

Marking guide for Wednesday 1st April 2020

Science lesson seven

1. a) By what process do plants make their own food?

Photosynthesis

- b) Mention two raw materials plants use for photosynthesis.

i. **Water**

ii. **Carbon dioxide**

- c) What form of energy do plants use during photosynthesis?

Sunlight energy

- d) How do plants benefit from photosynthesis.

Plants get food from photosynthesis

- e) How do plants depend on animals during photosynthesis?

Plants get carbon dioxide from animals which they use for photosynthesis

- f) How do animals benefit from photosynthesis?

i. **Animals get oxygen from plants during photosynthesis**

ii. **Animals get food from plants made during photosynthesis**

- g) How is photosynthesis useful to the environment?

Plants purify the atmosphere by absorbing carbon dioxide during photosynthesis

- h) Why can't photosynthesis take place at night?

There is no sunlight at night

- i) Why is it wrong to share a bedroom with a living plant at night?

It creates competition for oxygen

- j) What is the end product of photosynthesis?

Glucose

Name the food made by plants

Glucose

k) What is the life giving product of photosynthesis?

Oxygen

l) Name the gas given off by plant during

i) photosynthesis

oxygen

ii) germination

carbon dioxide

m) Which component of air increases in the atmosphere during;

i) photosynthesis?

Oxygen

iii) germination?

Carbon dioxide

n) State the role of each of the following during photosynthesis

i) chlorophyll

To trap sunlight energy

ii) sunlight

To split water molecules into hydrogen and oxygen

carbon dioxide

To combine with water to form starch

Water

i. **To combine with carbon dioxide to form starch**

ii. **To dissolve food in the leaf**

o) How is chlorophyll in plants similar to melanin in people?

Both are colouring pigments

p) Why do plants that grow in dark places grow yellowish leaves.

Due to lack of sunlight

q) Name the gas plants use to make

i) starch/glucose/carbohydrates

carbon dioxide

ii) proteins

nitrogen

iii) State any two ways leaves are adapted to photosynthesis.

i. **They have a broad surface**

ii. **They have chlorophyll**

iii. **They have stomata**

r) How do legumes make proteins?

Through photosynthesis

s) Where do plants get carbon dioxide which they use for photosynthesis.

From the atmosphere

Where do plants get water for photosynthesis?

From the soil

Name the component of soil used by plants for photosynthesis

Water

t) Name the substance used when testing for starch.

r) **Iodine solution**

s) How do lions benefit from photosynthesis?

Lions get oxygen from photosynthesis

t) How do lions benefit plants?

Lions provide carbon dioxide to plants

u) How do plants benefit lions during photosynthesis?

Plants provide oxygen to animals during photosynthesis

u) Why does photosynthesis mainly take place in the leaves?

Leaves have more chlorophyll

w) Why do plants breathe in oxygen at night?

For respiration

2. a) What do we call the process by which plants lose water in form of water vapour to the atmosphere?

Transpiration

b) State any two importance of leaves to

i) plants

i. **leaves are used for photosynthesis**

ii. **leaves have stomata for transpiration**

iii. **leaves have stomata for breathing**

iv. **some leaves store food for plants**

v. **some leaves are used for propagation**

ii) people

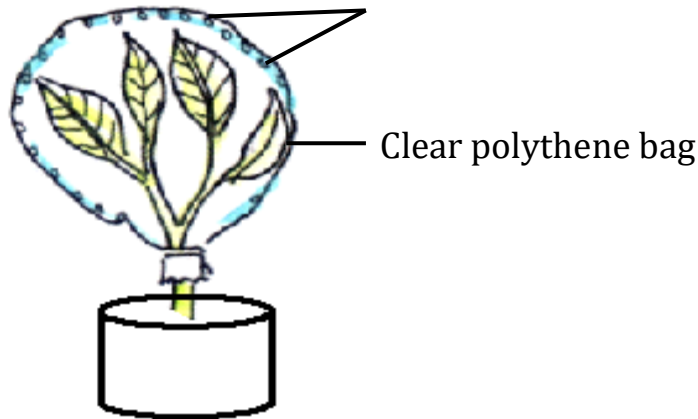
i. **some leaves are eaten by people**

ii. **some leaves are used for making herbal medicine**

iii. **some leaves are used for decoration**

3. The diagram below shows an experiment carried out by a P.4 class about a plant process. Study it carefully and use it to answer questions that follow.

Water droplets



a) Name the plant process investigated.

Transpiration

b) By what process were the water droplets formed?

Condensation

c) Why was a clear polythene bag used?

To easily observe through it since it is transparent

d) Apart from plants, give one other source of water vapour in a water cycle.

Water bodies

e) Which process in people is compared with transpiration in plants?

Sweating

f) How can transpiration be a danger to plants.

Excess transpiration can cause wilting of plants

4. a) How is transpiration important to plants?

i. **Transpiration cools plants**

ii. **Helps water and mineral salts to move to the leaves**

b) How is transpiration useful to the environment?

Helps in rain formation

c) What role do plants play in a water cycle?

To provide water vapour through transpiration

5. a) State any two ways plants reduce the rate of transpiration.
- i. Some plants shed their leaves during the dry season**
 - ii. Some plants cover their leaves with a layer of wax**
 - iii. Some plants close their stomata during the day and open them at night**
 - iv. Some plants curl their leaves during the dry season**
 - v. Some plants have thorns instead of leaves**

a. What are deciduous plants?

These are plants that shed their leaves during the dry season

b. State any two factors which increase the rate of transpiration

- i. Big leaves**
- ii. Too much sunlight**
- iii. Strong wind**
- iv. Less humidity**
- v. High temperature**

c. State any two factors which reduce the rate of transpiration

- i. Small leaves**
- ii. Low temperature**
- iii. A lot of humidity**
- iv. Little /no sunlight**

d. Why do deciduous plants shed their leaves during the dry season.

To reduce the rate of transpiration

e. Cactus plants grow in deserts. How are they adapted to reducing the rate of transpiration?

They have thorns instead of leaves

- f. Baguma is a banana grower in Kabarole district. He usually transplants his banana suckers in the wet seasons. What advice can you give him to reduce the rate of transpiration in his newly transplanted banana suckers?

To cut off banana leaves before transplanting the banana suckers

- g. What is the best time of the day for transplanting?

Evening time