Year 5 | Science

Scientific knowledge, inquiry, data and evidence

Student name: _____ Date: _____

Suggested time: 45 minutes. Work independently where possible. Show your thinking. This is a learning snapshot, not a pass/fail exam.

Living things and environments

1. A pond has algae, insects, small fish and herons. Create one food chain and explain what the arrows mean.

2. Why might the number of small fish decrease if pollution kills many pond insects? Explain the link.

study_w_me_hk

3. A cactus and a water lily live in very different places. Describe one adaptation of each and how it helps.

Materials, forces and energy

4. A metal spoon and a wooden spoon are placed in warm water. Predict which handle feels warmer first and explain why.

5. A toy car rolls down ramps of different heights. Predict what happens as ramp height increases, and explain why.

6. Explain the difference between dissolving sugar in water and melting ice. What changes in each case?

Working scientifically

7. Design a fair test to investigate whether light affects plant growth. Include what you change, measure and keep the same.

8. Three seedlings grow 4 cm, 7 cm and 6 cm in a week. Find the mean growth and describe one limitation of using only three plants.

study_w_me_hk

9. A student says: “My plant grew taller because I played music.” What other explanation could there be? Suggest a better test.

10. A bar chart shows 12 birds on Monday, 8 on Tuesday, 15 on Wednesday and 10 on Thursday. Which day has most birds? How many more than Tuesday?

11. A student repeats a temperature measurement: 18°C, 19°C, 18°C, 30°C. What might be unusual about these data? What should the student do next?

12. Why should scientists record observations even when results disagree with their predictions?

study_w_me_hk

Science | Parent Guide

How to use this guide

Allow the child to work independently first. Read instructions aloud if needed, without explaining the answer. Record whether each response was independent, prompted, or supported. Discuss reasoning after the assessment.

Suggested answers and what to observe

1. Example: algae → insects → small fish → heron; arrows show energy transfer from food to consumer.

Look for: Accurate ecological relationships.

2. Fish may have less food; numbers could fall.

Look for: Cause-and-effect reasoning.

3. Cactus: water-storing stem/spines; lily: broad floating leaves.

Look for: Linking feature to function.

4. Metal, because it conducts heat more effectively.

Look for: Material properties.

5. Usually rolls faster/further under comparable conditions; greater height provides more gravitational potential energy.

Look for: Prediction with causal explanation.

6. Dissolving disperses sugar in water; melting changes solid ice to liquid water.

Look for: Distinguishing processes.

7. Change light; measure growth; control plant type, water, soil, pot, time and temperature as far as practical.

Look for: Variables and fair comparison.

8. Mean 17/3 ≈ 5.67 cm; small sample may not represent variation.

Look for: Data handling and limitations.

9. Water, light or temperature might differ; use matched plants, controlled conditions and repeated trials.

Look for: Alternative hypotheses.

10. Wednesday; 7 more than Tuesday.

Look for: Data interpretation.

11. 30°C may be anomalous; check method and repeat measurement, retaining the original record.

Look for: Data integrity.

12. Unexpected results can reveal mistakes, limitations or new information; evidence should not be changed to fit expectations.

study_w_me_hk

Look for: Scientific honesty.

Parent reflection and next steps

Strengths observed: _____

Skills to revisit: _____

One helpful next activity: _____

Avoid treating one result as a fixed ability label. Look at explanations, independence and willingness to try unfamiliar tasks. Revisit selected skills after practice.

study_w_me_hk