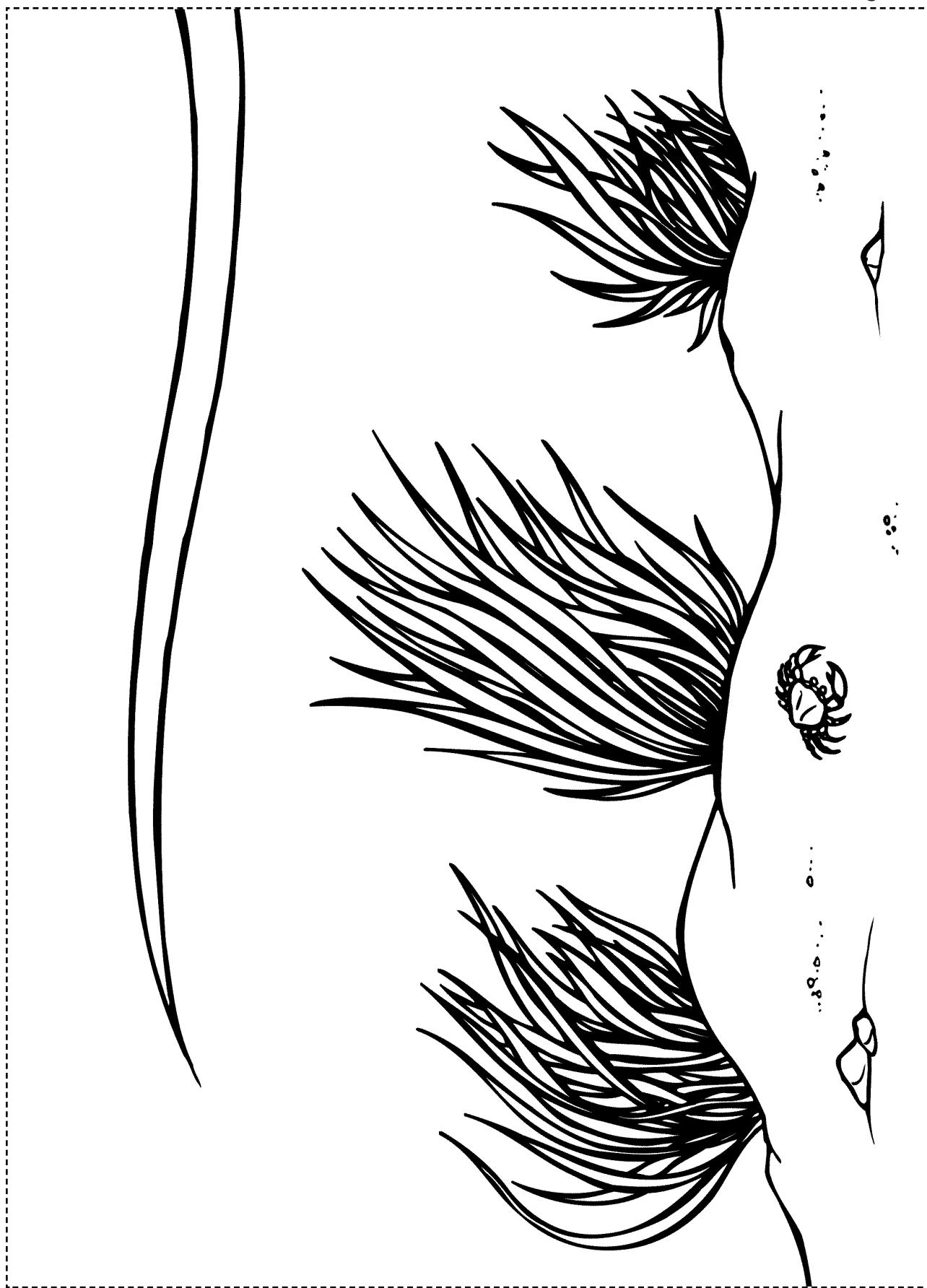
Name _____



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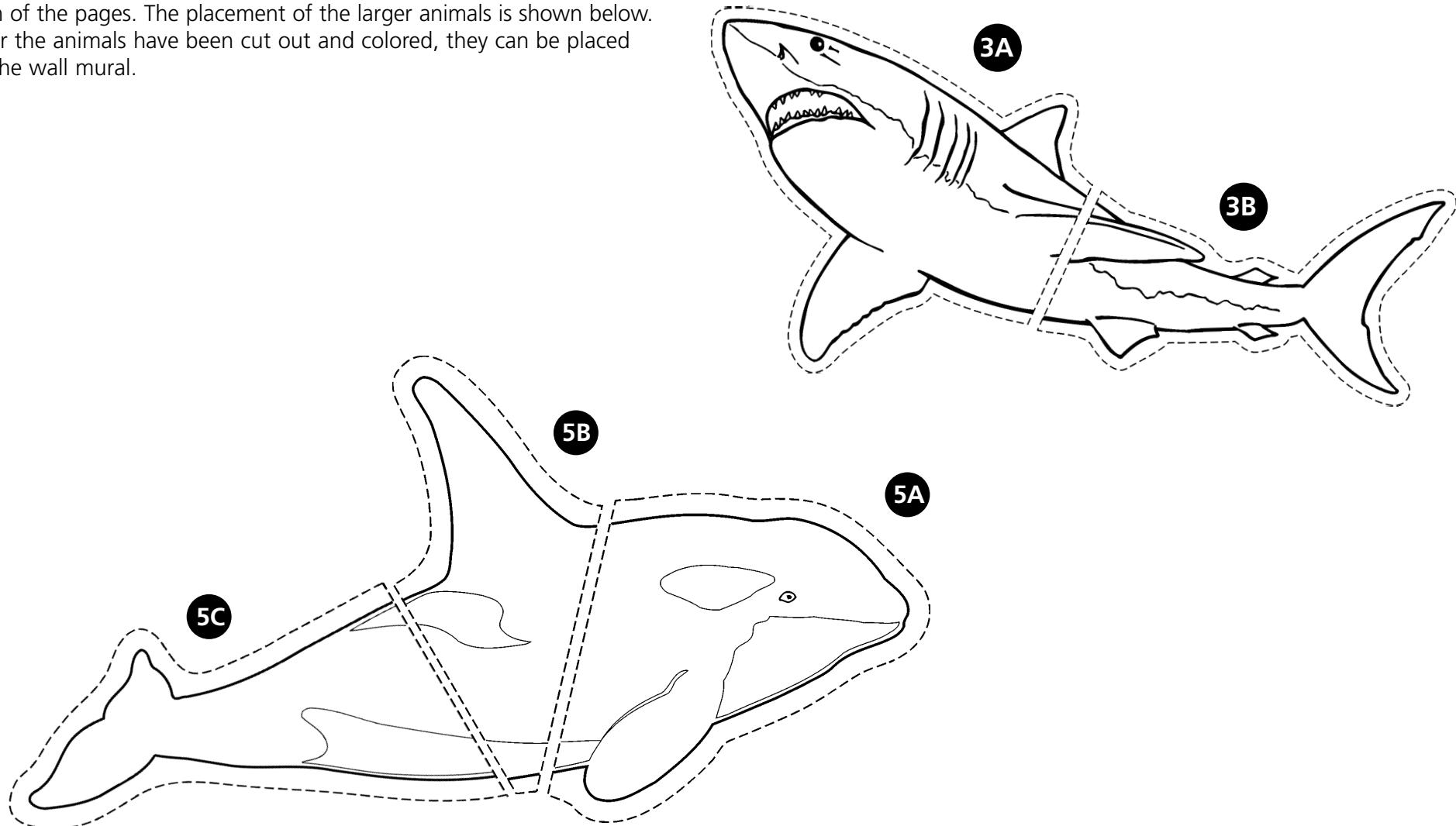
Name _____



