

Sexual reproduction in plants

State the functions of the petals and sepals.

Sexual reproduction in plants

What are the functions of the anther and the filament?

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State the functions of the stigma, style, ovary and ovule.

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Describe the anthers and stigmas of a wind-pollinated flower.

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How do pollen grains of wind-pollinated flowers differ from those of insect-pollinated flowers?

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Define pollination.

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When does fertilisation occur in a flowering plant?

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Give two adaptations of an insect-pollinated flower.

The anther produces pollen grains. The filament holds the anther up.

Petals attract insects. Sepals protect the flower in the bud.

Anthers hang outside the flower; stigmas are large and feathery and hang outside the flower.

Stigma receives pollen; style holds up the stigma; ovary contains the ovules; ovule contains the egg cell.

The transfer of pollen grains from an anther to a stigma.

Wind-pollinated pollen is smaller, lighter and smooth. Insect-pollinated pollen is larger and sticky or spiky.

Large, brightly coloured petals; nectar; sticky stigma inside the flower.

When a pollen nucleus fuses with a nucleus in an ovule.

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What conditions do seeds need to germinate?

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Define self-pollination.

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Define cross-pollination.

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Compare the effects of self-pollination and cross-pollination on a population.

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Describe the growth of the pollen tube.

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In a germination investigation, why is the water boiled, cooled and covered with oil?

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Why should all the tubes in a germination investigation be kept in the dark?

The transfer of pollen grains from the anther of a flower to the stigma of the same flower or a different flower on the same plant.

Water, oxygen and a suitable temperature.

Cross-pollination: more variation, better able to respond to environmental change, but more reliant on pollinators. Self-pollination: less variation, less able to respond, less reliant on pollinators.

The transfer of pollen grains from the anther of a flower to the stigma of a flower on a different plant of the same species.

Boiling removes dissolved oxygen. The oil stops oxygen from the air dissolving back in. This tests whether seeds need oxygen.

It grows from the pollen grain down the style into the ovule, where the pollen nucleus fuses with the egg cell nucleus.

So light is the same for every tube. The cold tube is in a dark fridge, so light would otherwise be a second variable.