

Chapter: 6**Q.1 Textbook activity question.**

9

- 1 What types of benefit & harm occur to human from animals of phylum- Arthropoda?

Ans Benefits of Arthropoda.

- i. Man eats prawns, lobsters, crabs which are highly proteinaceous and have minerals. It is really a nutritious food. The business of rearing these is profitable.
- ii. Honey bees produce honey and bee wax which have many advantages.
- iii. Silk worms, lac insects supply useful products like silk and lac respectively.
- iv. Many insects bring about pollination which helps in agricultural practices.

Disadvantages of Arthropoda.

- i. Animals like scorpion, honey bee can bite humans which harms the body.
- ii. Insects like mosquito spread malaria, dengue. Bed bugs, lice are ectoparasites and cause various disorders in human body.

- 2 Why has it been said that only insects directly compete with humans for food?

Ans The standing crop in the fields can be totally ruined by insects. The locust can damage the crops when they attack in thousands at a time. The grains are also infested by variety of insects like ants, weevils , beetles , etc. Therefore , we can say that only insects compete with humans for food.

- 3 Which are the animals from phylum Arthropoda those have shortest & longest life span?

Ans The shortest life span : May fly - About 24 hours . The longest life span : Lobster (Homarus americanus) - About 100 years .

- 4 Animals like ghariyal & crocodile live in water as well as on land. Are they amphibians or reptiles?

Ans i. Animals like gharial and crocodile live in water as well as on land, yet they cannot be considered as amphibians, because their characteristic features are similar to reptiles.
ii. They have dry skin covered with scales, whereas the skin of amphibians is moist and without scales.
iii. These animals lay eggs on land, whereas amphibians lay eggs in water.
iv. Gharial and crocodiles have digits provided with claws and neck is present between head and trunk, whereas in amphibians digits are not provided with claws and neck is absent.
v. Like other reptiles, they creep on land, as their body cannot be lifted up. Therefore, from the above characteristics we can say that gharial and crocodiles are reptiles and not amphibians

- 5 Animals like whale, walrus live in water (ocean). Whether they are included in pisces or mammalia?

Ans i. Whales and walrus are included in mammalia. They are aquatic mammals.
ii. They are warm blooded animals.
iii. They breath air and mothers feed their babies through mammary glands just like humans do.
iv. Fishes (Pisces) are cold blooded animals and breathe through their gills and do not have mammary glands.

- 6 How the plants are classified?

Ans On the basis of the flowering and non flowering, the plants kingdom are divided into two sub- kingdom. Cryptograms: They are non flowering plants. On the basis of their appearance they are divided into three division thallophyta, bryophyte, and pteridophyta.

- 7 Why is earthworm called as friend of farmers?

Ans Earthworms are said to be always the friend of farmers. The reason is that earthworm increases the fertility of soil by increasing the amount of air and water that gets into the soil, facilitating aeration and increasing

drainage.

8 Which criteria are used for classification of organisms?

Ans Some of the criteria used to classify organisms are as follows:

- i. Complexity of cell structure: Prokaryotic, eukaryotic.
- ii. Complexity of body organization: Unicellular, multicellular
- iii. Presence/absence of cell wall : Plants (cell wall present), Animals (cell wall absent)
- iv. Mode of nutrition : Autotrophic , Heterotrophic and Saprotrophic
- v. Mode of reproduction : Asexual and sexual.

9 How may be the leech used in ayurvedic system of treatment?

Ans i. According to Ayurveda leech therapy is a method in which localised impure blood is let out to heal the tissue.

ii. Leeches used to relieve venous congestion and for improved blood circulation.

iii. Leech therapy is used in diseases like varicose veins, arthritis, Herpes, Psoriasis, Vascular problem Diabetic wounds, non -healing ulcers, etc.

Q.2 Multiple Choice Questions

1 Which of the following animals can regenerate it's broken body part ?

- a. Cockroach b. Frog c. Sparrow d. Star fish

Ans Option d.

2 Bat is included in which class ?

- a. Amphibia b. Reptilia c. Aves d. Mammalia

Ans Option d.

3 Which special cells are present in the body of sponges (Porifera)?

- a. Collar cells. b. Cnidoblasts. c. Germ cells. d. Ectodermal cells

Ans Option a.

4 Which of the following animals' body shows bilateral symmetry?

- a. Star fish b. Jelly fish c. Earthworm d. Sponge

Ans Option c.