Teaching Notes

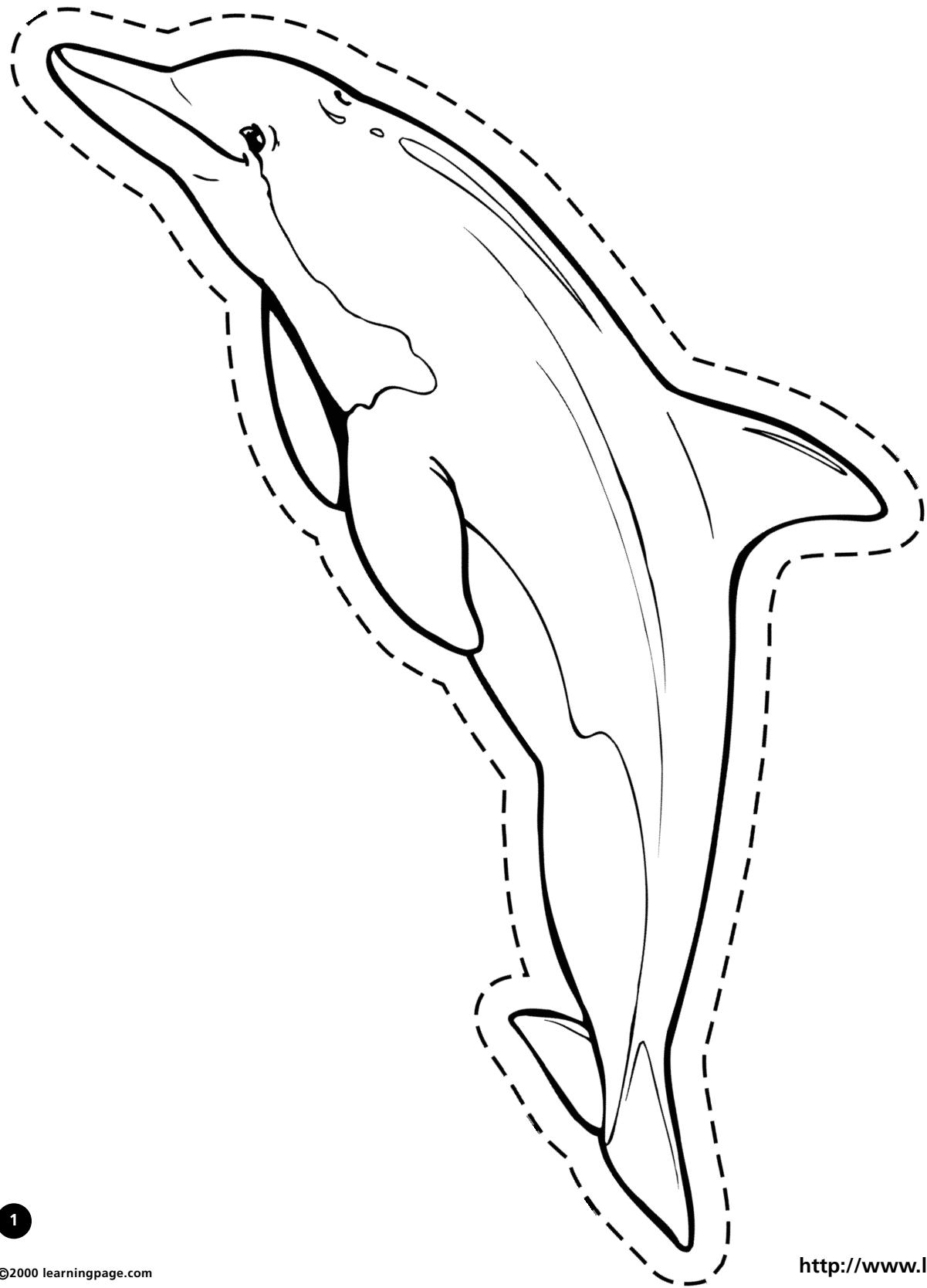
Oceans Cutouts

The Oceans Cutouts are in proportion to one another and the mural. As a result, the larger animals will have to be pieced together from more than one sheet of paper and the smaller animals will have more than one on a sheet. There is a code in the lower left hand corner of each of the pages. The placement of the larger animals is shown below. After the animals have been cut out and colored, they can be placed on the wall mural.



