

SCIENCE • CLASS 9

CHAPTER 1

Exploration

Entering the World of Secondary Science

NCERT SOLUTIONS



EVIDENCE-BASED PREDICTIONS

Category: Pause and Ponder - Q1.

Q1. Think of a prediction you or your family made recently (for example, the outcome of a cricket match). Was it based on evidence and reasoning, or mainly on guesswork? How can scientific thinking improve such predictions?

SOLUTION - ONE POSSIBLE RESPONSE:

Prediction: Our team is likely to win its next cricket match.

Basis: Choosing it only because it is my favourite team is guesswork. Comparing recent performances, player fitness, pitch conditions and the opponent uses evidence.

HOW TO IMPROVE THE PREDICTION:

- ① Collect reliable information before the match.
- ② Compare results under similar conditions.
- ③ State a reasoned prediction and record its basis.
- ④ Compare the actual result with the prediction and revise the reasoning.

Final answer: Evidence makes a prediction better supported, but does not guarantee the result.

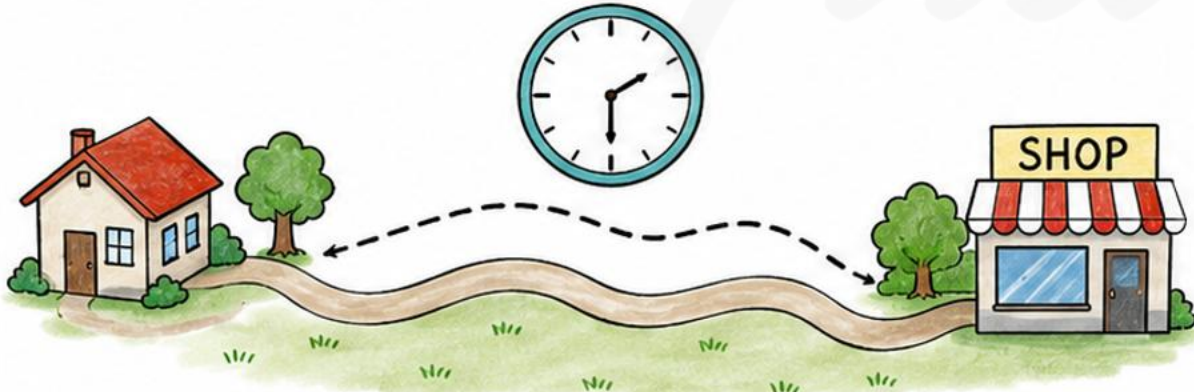
APPROXIMATION AND PRECISION

Pause and Ponder - Q2.

Question: Describe one situation where an approximate answer is good enough, and one where you would need a very exact value.

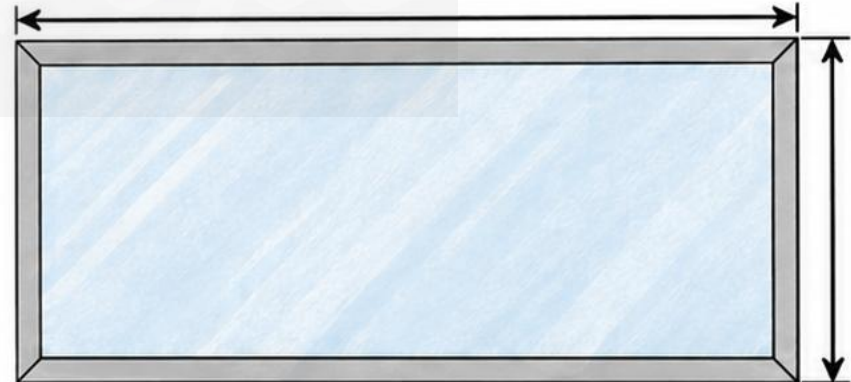
Approximate answer is enough:

Estimating the time needed to walk to a nearby shop.
A rough time helps us plan when to leave.
Small changes in walking speed or waiting time do not make the estimate useless.



A very accurate measurement is needed:

Cutting a glass pane to fit a window frame.
Its length and width must be measured accurately.
Even a small error can make the pane too large or leave gaps.