Q.3 Name the following

1 I live in your small intestine, my body is long and thread like and pseudocoelomate.

Ans Phylum aschelminthes -Eg. Ascaris

2 Though I am multicellular, there are no tissues in my body. What is the name of my phylum?

Ans Porifera

3 I am diploblastic and acelomate. Which phylum do i belong to?

Ans Coelenterata / Cnidaria

4 My body is radically symmetrical. Water vascular system is present in my body. I am referred as fish though I am not. What is my name ?

Ans Starfish

Q.4 Give scientific reasons

1 All vertebrates are chordates but all chordates are not vertebrates.

Ans i. Animals having a supporting notochord in their body are called Chordates where as in vertebrates, notochord is replaced by vertebral column to provide support to the body.

ii. Thus all vertebrates having vertebral column in place of notochord belong to phylum Chordata.

But not all chordates have vertebral column as the support in place of notochord, like urochordates and cephalochordates.

iv. Hence, All vertebrates are chordates but all chordates are not vertebrates.

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2 Our body irritates if it comes in contact with jelly fish.

- Ans**
- i. Jellyfishes belong to phylum Coelenterata/ Cnidaria.
 - ii. They have Cnidoblast bearing tentacles present around the mouth.
 - iii. Tentacles are useful for capturing the prey whereas cnidoblasts inject the toxin in the body of prey. Those are useful for protection.
 - iv. This toxin causes irritation to any organism coming in contact with the tentacles and sometimes can be fatal.

3 Balanoglossus is the connecting link between non-chordates & chordates.

- Ans**
- i In Non-chordates, the notochord is completely absent in the body.
 - ii. In Chordates, the notochord runs throughout the body to provide support to the body.
 - iii. Balanoglossus is a Hemichordate which has a notochord but only in the proboscis region of the body.
 - iv. As it points that chordates have been evolved from non-chordates, it can be said as a connecting link between them.

4 Thought tortoise lives on land and in water it can not be included in class-Amphibian.

- Ans**
- i. Amphibian are adapted to live both on land and in water since they are capable of respiring both through skin (in water) and through lungs can land.
 - ii. Moreover they lay eggs in water.
 - iii. But tortoise, being a respite, it is the first true terrestrial animal with creeping movement.
 - iv. They can respire only through lungs and lay eggs on land.
 - v. Thus tortoise can survive only on land and hence it cannot be included in class amphibian.

5 To which phylum does Cockroach belong? Justify your answer with scientific reasons.

Ans Cockroach belongs to the phylum Arthropoda. It shows all the features which are characteristic of this phylum:

- (i) It shows the presence of jointed appendages.
- (ii) It is triploblastic, eucoelomate, bilaterally symmetrical, and segmented.
- (iii) It has a chitinous exoskeleton around its body.
- (iv) It respires with the help of tracheal system.

6 Give scientific classification of shark upto class.

Ans Kingdom - Animalia Phylum - Vertebrata Class - Pisces Subclass - Elasmobranchii (Cartilaginous) Example - Scientific name - Scoliodon sorakowah, Common name - Shark.

7 Body temperature of reptiles is not constant.

- Ans**
- i. The body temperature of the reptiles changes with the temperature of the environment. Such animals are said to be cold blooded or Poikilotherms.
 - ii. They do not carry homeostasis, a process in which the temperature of the body is maintained. This is because they have three chambered (majority reptiles) or incomplete four chambered heart (crocodile) where there is slight mixing of oxygenated and deoxygenated blood.
 - iii. iv. Therefore, the body temperature of reptiles is not constant.

Q.5 Complete the given flow chart / table

1	Body cavity	Germ Layer	Phylum
	Absent	Porifera
	Absent	Triploblastic
	Pseudocoelom	Aschelminthes
	Present	Arthropoda

Ans	Body cavity	Germ Layer	Phylum
	Absent	Absent	Porifera
	Absent	Triploblastic	Platyhelminthes

Pseudocoelom	Triploblastic	Aschelminthes
Present	Triploblastic	Arthropoda

Q.6 Write Distinguish between

2

- 1 Butterfly [Animals in phylum Arthropoda-butterfly] and Bat [Class-Mammalia: Bat]

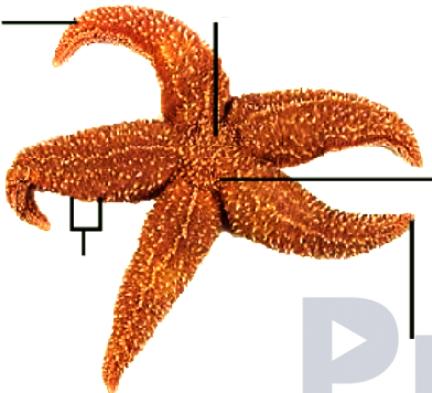
Ans

	Butterfly	Bat
i.	It has jointed appendages.	It does not have jointed appendages.
ii.	Mammary glands are absent.	It shows presence of mammary glands.
iii.	The young stage is caterpillar which metamorphose into an adult butterfly.	No metamorphosis take place. The young one grows into an adult by growth.
iv.	It has chitinous exoskeleton around the body.	Exoskeleton is in the form of fur.

