Class: IV(int'l)
Subject: Science

Ch-7- Adaptation in animals
Ch.- 8- Reproduction in animals &
Ch.-11- Air, water & weather

- **Read these chapters thoroughly for unseen objective type questions.**

- **Follow the classwork, Revision work and Revision tests.**

Ch-7- Adaptation in animals

the classification of animals on the basis of their habitat:

- **Habitat: The surrounding or the environment in which an animal lives.**
- **Animals can be grouped based on where they live:**
- **Terrestrial animals:Animals that live on land.**

Examples: elephant, deer, lion, tiger, camel, polar bear.

- **Aquatic animals: Animals that live in water.**

Examples: jellyfish, starfish, shark, whale.

- **Amphibious animals: Animals that live both on land and in water.**

Examples: frogs, toads, salamander and newts.

- **Arboreal animals: Animals that live mainly on trees.**
  Examples: monkeys, koala bears, leopards, flying squirrels, chamealeons.

✧ **Aerial animals: These animals can fly and spend a lot of time in air .**

Examples: almost all birds except flightless birds, bats and many insects.

✧ **Aestivation: Some desert animals sleep through the summer months to save water, this summer sleep is called aestivation.**

✧ **Hibernation: Some cold place's animals sleep during the winter. This winter sleep is called hibernation.**

✧ **Migration: Some animals live in cold places move to warm places during winter in search of food and warmth. This movement is called migration.**

✧ **Herbivores:These animals eat only plants.**

Examples : cows, horses, deer, elephant.

✧ **Carnivores: These animals eat flesh of other animals**

Examples: tigers, lions, eagles.

✧ **Omnivores: These animals eat both plants and flesh of other animals.**

Examples: crow, bear, human beings.

✧ **Scavengers: These flesh eating animals feed on the remains dead animals.**

Examples: vultures and hyenas.

✧ **Parasites: These small animals get their food from other living organisms**

Examples: flea, lice, tick, tapeworm.

Exercises from Book: pg.-67

Q.A) Name them:

Dodo, 2. Tiger, 3. Elephant, 4. Frog, 5. Zebra

Q.B) Write true or false for the statement.

False, 2. True, 3. False, 4. True, 5. True

Q.F) Circle the odd one out:

1. monkey, 2. bat, 3. vulture

Q. E) Complete the following Table:

Adaptation	Examples of animals
a) Animals that have very strong legs and able to run very fast	deer and gazelle.
b) Animals that have very thick skin to protet themselves from the hot climate	elephant and hippopotamus
c) Animals that have sharp front teeth for biting very strong flat grinding teeth	cows, horses, deer, elephants, etc.
d) Animals that have sharp claws to climb up and down the branches of trees.	monkey, koala bear, leopard, flying squirrels and chamealeons
e) Animals that have hollow bones and one set of limbs to help them to fly.	all birds except flightless birds, bats and many insects

Q.1.Write answers of the following questions in short:

a) What is habitat?

Ans: The natural surroundings of an animal are known as its habitat. The animals living in a particular habitat have to adapt themselves to live in their habitat.

b) What helps a monkey to climb trees?

Ans: Monkeys are arboreal animals. Their bodies are suited to live in trees. They have long and strong limbs with sharp claws to climb the trees. They have long tail to grip the branches and to balance their body.

c) Describe the adaptations in an aquatic animal.

Ans: Aquatic animals are animals that live in the water. Examples of aquatic animals are jellyfish, starfish, shark, whale etc. Fishes are cold-blooded and they have gills to breathe. Some aquatic animals breathe through lungs like whale and dolphin. The fins of fish and paddles of turtles help them to swim.

d) What is Parasite? Give example.

Ans: Small creatures which live on or inside the body of other animals. They depend on their hosts for their foods. Most of them have mouth parts that can cut through the skin.

Examples: Ticks, fleas and lice. Worms like hookworm, tapeworm, round worms live inside the body of animals.

Q.2) Answer the question in Broad:

a)State four adaptations that help a camel to live in the hot desert?

Ans.: Camel is the best example of desert adaptation. The adaptive features that help camel to adapt in desert are as follows:

i)It has a large hump, where it gets stored fat changed from extra food and so they can go on for days without food and water.

ii) It has long legs that keep the body away from the hot sand.

iii) Camels have thick eyebrows and long eyelashes to protect them from sand during sand storms.

iv) They have thick skin which protect them from hot sun and cold.

