GIRLS' HIGH SCHOOL AND COLLEGE, PRAYAGRAJ

SESSION-2020-2021

WORKSHEET-3

SUBJECT-BIOLOGY

CLASS-6 (A,B,C,D,E and F)

NOTE- Parents are expected to ensure that the student takes reference from a book or the internet and thereafter answer the given questions.

Book-Srijan ICSE Biology Class 6 by Veer Bala Rastogi

Website- byjus.com/biology/leaves-morphology-types-modification/#modification

Youtube Link; https://youtu.be/xTSOjfTPGs4.

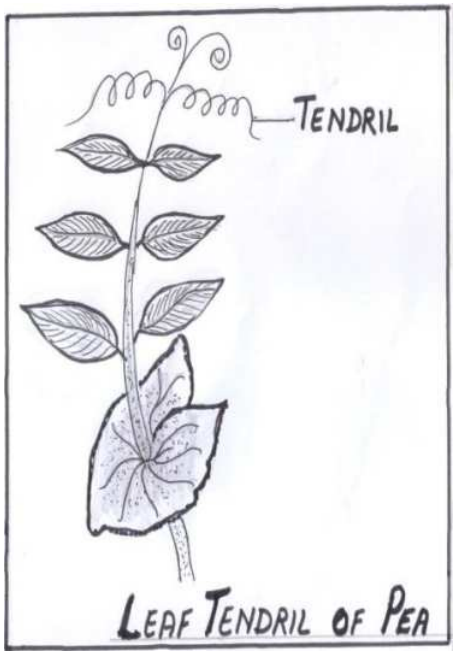
Chapter-The Leaf.

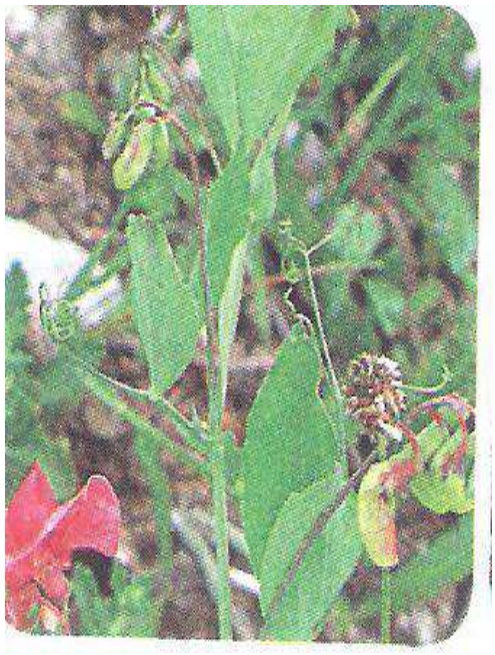
Topic-Modification of Leaves.

Leaves are specialised to perform photosynthesis and other functions. In addition, they also have other significant roles to play ,such as support, storage of food , defence etc. For each of these functions ,they have been modified into different forms.

LEAF TENDRIL FOR SUPPORT.

In plants with weak stem like Pea, a few leaves are modified into thin wire-like coiled structures called leaf tendrils .They give support to plant as it climbs up, e.g: Sweet pea, Garden pea,etc.

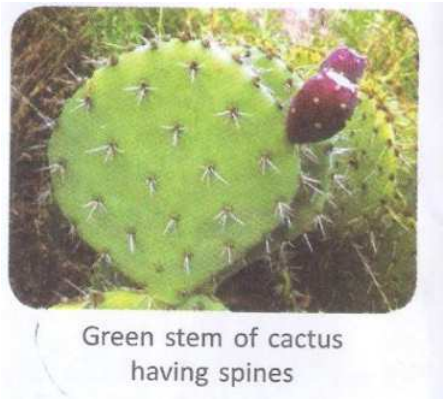




Pea plant.

SPINES FOR CONSERVATION OF WATER AND PROTECTION:

In cacti,the leaves are modified into spines to avoid loss of water by transpiration. They also protect the plant from grazing animals.

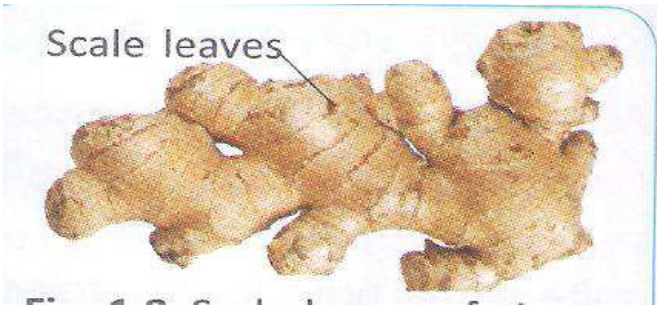


In Prickly poppy ,leaf margins bear spines to protect the plant from grazing animals.

Prickly poppy

SCALE LEAVES FOR PROTECTION:

Scale leaves are found in Ginger and Onion .They may be thin and dry or thick and fleshy.Scale leaves protect the buds and the fleshy leaves store food materials.



Scale leaves of ginger.