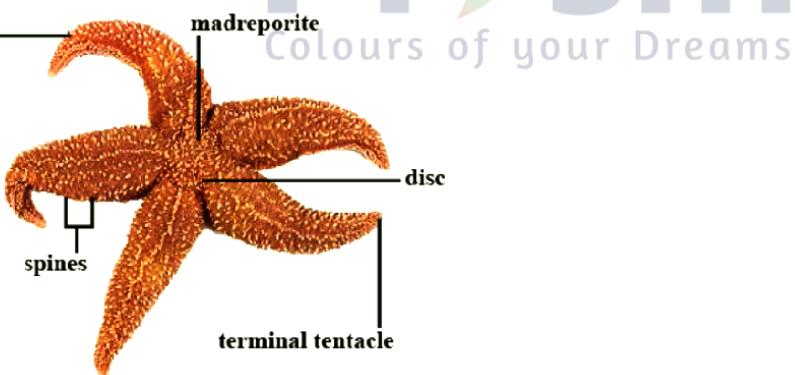
Q.7 Label the diagram and explain.

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- 1 Sketch, label and classify - Star fish



Ans

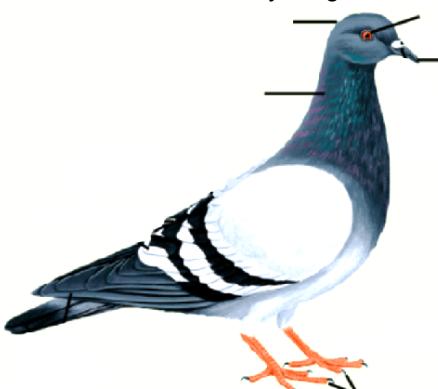


Kingdom - Animalia

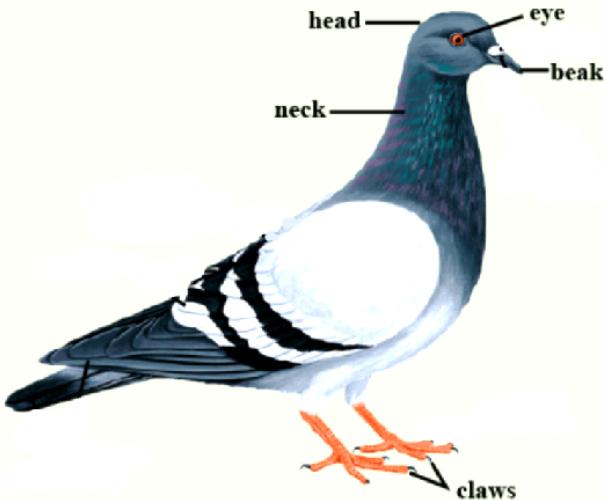
Phylum - Echinodermata

Genus - Asterias

- 2 Sketch, label and classify - Pigeon



Ans



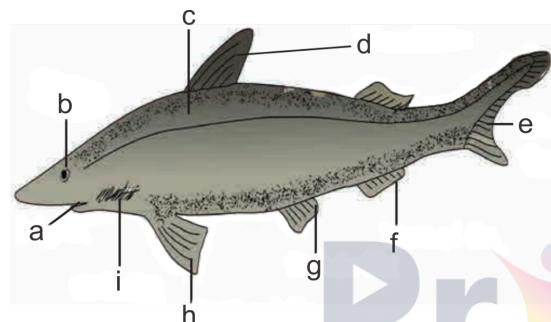
Kingdom - Animalia

Phylum - Chordata

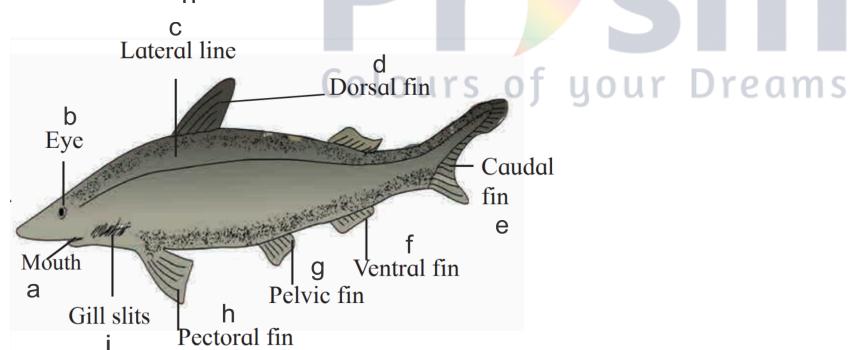
Class - Aves

Genus - Columba

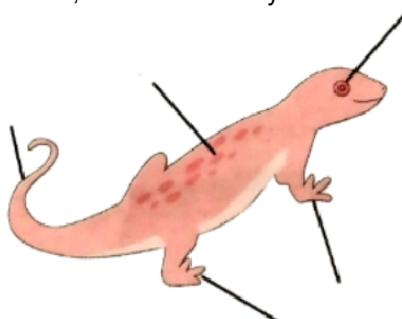
- 3** Sketch, label and classify - Shark