Q.3) Match the following:

a. Animals that live on land	**i. aquatic**
b. Long winter sleep	ii. aerial
c. Animals that live both on land and in water	iii. hibernation
d. Animals that can fly	iv. terrestrial
e. Animals that live in water	v. amphibians

Answers

a) + iv b) + iii c) + v d) + ii e) + I

Q.1)True or False:

a) The natural surrounding of an animal is known as its habitat. True

b) Some aquatic animals have lungs. True

c) Some animals hibernate in winter.True

d) Aquatic animals have wings to move. False

e) Aestivation is the long inactive stage of an animal during winter time.false

f) Many animals use camouflage to avoid recognition by their enemies or preys. True

2.Drawing and Labeling:

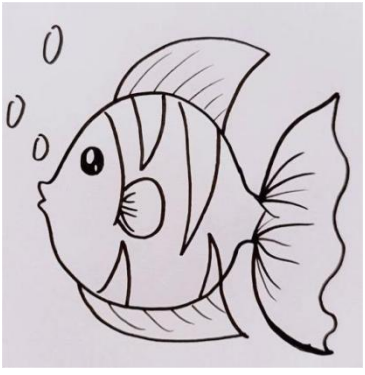
a) One parasite b) One aquatic animal c) One amphibian

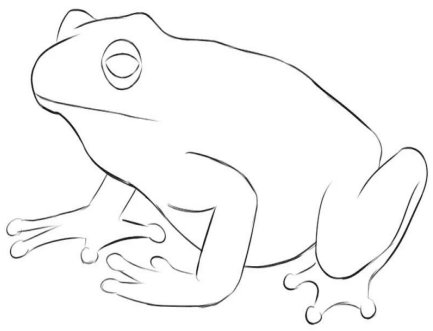
Ans.:a) One parasite

TICKS

LEECHES

b) One aquatic animal b) One amphibian animal





Skill building question :

Pg 68-

1. Which animals are aquatic animals?
2. Aquatic animals are in danger due to the constant pollution of water bodies.What can be done to protect these animals?

Clues for answer:

i.Aquatic animals & their examples.

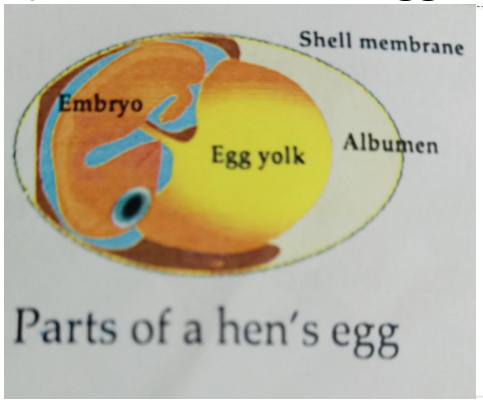
ii.Causes of water pollution.

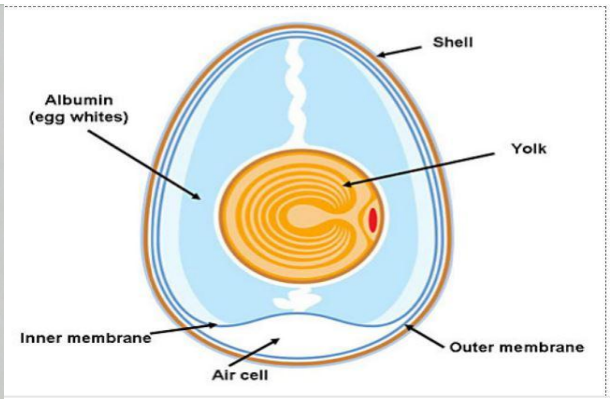
iii.How to prevent water pollution?

Topic: Repoduction in Animals (Pg.- 69 – 72)

Q.1) Draw and label:

a) Parts of a hen's egg





✧ **Why do animals reproduce:**

All living things reproduce so that life on earth can continue. Reproduction is the natural way in which animals give birth to their babies and grow in number.

✧ **How do animals reproduce:**

Two main ways of reproduction in animals are:

i. by laying eggs

ii. by giving birth to young ones.