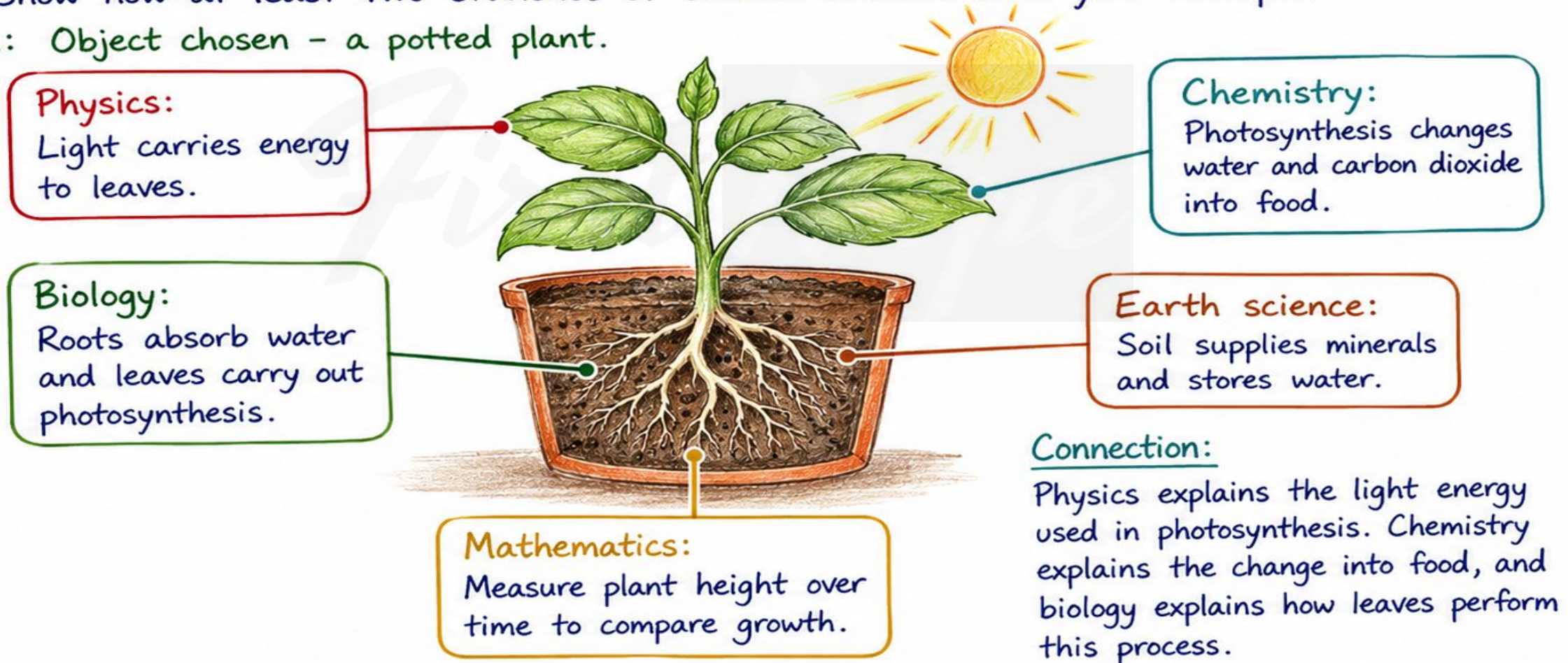
Final answer: The purpose decides the required precision. A rough estimate can guide planning, while fitting a part needs accurate measurements.

CONNECTED BRANCHES OF SCIENCE

Pause and Ponder - Q3.

Question: Choose a real-life object (maybe a pressure cooker or a mobile phone) or a problem (maybe a traffic jam near your school). Make a sketch listing what kind of ideas from physics, chemistry, biology, earth science or mathematics are involved. Show how at least two branches of science connect with your example.

Solution: Object chosen - a potted plant.



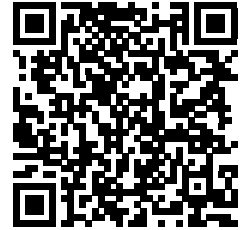


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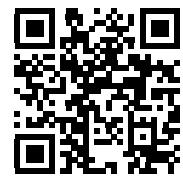


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