Flower structure and pollination

Student activity • observation and reasoning

YEAR 11 / LESSON 82 / BIOLOGY + SCIENCE (DOUBLE AWARD)

The question

How do flower features relate to pollen transfer?

Use the supplied examples, record your reasoning and correct it using evidence.

Equipment

- Student booklet, pencil and ruler
- Insect- and wind-pollinated flower photographs and labelled reference diagrams

Paper, modelling and written reasoning only. No chemicals or biological samples are handled.

Course coverage: Shared Biology / Double Award: 3.3. Insect and wind pollination.

Plan, model or apparatus sketch

Draw and label the apparatus or biological model; identify one limitation.

Method and reasoning

Read the whole sequence before starting

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1. Label anther, filament, stigma, style, ovary, ovules, petals and sepals on supplied photographs or diagrams.

2. Define pollination as pollen transfer from anther to stigma, distinguishing it from fertilisation.

3. Compare an insect-pollinated example with a wind-pollinated example using actual visible features.

4. Link exposed anthers, abundant light pollen and feathery stigmas with wind transfer.

5. Link attraction, nectar where present and contact with pollen/stigma to insect transfer.

6. Explain that these are common adaptations, not a rule that every flower has every listed feature.

Cleanup

- Return models and keep the corrected work.

Record your evidence

Blank spaces are for your own work

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Reference and task data

Pollination is transfer, not gamete fusion. Ovules are inside the ovary; pollen is produced at anthers. Use photographs/models to avoid pollen-allergy exposure. Typical wind and insect adaptations support different transfer routes, with variation among species.

Example / trial	Observation / evidence	Explanation / limit
Evidence / comparison		
Explanation		
Limit / correction		

Show your calculations, labelled model or correction here.

Explain and evaluate

Use evidence and show calculation steps where relevant

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1. Where is pollen produced?

2. Where does pollen land?

3. Where are ovules?

4. Why can a feathery stigma help wind pollination?

5. Why can sticky pollen help insect transfer?

6. Is pollination fertilisation?