- **Animals that lay egg**: Some animals reproduce by laying eggs. Ex.: insects, fish, frogs, snakes, lizards, snails, birds and crocodiles.
- **Birds (hen's egg):**
  bird builds nest to lay eggs.
  birds nurture their eggs for keeping proper temperature.
- **Shell:** all eggs are protected by hard covering,called the shell. Within the shell the white part is albumin and the yellow part is yolk.
- **Embryo:** The yolk contains the growing baby called the embryo. The albumin contains protein.
- **Incubation:** The process in which a bird keeps its eggs warm until the young one comes out, that process is called incubation.
- **Animal that give birth to young ones:** Some animals give birth to their babies.Ex.: humans, lions, tigers, elephants, cows, bears, whales, dolphins.
- **Mammals:** The mothers feed their babies with their own milk, Such animals are called mammals.

Q.1) Broad Question

a) i) What is life cycle?

ii) Explain the different stages in the Life Cycle of a frog with diagram.

Ans.: **i) Life Cycle:** A life cycle is the developmental stages that occur during an organism's lifetime. A life cycle ends when an organism dies.

ii) The Life Cycle of a frog: Frogs are called amphibians. During the early stages, frogs have gills for breathing. Then they develop lungs so they breathe on land like we do.

Different stages:

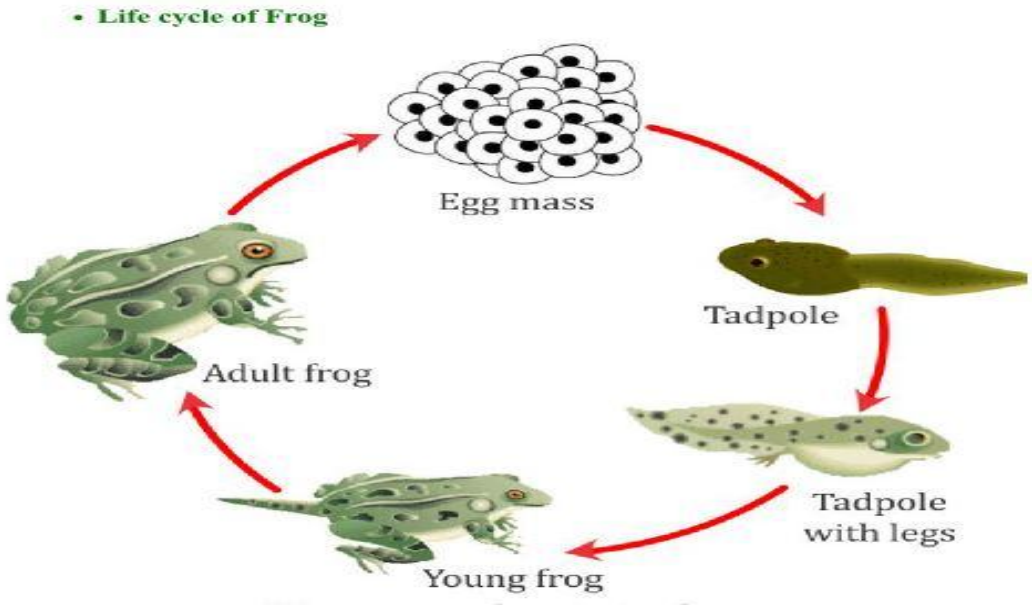
Eggs: This is an egg mass laid by a frog. Each of those black dots is made up of a bunch of cells that will eventually grow into a tadpole.

Tadpole: Within a few days, the eggs develop into tadpoles. Tadpoles live completely underwater.

Tadpole with legs : After the hind legs have started to form, a pair of front legs will begin to develop and the tail will start to disappear. You might also notice that the tadpole has started to form a frog-like face.

Young frog : When the tadpole reaches the froglet stage, it is almost a full adult. At this point, the tadpole's gills have disappeared, and its lungs have enlarged.

Adult : This is a fully grown frog. As you have just read, frogs go through a lot to get to this phase.



Q.1) Exercises from book: pg.- 73 & 74.