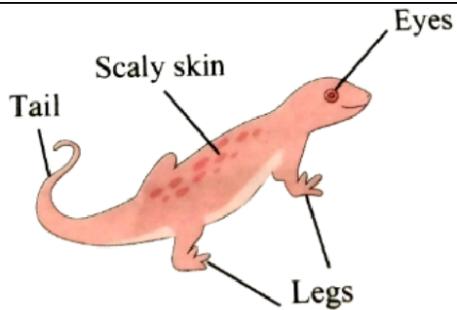
Ans



- 4** Sketch, label and classify - Wall lizard



Ans

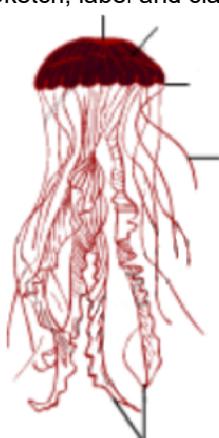


Kingdom - Animalia

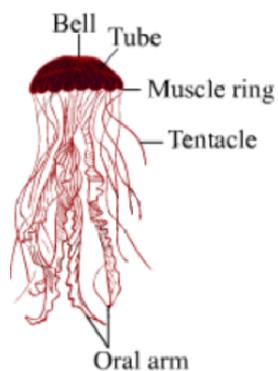
Phylum - Chordata

Genus - Hemidactylus

- 5 Sketch, label and classify - Jellyfish



Ans

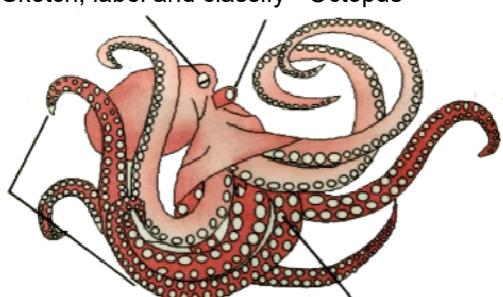


Kingdom - Animalia

Phylum - Cnidaria

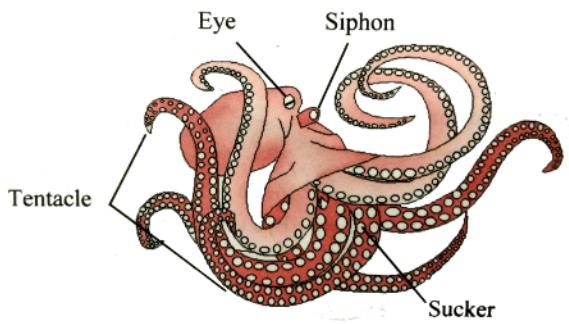
Subphylum - Medusozoa

- 6 Sketch, label and classify - Octopus



Prism
Colours of your Dreams

Ans



Kingdom - Animalia

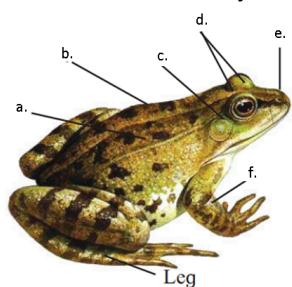
Phylum - Mollusca

Genus - Octopus

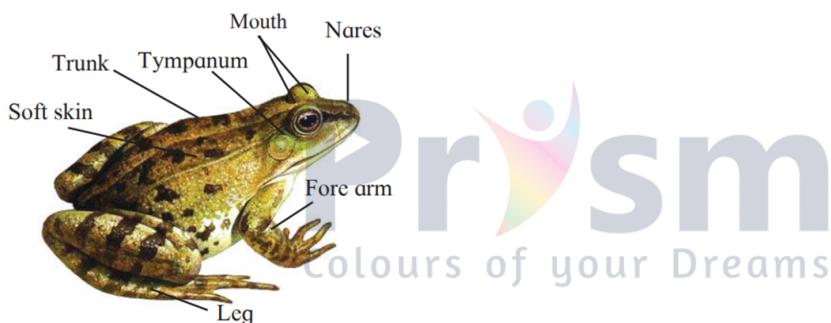
- 7 Label the given diagram and write any 2 features of such animal. - Frog

Or

Sketch, label and classify - Frog



Ans



Kingdom - Animalia

Phylum - Chordata

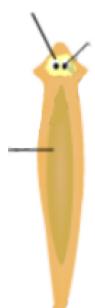
Class - Amphibia

Genus - Rana

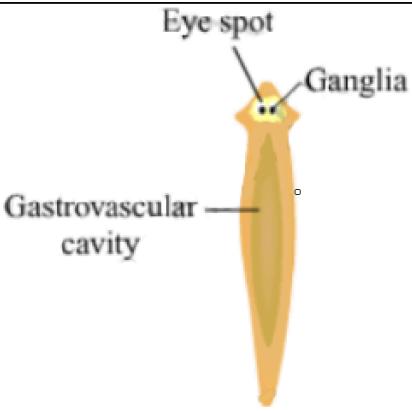
Features:

- (i) These animals are strictly aquatic during larval life and perform only aquatic respiration whereas they can live in water as well as on land during adult life and can perform aquatic as well as aerial respiration.
- (ii) They have two pairs of appendages. Digits are without claws.

- 8 Sketch, label and classify - Planaria



Ans



Kingdom - Animalia

Phylum - Platyhelminthes

Genus - Planaria

9 Sketch, label and classify - Butterfly



Ans



Kingdom - Animalia

Phylum - Arthropoda

Genus - Rhopalocera

Q.8

Answer the following

6

1 Characters of the Phylum to which a Sea-cucumber belongs.

Ans i. Sea-cucumber belongs to phylum Echinodermata.

ii. Calcareous spines are present on the body of these animals; hence they are called as echinoderms.

iii. These animals are found only in ocean. These animals have good ability of regeneration.