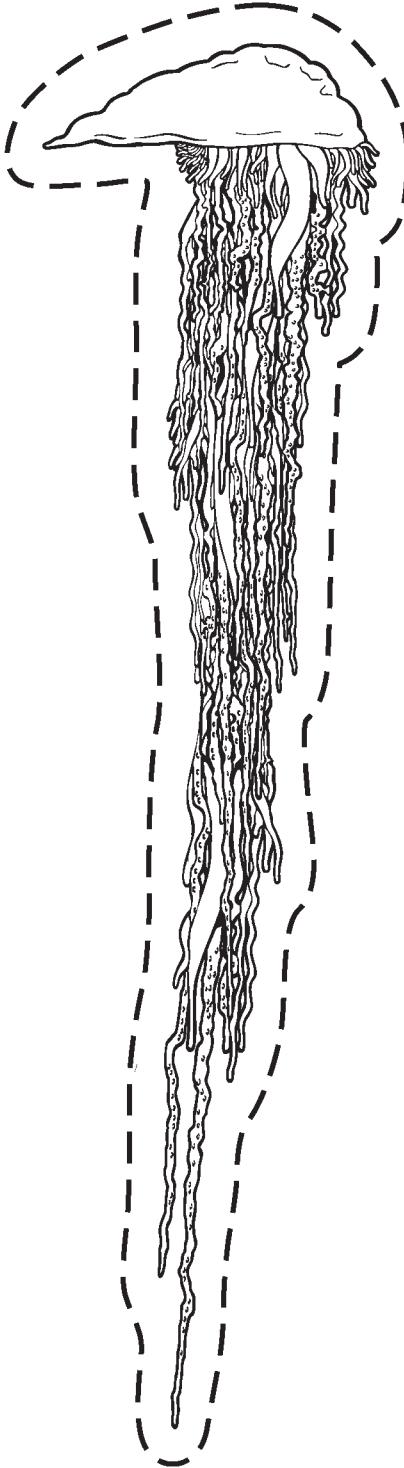
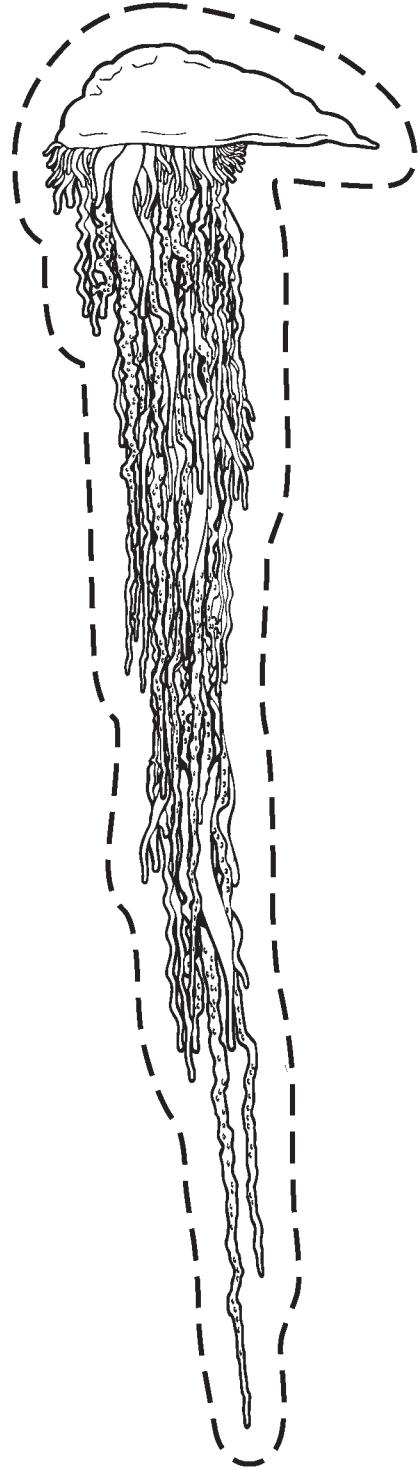
Name _____