A) Name them:

1. Frog spawn, 2. caterpillar, 3. molting, 4. marsupial, 5. albumen.

B) True or False:

1. false.
2. true
3. true
4. false. Frogs lay eggs in the water or in a damp place .
5. true

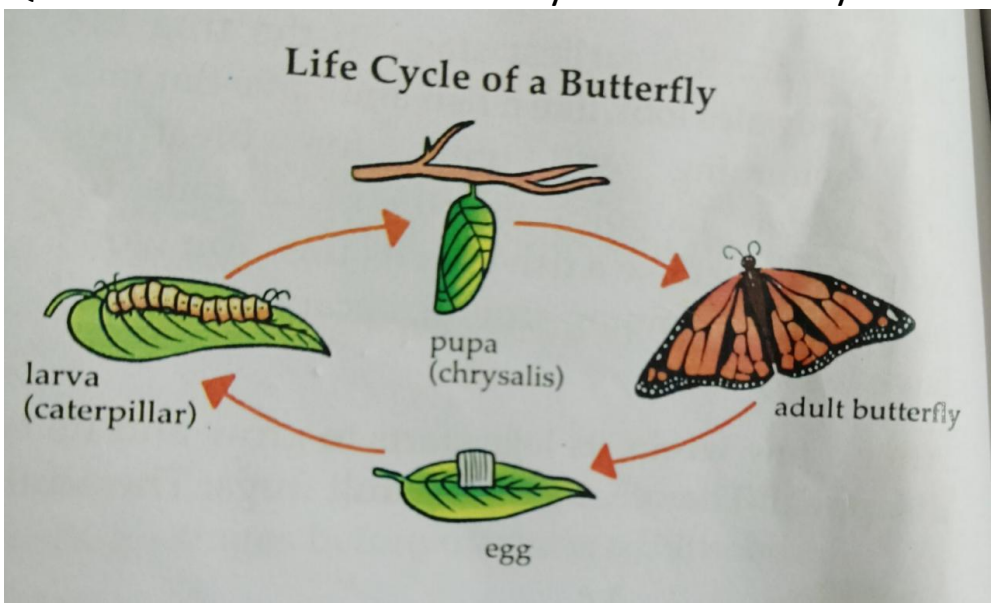
Q.C) F/B:a. life cycle, b. four/4 c. cockroaches d. Frog's e. cocoon f. embryo

Q.E) Define the following:

a. Incubation: The young bird will only develop at the proper temperature, and this happens only when one of the parent birds sits on them for several days. This is called incubation.

b. Molting: During the nymph grow by shedding its skin many times until it reaches adulthood. This process is known as molting.

Q.2. Draw and label "The Life cycle of a butterfly".



Q.1) Short Questions:

a) Why is reproduction in animals is important?

Ans.: Reproduction is the natural way in which animals give birth to their babies.

This is very important for the continuation of the similar kind of animals generation after generation, to ensure that there are enough animals and they do not die out completely.

b) What is tadpole? What does it look like?

Ans: Young frogs are called tadpoles. These are the earliest stage in the frog life cycle.

Tadpoles look like a fish and have flat tails for swimming and gills for breathing under water.

c) What is metamorphosis? Give examples of two animals that go through metamorphosis.

Ans.: **Metamorphosis**: The complete change in the body shape of a young animal when it changes into an adult is called metamorphosis.

Examples: The two examples of metamorphosis are as follows:

i) The tadpoles change into frogs,

ii) The caterpillar changes into an adult butterfly.

d).Name the stages of life cycle of a butterfly.

Ans.: The butterfly has four stages in its life cycle.

The stages are as follows:

i) eggs,

ii) larva(caterpillar),

iii) pupa (chrysalis),

iv) adult butterfly

Q.2) Answer in one sentence:

a) How do animals reproduce their young one?

Ans.: By laying eggs or by giving birth

b) What is marsupial?

Ans: Some animals like the kangaroo has a special pouch called a marsupial for carrying their babies, because their young are very small when they are born.

c) What is molting?

Ans.: When the nymph grow by shedding its skin many times until it reaches adulthood. This process is known as molting.

Q.3) True or False:

a) The larva of a butterfly is called a caterpillar. True
b) The white part of an egg is yolk. False
c)Most mammals lay eggs. False
d) Cockroach has five stages in their life cycle.False
e) When the birds sit on the eggs for several days, that period of time is called incubation.True