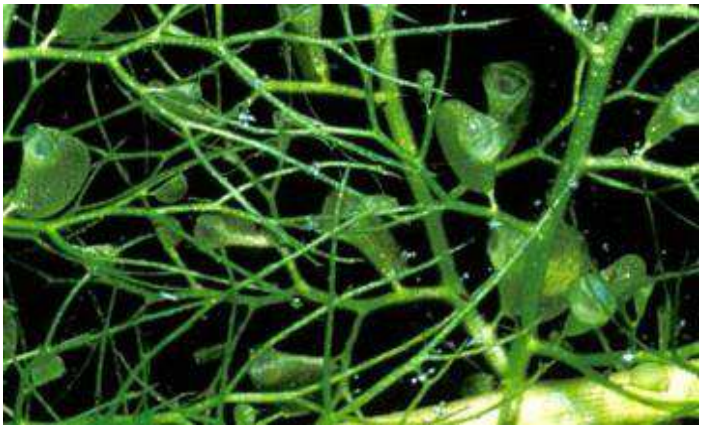
INSECTIVOROUS PLANTS

Few plants require nitrogen for their development. Insectivorous plants catch and prey upon small insects . However , they carry out photosynthesis , but they grow in nitrogen-deficient swampy soil. Therefore ,to obtain nitrogen ,their leaves are modified into different types of structures such as pitcher,bladder or flytrap for catching and digesting insects. Examples of some insectivorous plants are as follows:

1).Pitcher plant, the lamina is modified into pitcher and petiole into the leaf.The apex of the leaf forms lid of the pitcher .When an insect sits on the rim of the pitcher , the lid closes suddenly. The trapped insect falls to the bottom of pitcher ,where digestive juices are secreted and digest the insect body.

Pitcher plant

2).In Bladderwort, the leaf is modified into a sac-like bladder to trap insects.



Bladderwort

3).In Venus flytrap,the lamina is divided into two parts. Their margins are toothed .They get interlocked when an insect sits on the leaf.

Venus flytrap

4).In sundew plant, leaves secrete a gluey mucilage and bears trichomes .They trap and digest the prey .Sundew is the most common carnivorous plant found everywhere except Antarctica .When a fly, butterfly or any other nectar-loving insect lands on the colourful tip of the leaf it is immediately stuck and digested.

Sundew plant with tentacles

Vegetative Propagation in Leaf

Normally plants grow from seeds formed by sexual reproduction .Some plants also grow or multiply from vegetative parts such as roots , stem or leaves of plants .This is called vegetative propagation .

Leaves of certain plants, like Bryophyllum and Begonia develop buds along the margins. When these buds come in contact with moist soil, they give rise to roots and start growing into plantlets.

Bryophyllum leaf

Answer the following questions.

Q1).Fill in the blanks:-

1).Leaves of Bryophyllum plant develop _____ along the margin.

2). _____ is the most common carnivorous plant found everywhere except Antarctica.

3). The leaves of Garden Pea are modified into _____ .

4).In Venus flytrap the _____ is divided into two parts.

5). In Cactus plant, the leaves are modified into_____.

Q2). Write True/False:-

1).Scale leaves are found in Begonia plant.

2).Insectivorous plants catch and prey upon small insects.

3).Some leaves in pea form spines.

4). In Sundew plant,leaves secrete a gluey mucilage and bears trichomes.

5).In Prickly poppy ,leaf margins bear spines to protect the plants from grazing animals.

Q3).Choose the correct answer.

1.)Which of the following is not an insectivorous plant?

a). Pitcher plant

b). Venus flytrap plant

c). Bladderwort plant

d). Cactus plant

2). In Pea plant_____ is modified into tendril.

a). leaf

b). stem

c). flower

d).bud

3). Which plant secretes digestive juices .

a). Sweet pea

b). Cactus

c). Pitcher

d). Begonia

4). Prevents loss of water by transpiration.

a). leaf tendril

b). spines

c). bud

d). Stem

5). In----------, the leaf is modified into a sac- like bladder to trap insects.

a).Pitcher plant

b).Bladderwort plant

c).Venus flytrap plant

d).Sundew plant

Q.4) Draw a labelled diagram showing scale leaves of ginger.

Q5). Match the followings.

Column A	Column B
1). Bryophyllum	a). Spines
2). Onion	b). Weak stem
3). Bladderwort	c). Fleshy leaves
4). Prickly poppy	d). Insectivorous plants
5).Sweet pea	e) .vegetative propagation

Q6).Mention the functions of the following

a). Scale leaves

b).Spines

c) .Leaf tendril

Q7). Answer the following in short.

a). What are insectivorous plants?

b). Give two examples of insectivorous plants.

c).In which insectivorous plant, the lamina is modified into pitcher?

d). What is Vegetative Propagation?

Q.8).Answer the following questions in long .

a). Why do some plants trap insects?

b). Describe the modification of leaves in any one insectivorous plant.

c). What are leaf tendrils. How does it help the plant?

d).What changes can be seen in the buds of Bryophyllum plant when they come in contact with moist soil?

THE END