Bottle-nosed Dolphin



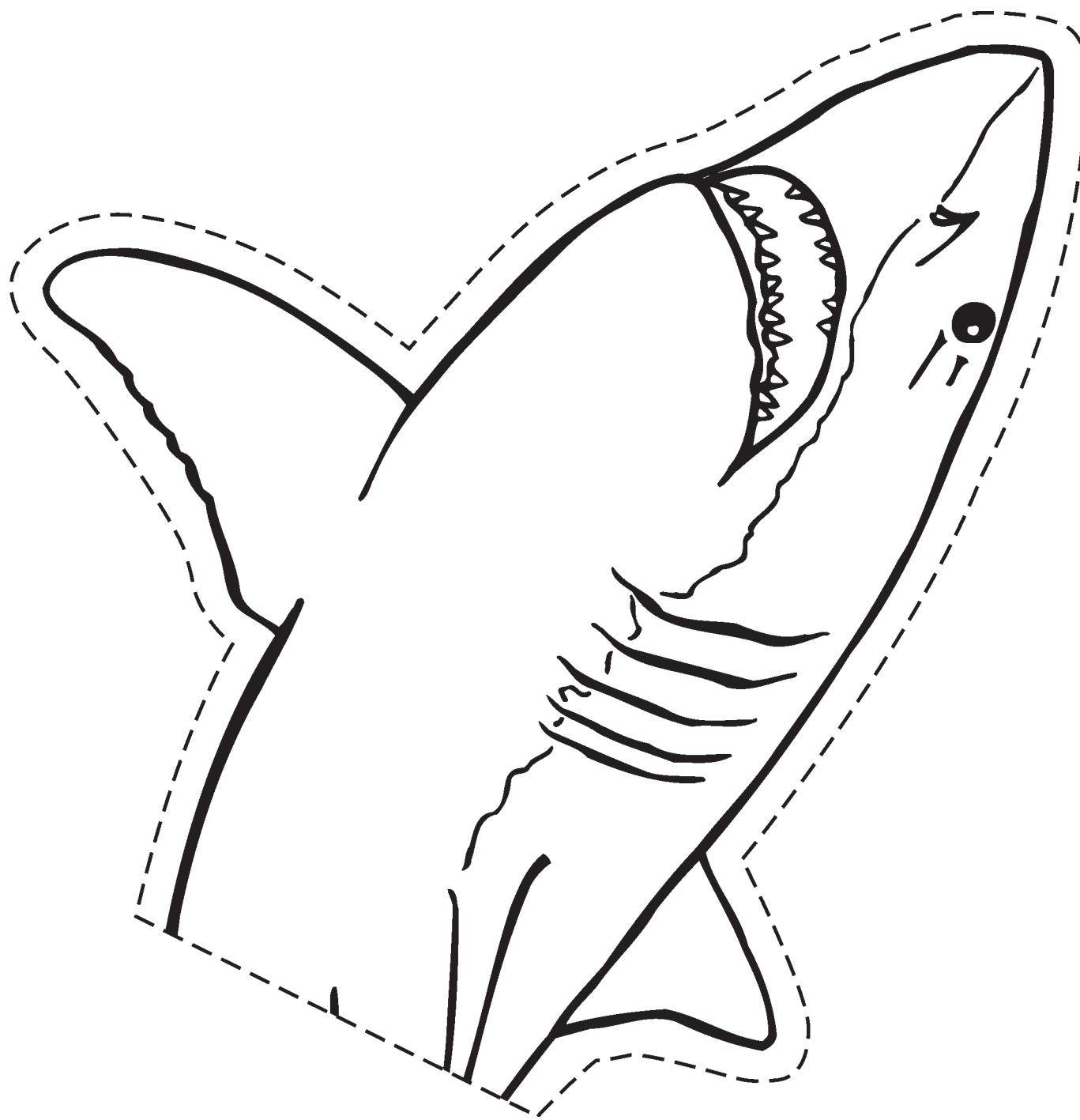
Name _____

Portuguese Man-of-War



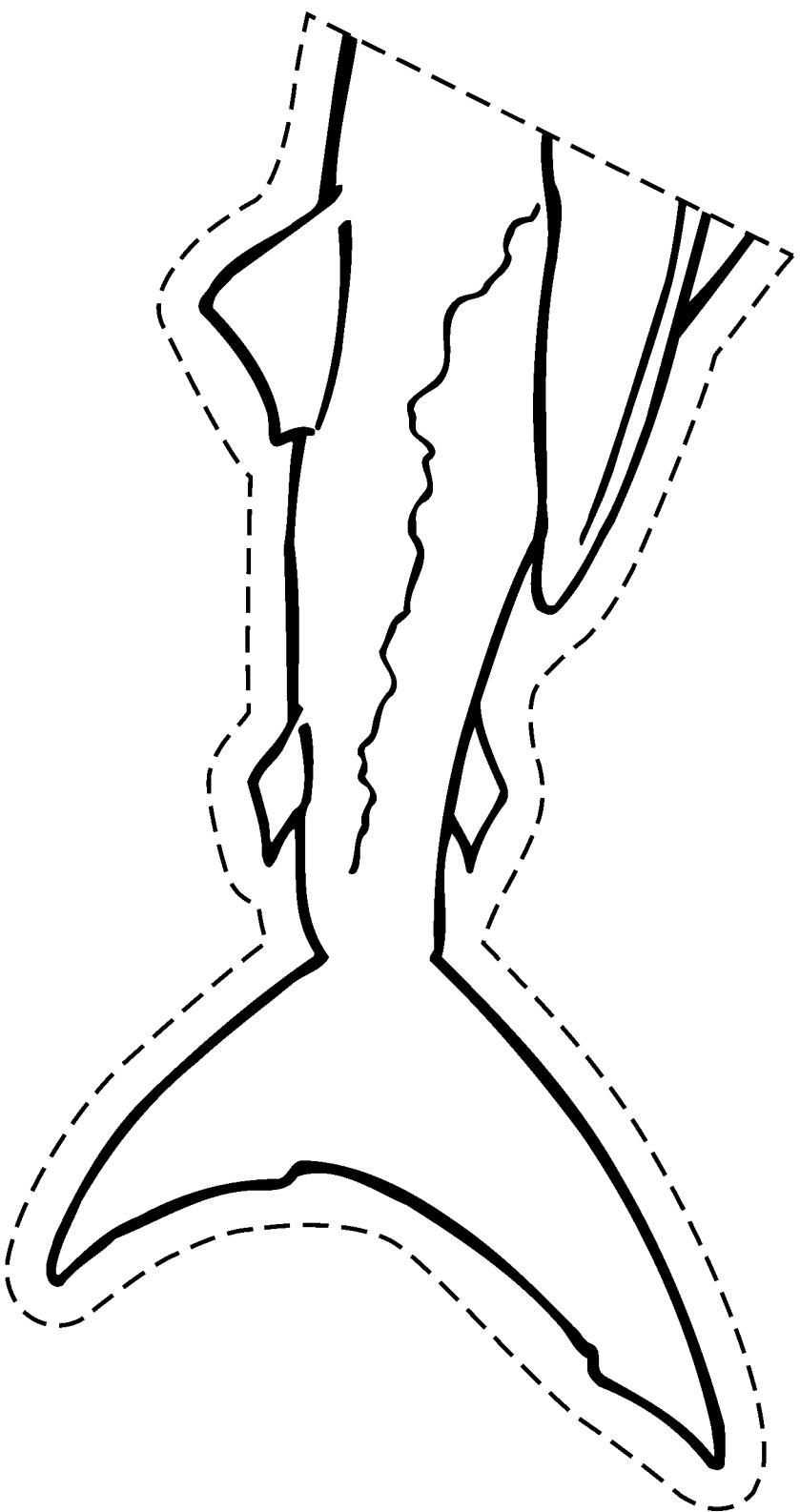
Name _____