Chapter:11

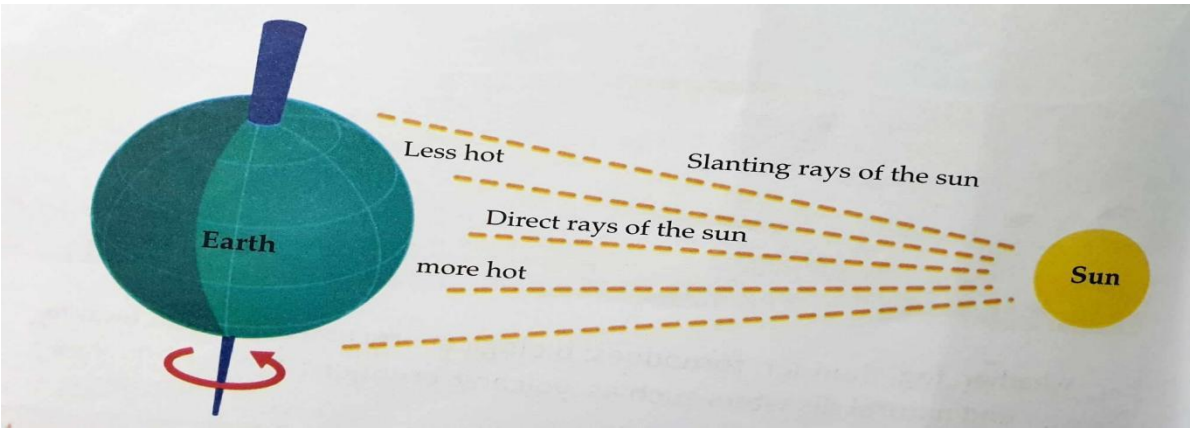
Topic: Air, Water and Weather

✧Weather & Climate

Weather: It is what the sky and the air outside are like, such as cold and cloudy. The weather is more than just wind or rain, but also includes some stunning effects in the sky like rainbows, flashes of lightning, and sunsets.

Climate:The weather found in a certain place over a long period of time is known as the climate.

✧The role of sun:



Q.2) Short Questions:

a) What is precipitation?

Ans.: Any form of water that falls on the earth's surface is called precipitation. There are different kinds of precipitation. Rain is the liquid form of precipitation.

b) Name the factors affecting the rate of evaporation.

Ans.:The Factors affecting the rate of evaporation are given below:

High Temperature: The higher the temperature, the faster the rate of evaporation.

ii) Surface area: When a large area is exposed to heat, evaporation takes place faster.

iii) Flow of breeze: If there is flow of breeze water will evaporate faster.

c) What is the difference between weather and climate?

Ans.: The differences between weather and climate are given below:

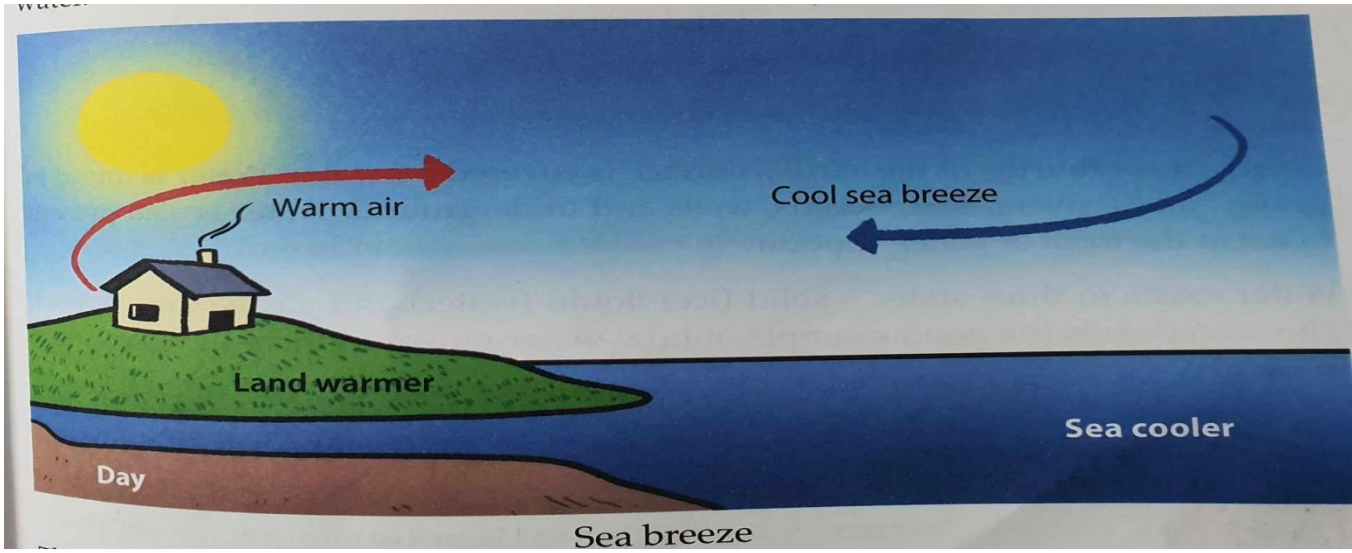
Weather	Climate
i) conditions of the atmosphere over a short period of time	i) how the atmosphere behaves over a long period of time and space.
ii) can change within minutes or hours	ii) Average weather over many year s in one specific place.

