

MINISTRY OF EDUCATION
SECONDARY ENGAGEMENT PROGRAMME
GRADE 8
INTEGRATED SCIENCE

Week 3

Lesson 1 - Worksheet 1

Topic/sub-topic: Sexual Reproduction in plants

Section A

1. Complete each statement below using the words given below.

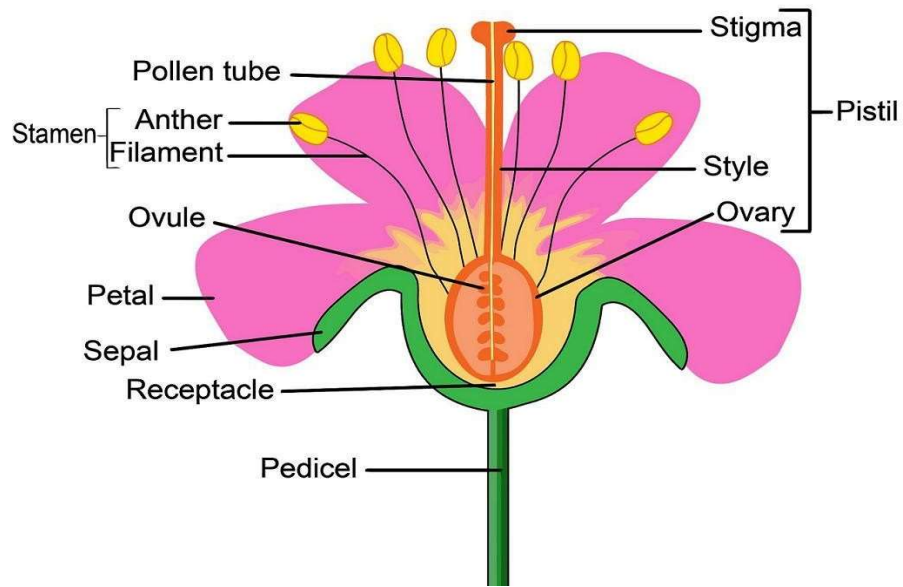
Word bank				
petals	seed	stigma	female	ovule
fruit	pollen	anther	insects	ovary

Pollination is when a _____ grain is carried from one plant to another. The pollen is made in the _____, which is the male part of the plant. _____ are attracted to the flowers because of their bright _____ and strong smell. The bee lands on the flower and picks up the pollen from the _____. The bee then flies to another plant and leaves the pollen on the _____ of the plant. The stigma is the _____ part of the flower. The pollen grain then travels down the style to fertilise an _____ in the _____. They can then grow into a _____ and the ovary can turn into the _____.

2. Differentiate between:

- (i) Pollination and fertilization
- (ii) Self and cross pollination
- (iii) Unisexual and bisexual flower

The picture below shows the main parts of a flower. Seeds are made when part of a pollen grain fertilizes an ovule.



3. Identify the part of the flower that:
 - (i) Produces the male gametes
 - (ii) Contains the female gametes
 - (iii) Acts as a protective organ
 - (iv) Is the site of fertilization

4. (a) Describe the role of the petals in pollination and give two (2) reasons in which it may be adapted for its function.
(b) Each pollen grain in the flowering plants produces male gametes. State the function of the male gametes.

5. How does the stigma of an insect pollinated flower differ from that of a wind pollinated flower?

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Lesson 1: Worksheet 1 - Answer Sheet

Section A

1. Pollination is when a **pollen** grain is carried from one plant to another. The pollen is made in the **anther**, which is the male part of the plant. **Insects** are attracted to the flowers because of their bright **petals** and strong smell. The bee lands on the flower and picks up the pollen from the **anther**. The bee then flies to another plant and leaves the pollen on the **stigma** of the plant. The stigma is the **female** part of the flower. The pollen grain then goes down the style to fertilise an **ovule** in the **ovary**. They can then grow into a **seed** and the ovary can turn into the **fruit**.
2. (i) Pollination is the process by which pollen grains is transferred from the anther to the stigma of a flower whereas fertilization is the process by which the male gamete fuses with the egg in the ovule to form a zygote.
 - (ii) Self pollination occurs when pollen grains from the anther fall directly onto the stigma of the same flower or on another flower of the same plant and cross pollination is when the pollen grains from the anther of one flower is transferred to the stigma of the flower on another plant but, of the same species.
 - (iii) Unisexual flowers are flowers that have either the male reproductive organ or the female reproductive organ while bisexual flowers have both male and female reproductive organs.
3. (i) Anther
 - (ii) Ovary
 - (iii) Sepal
 - (iv) Ovary

4. (a) Role of petals in pollination

Petals attract pollinators (insects, birds). Petals are usually large, brightly coloured and scented to attract pollinators

(b) The function of male gametes is to fuse with the female gamete to form the zygote

5. **Insect pollinated flower**- the stigma is found inside of the flower. It is usually sticky to catch pollen grains

Wind pollinated flower – the stigma is found outside of the flower and is usually large and feathery.