Great White Shark



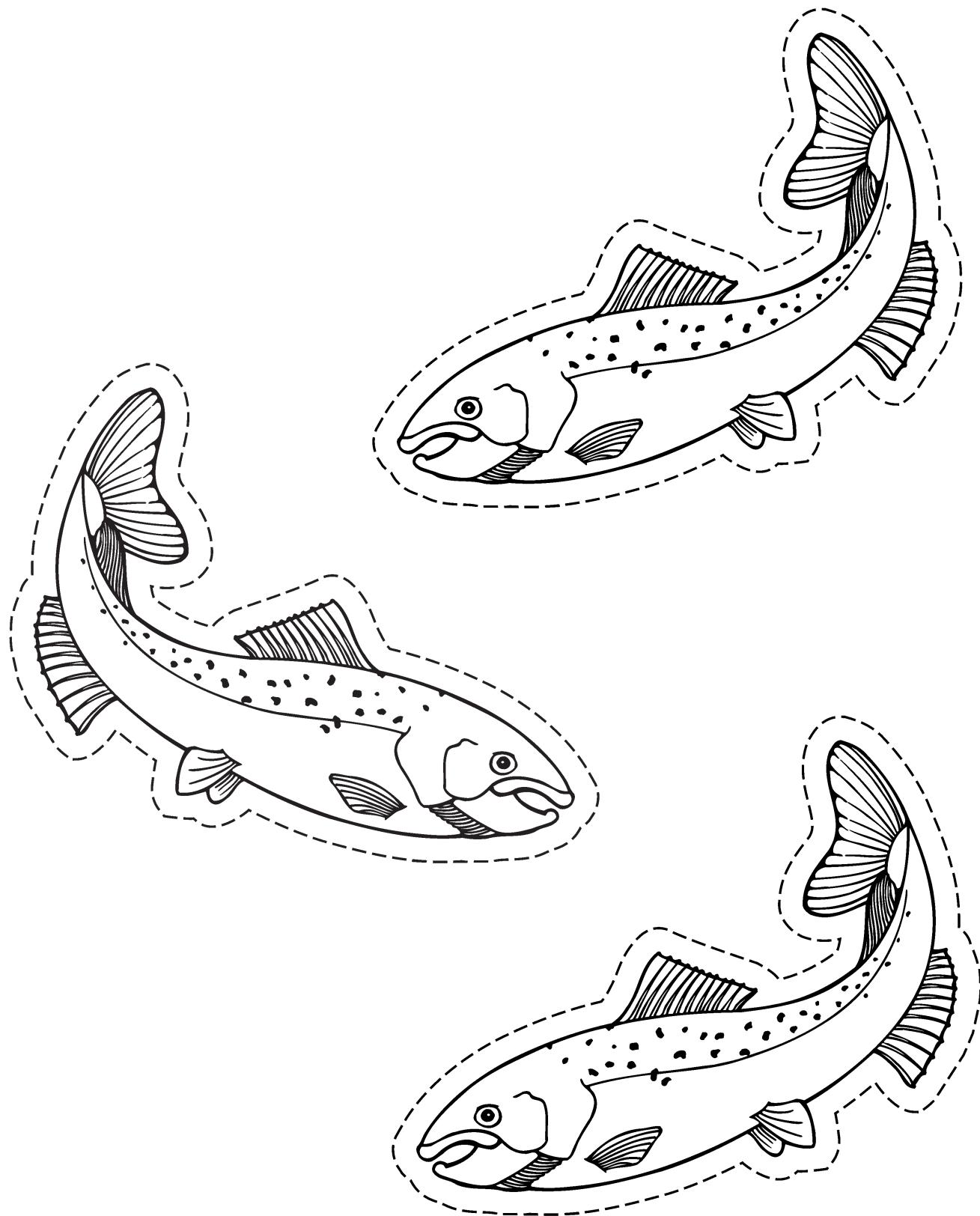
Name _____

Great White Shark



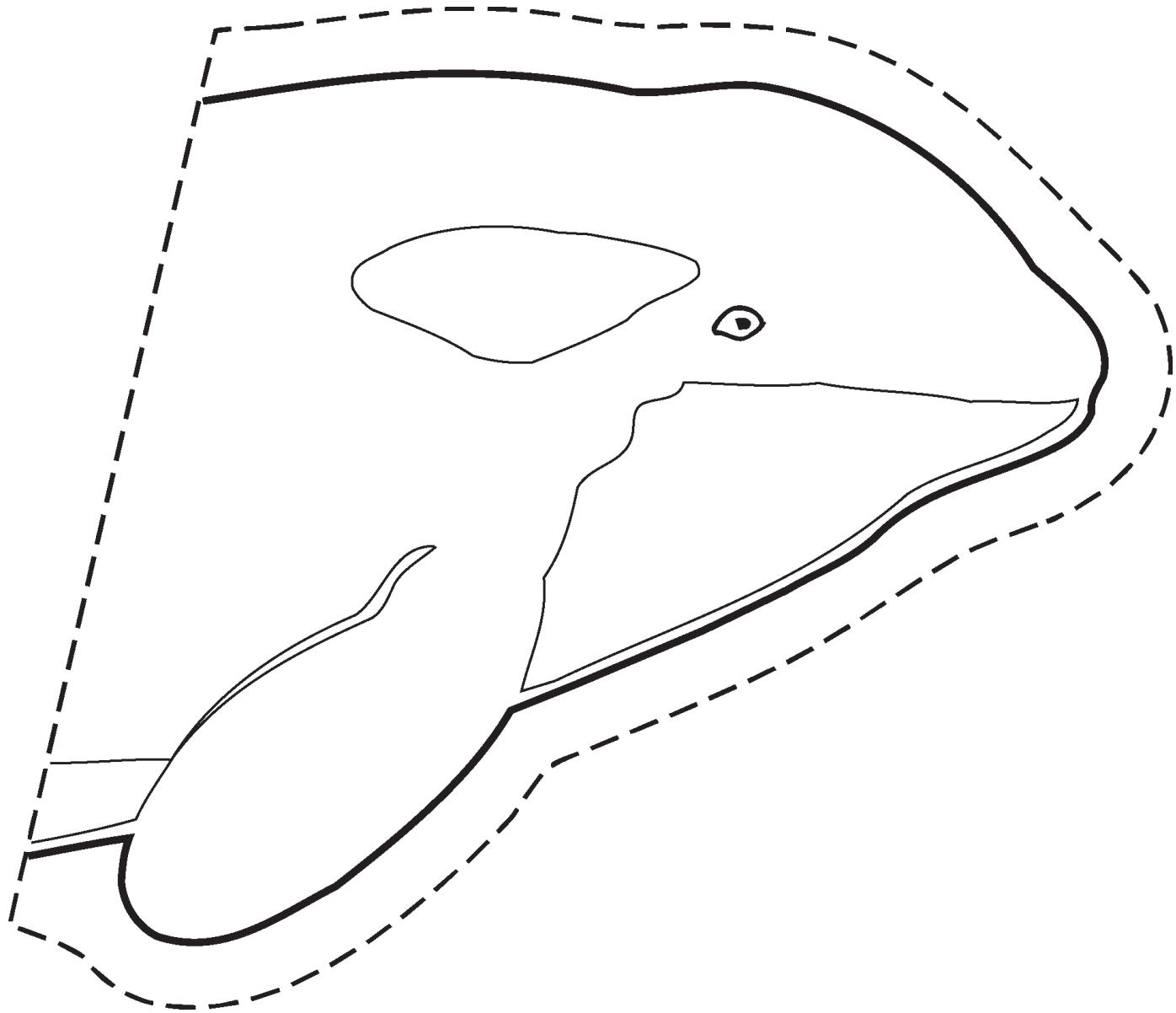
Name _____

Atlantic Salmon