iv. Their body is triploblastic, eucoelomate. And it is radially symmetrical in adult stage. However, they show bilateral symmetry in larval stage.

v. They perform locomotion with the help of tube-feet. Tube feet are also useful for capturing the prey. Some animals are sedentary.

vi. They have skeleton made up of calcareous spines and/or ossicles (plates).

vii. These animals are mostly unisexual. Other Examples are: Star fish, sea-urchin, brittle star, etc.

2 What is the exact difference between grades of organization and symmetry ? Explain with examples ?

Ans i. Body of animals is made up of cells. In case of multicellular animals, many cells are performing different functions in their body while in unicellular animals, as their body is made up of single cell; all functions are performed by same cell only.

ii. The Grades of organization give idea about the body systems of the organism.

For example, if the organism like Porifera, has only cells arranged in a manner then the organism would iii. have 'Cellular grade' organization but if the cells form tissues as in Jellyfish or Hydra, then it will have 'Cell - tissue grade' organization.

- iv. In case of body symmetry, the organism is divided by an imaginary axis passing through it such that it provide two equal halves of the body.
- v. Depending on this the definite shape of the body of that organism can be understood.
- vi. For example, Spongilla does not have a definite structure and thus is Asymmetrical (cannot be divided in two equal halves) whereas humans are bilaterally symmetrical(have one axis through which they can be divided in two equal halves).
- v. In some animals such as Star-fish they have more than one axis in which the body can be divided in two equal halves. Such animals are said to have Radial symmetry.