Q.3) Broad Question:

a) Describe the land and sea breeze with the help of a diagram.

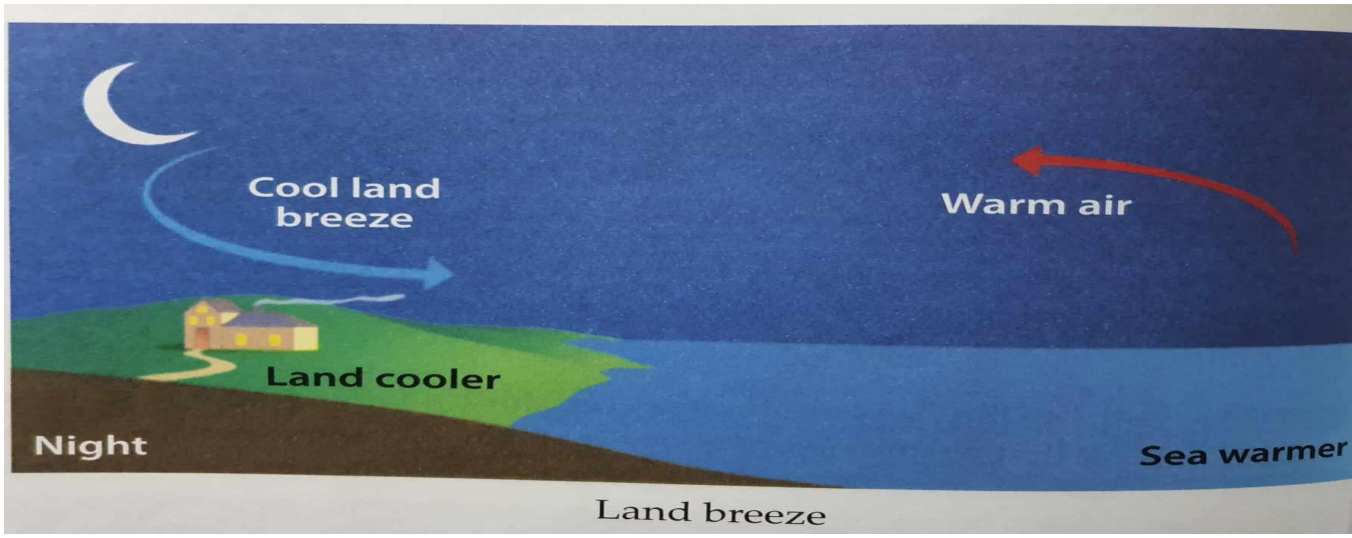
Ans.: Sea breeze : The sun shines on both the land and the water at the same time, but the land gets hot faster than the water. This means that the air over the land gets hot faster than the air over the

water, too. The hot air over the land rises and the cooler air from over the water moves into take its place. That cooler moving air is called sea breeze.



Sea breeze

Land breezes: In the night, the land quickly loses its' heat while the water retains its' warmth. This means the air over the water is warmer and begins to rise. Cooler air from over the land begins to move into replace the warmer rising air over the water. The cool breeze from the land is called a land breeze.



Land breeze

Q.1) Exercises from book: pg.- 92.

A) F/B: a. weather,
b.polluted,
c. waterworks,
d. boiling,
e. sea breeze
f. three fourths

B) True or False:

1. false.
2.true
3. false
4. true

Q.E) Define the following:

- **Evaporation: The process in which water changes its physical form, from liquid into gas is called evaporation.**
- **Snowflakes: If the clouds are very cold the water vapour condenses to form ice instead of water. The ice is soft, flat, and beautiful. This ice is called snowflakes.**
- **Dew: On cold winter nights, the air near the ground cools down. The water vapour in the air condenses to form drops of water on the leaves, grass or window panes. This is called dew.**
- **Mist: On cold winter mornings, water vapour sometimes condenses on dust particles just above the ground . This forms clouds, just above the ground . This is called fog. Thin fog is called mist.**