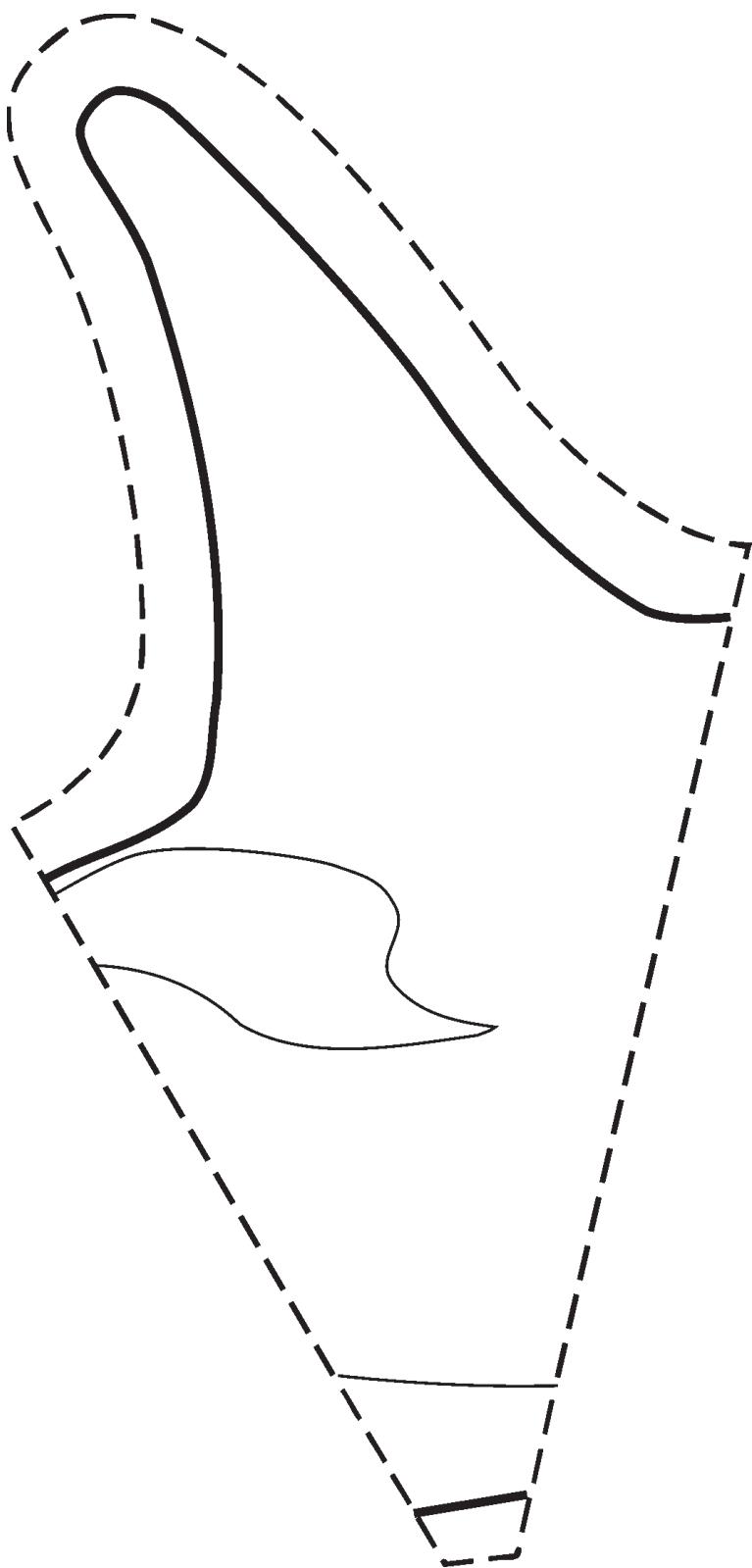
Name _____

Killer Whale



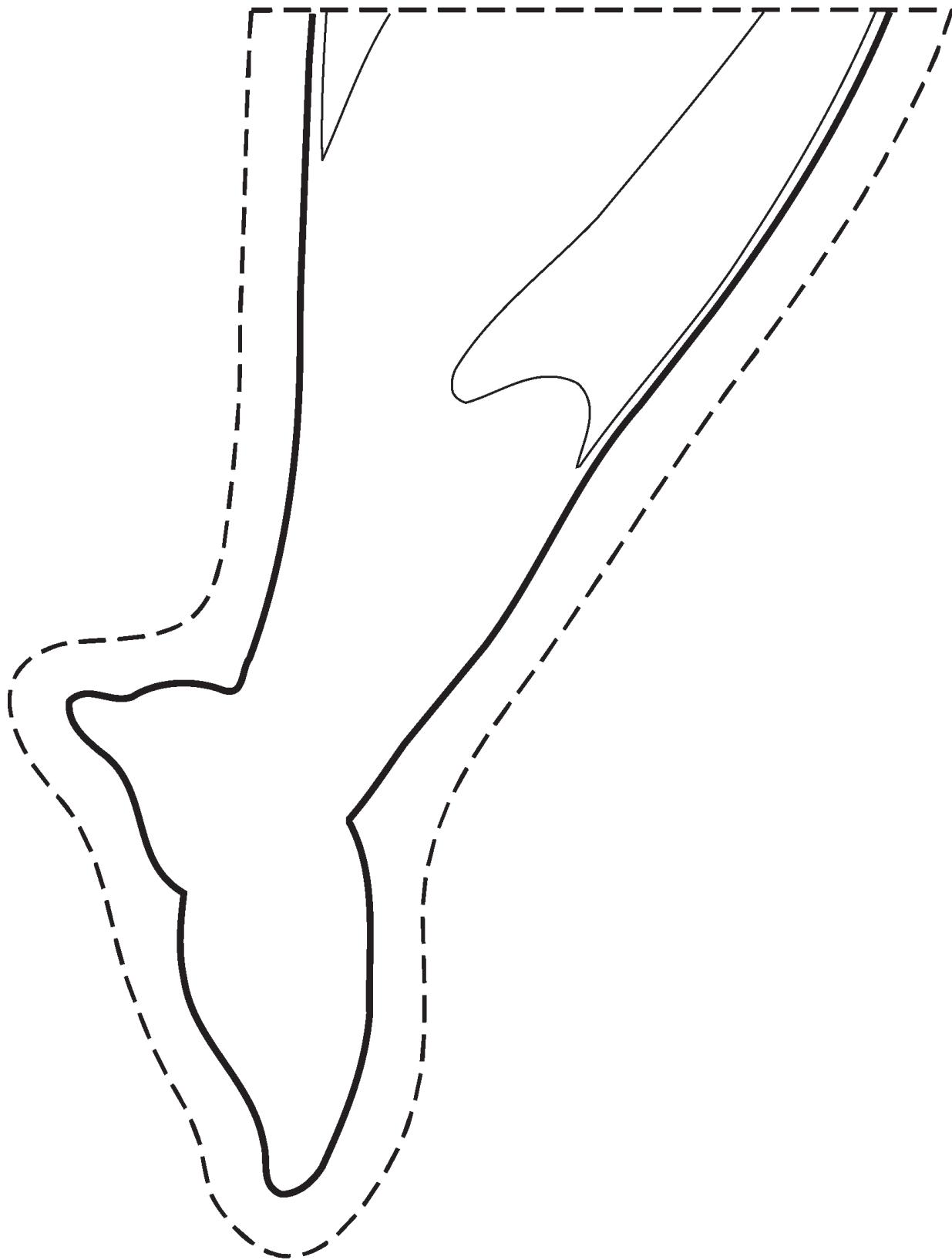
Name _____

Killer Whale



Name _____