Q.9

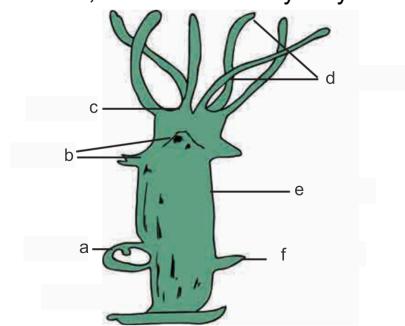
Answer the following in detail

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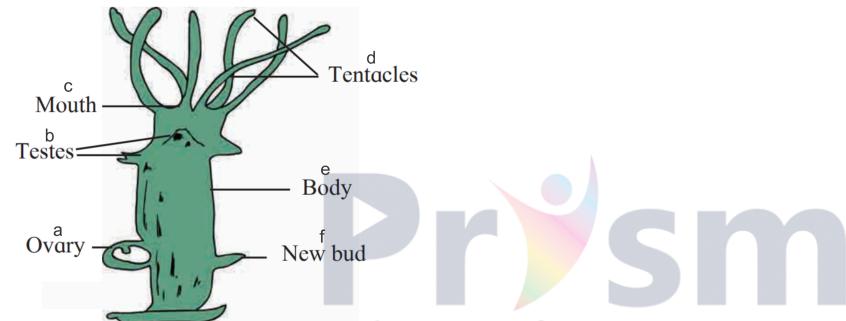
- 1 Label a diagram of Hydra. Give any four characters of its phylum.

Or

Sketch, label and classify - Hydra



Ans

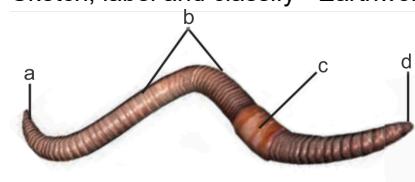


- Hydra belongs to phylum Coelenterata/Cnidaria.
- Body of Coelenterates is cylindrical or umbrella-like. If it is cylindrical, it is called as 'Polyp' (Hydra, sea anemone) and if it is umbrella like called as 'Medusa' (jellyfish).
- Most of these animals are marine. Only few are fresh-water dwellers.
- Body of these animals is radially symmetrical & diploblastic.
- Cnidoblast bearing tentacles are present around the mouth.
- Tentacles are useful for capturing the prey whereas cnidoblasts inject the toxin in the body of prey. Those are useful for protection too.

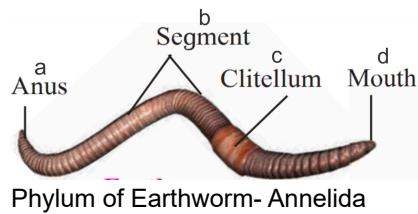
- 2 Label an Earthworm. Explain any 4 features its Phylum.

Or

Sketch, label and classify - Earthworm



Ans

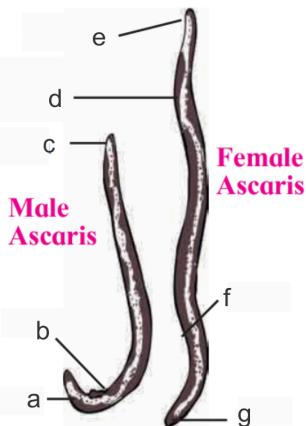


- Body of these animals is long, cylindrical & metamerically segmented.
- Most of the animals are free-living, but few are ectoparasites.
- Free-living animals may be marine or fresh water dwellers or terrestrial.
- These animals are triploblastic, bilaterally symmetrical and eucoelomate.
- They have setae or parapodia or suckers for locomotion. Their body is covered with special cuticle.
- These animals are either hermaphrodite or unisexual. Other Examples: Leech, Nereis, etc.

3 Label diagram of Round worm. Give any four examples of Aschelminthes.

Or

Sketch, label and classify - Round worm



Ans



Examples of Aschelminthes-

- Ascaris (Intestinal worm)
- Filarial worm
- Loa loa (Eye worm)
- Wuchereria
- Enterobius

Q.10

Fill in the blank and rewrite the completed statements

1

Type	Character	Example
Cyclostomata
.....	Gill respiration
Amphibia
.....	Whale
.....	Poikilotherms

Ans

Type	Character	Example
Cyclostomata	jaw-less appendages/cartilaginous endoskeleton	Petromyzon/Myxine

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Pisces	Gill respiration	Rohu/Pomfret/Sea horse/Shark/Electric ray/Sting ray/Scoliodon
Amphibia	Exoskeleton absent/Clawless digits/aquatic as well as aerial respiration	Frog/Toad/Salamander
Mammalia	Mammary glands/homeotherms	Whale
Pisces/Reptilia	Poikilotherms	for pisces-Rohu/Pomfret/Sea horse/Shark/Electric ray/Sting ray/Scoliodon for reptilia-Tortoise/Lizard/Snake