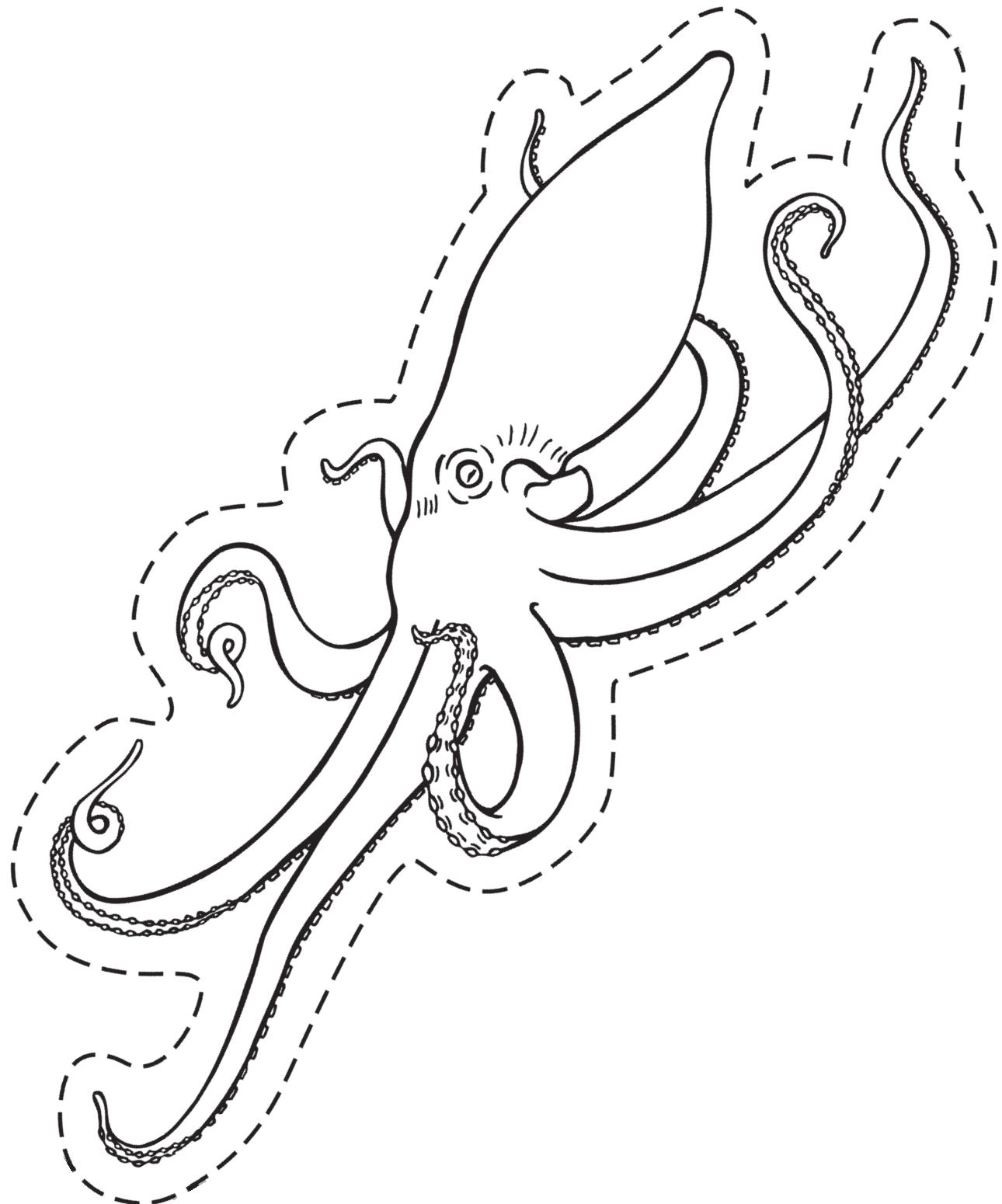
Killer Whale



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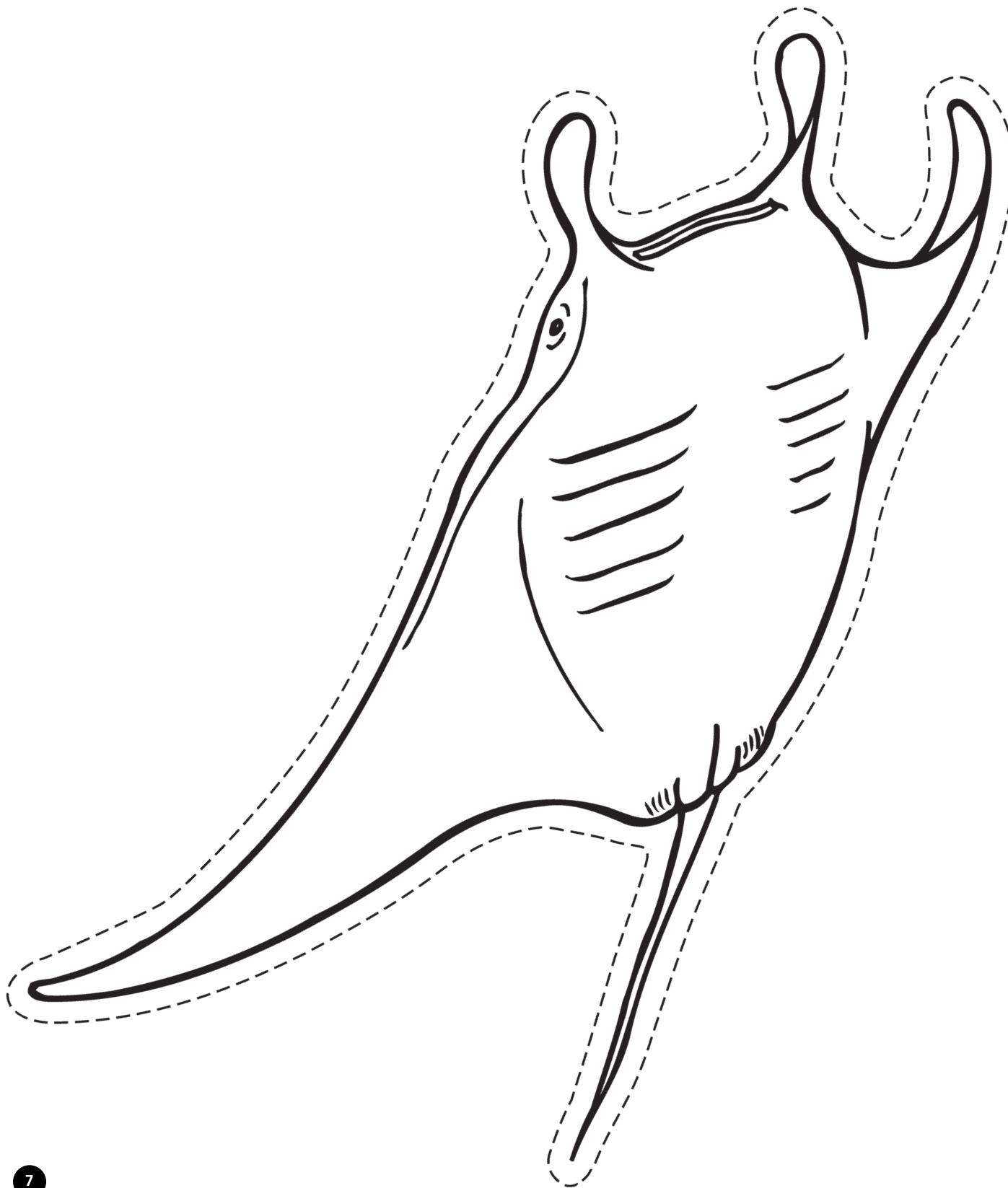
Name _____

Octopus



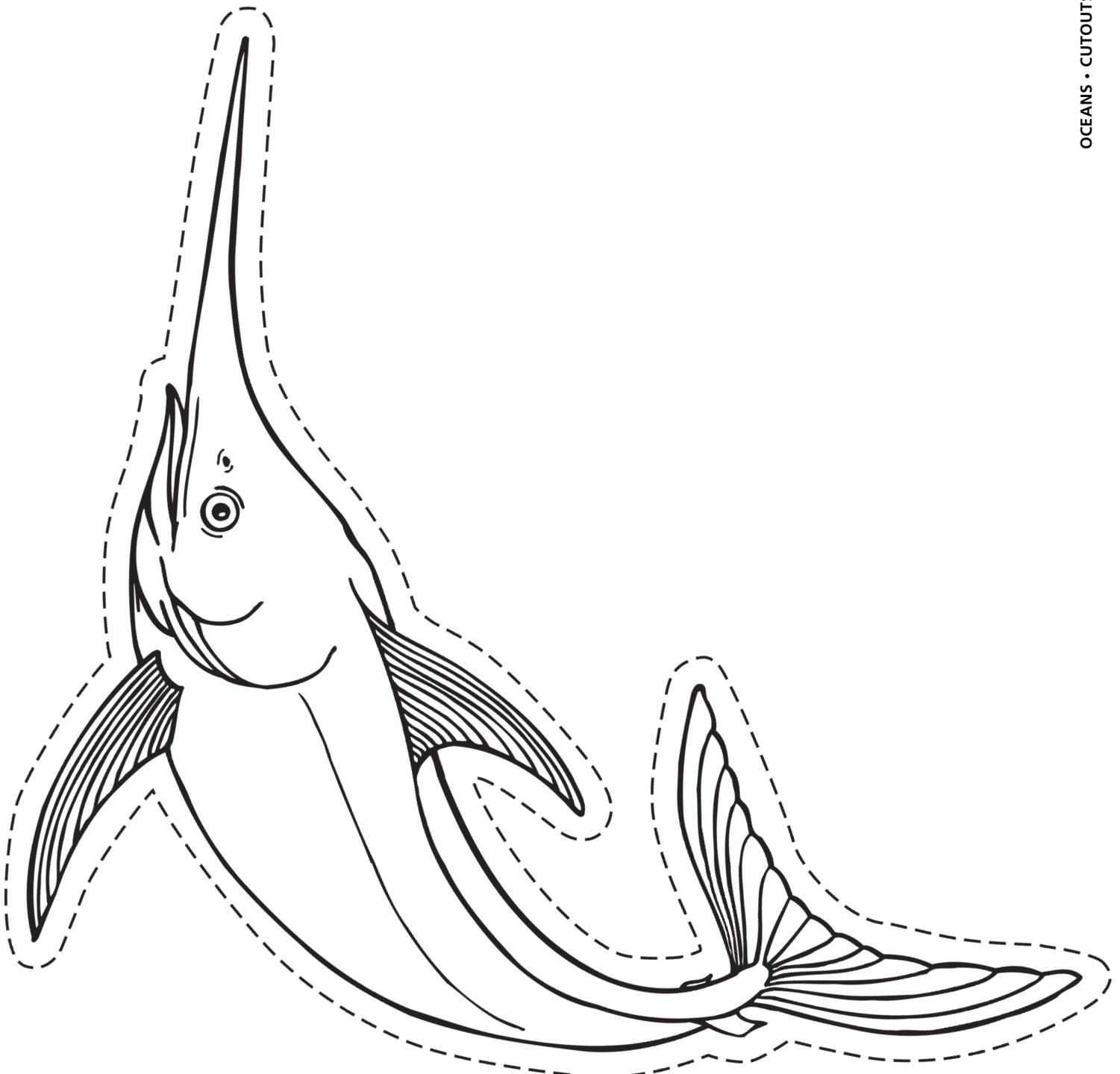
Name _____

Manta Ray



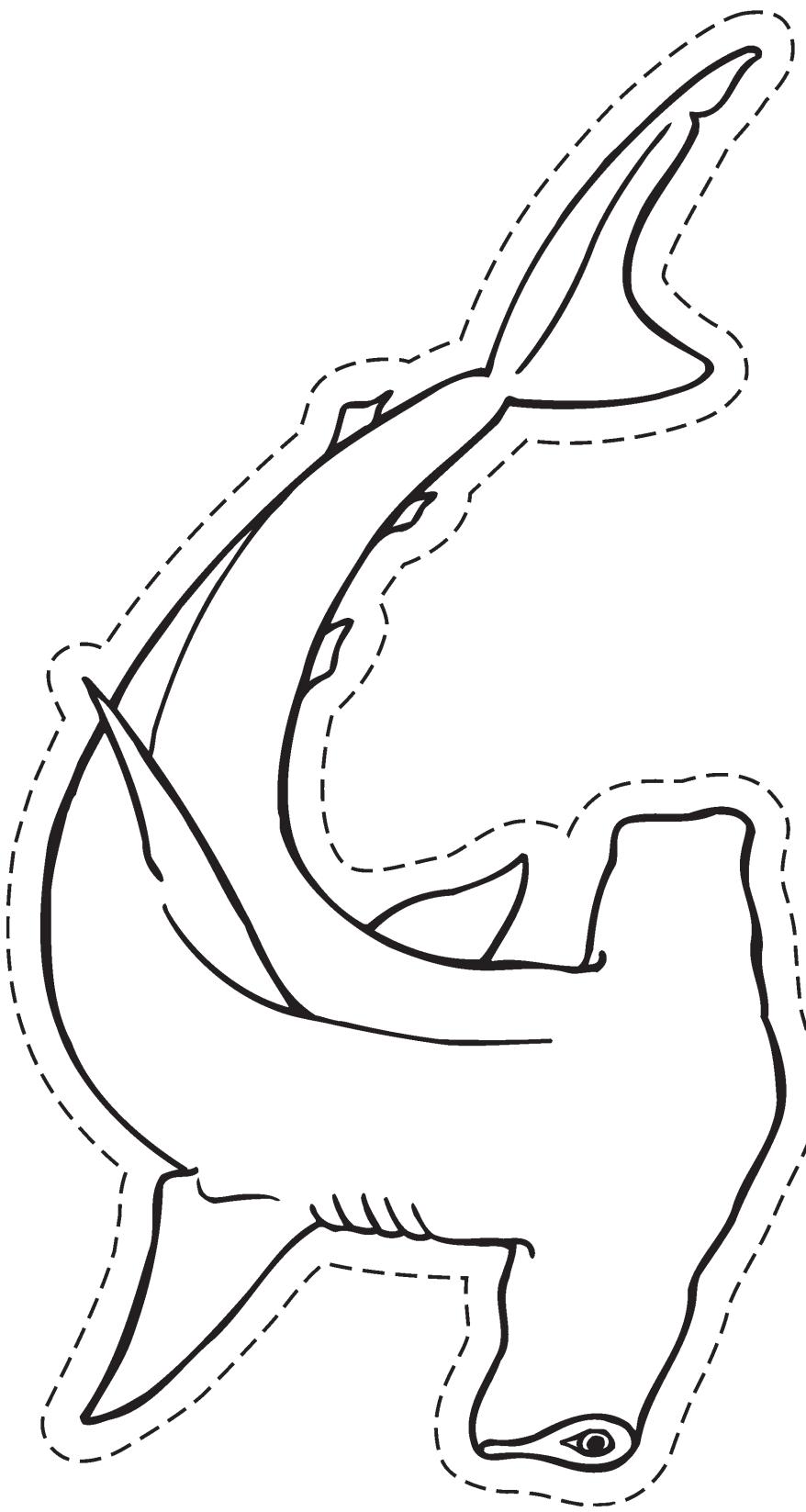
Name _____

Swordfish



Name _____

Hammerhead Shark



Name _____

Leatherback Turtle

