CLASS 7 SCIENCE EXTRA QUESTIONS

Extra Questions for Class 7 Science Chapter 1: The Ever-Evolving World of Science

Original extra practice questions for Class 7 Science Chapter 1 (The Ever-Evolving World of Science), applying the chapter's ideas about curiosity, patterns and cause-effect to fresh scenarios. Full explanations included.

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Q1. A student notices that bread left out for a few days grows mould, but bread kept in the freezer doesn't. What pattern-based reasoning can they use to form a testable question from this observation?
Solution: The observed pattern is: *temperature seems to affect how quickly mould grows*. A testable question following this pattern: "Does lower temperature slow down mould growth on bread?" This could then be tested by comparing bread stored at room temperature, in a fridge, and in a freezer, observing mould growth over the same number of days — turning a casual observation into a proper scientific question.

Q2 (Cause and effect reasoning). Give one example each of a cause-and-effect relationship in (a) the kitchen and (b) the sky, similar to the "rain makes the ground wet" example from the chapter.
Solution: (a) Kitchen: heating oil causes it to become hot enough for food to fry quickly (heat is the cause; faster cooking is the effect). (b) Sky: clouds blocking sunlight causes the ground below to feel cooler in shade (cloud cover is the cause; temperature drop is the effect).

Q3 (Assertion–Reason). Assertion (A): Sour fruits always taste the same amount of sour throughout their ripening. Reason (R): Acid content and ripeness both affect how sour a fruit tastes.
Solution: R is **true** (as discussed in the chapter). A is **false** — since ripeness changes a fruit's acid content over time (e.g. green mangoes are sourer than ripe mangoes), sourness typically changes as a fruit ripens, not staying constant. **A is false; R is true.**

Q4 (Applying the haldi-soap idea). If turmeric (haldi) changes colour when it reacts with something basic (alkaline) like soap, predict what might happen if you instead applied something acidic, like lemon juice, to a haldi stain that has already turned reddish from soap. (This is a prediction question — explain your reasoning, not just a fact to recall.)
Solution: Since the colour change happens due to a pH-sensitive reaction (turmeric's pigment responds differently to acidic vs. basic conditions), applying something acidic like lemon juice to the reddish, soap-affected stain would likely shift the colour behaviour again — in practice, an acidic rinse often helps reverse the reddish shift and can make the stain easier to remove, which is why lemon juice or vinegar is a common home remedy for haldi stains rather than more soap.

Q5 (Spot the flaw in reasoning). A student claims: "Since ice melting can be reversed (water can be refrozen), all changes in nature must be reversible." What's wrong with this reasoning?
Solution: This is a **hasty overgeneralisation** — the student is assuming that because one example (ice melting) is reversible, ALL changes must be. But the chapter itself notes that some changes, like a fruit ripening or a rock breaking into pebbles, are **permanent and cannot be reversed**. A single supporting example doesn't prove a universal rule; you'd need to check many different types of changes before concluding whether reversibility is common or rare.

Q6 (Design your own "Question the Answer"). Come up with your own "Question the Answer" pair (like the chapter's activity), where the answer is: "Because the balloon lost its air."
Solution: (Answers will vary; sample answer:) A fitting question: **"Why did the balloon that was floating yesterday end up lying flat on the floor today?"** This activity works by starting from a plausible everyday effect and reasoning backward to a cause — the same reverse-thinking skill used when scientists work out what caused an observed phenomenon.

Q7 (Life processes preview). The chapter previews that animals need to eat, breathe, and circulate

nutrients to survive. Explain briefly why all three are necessary, not just one.
Solution: Eating provides the raw materials (nutrients) and energy the body needs. **Breathing** supplies oxygen, which is needed to release usable energy from that food inside cells. **Circulation** (via blood) then distributes both the nutrients and oxygen to every part of the body that needs them. Missing any one of the three would leave some cells without either the fuel (food), the means to burn it (oxygen), or the delivery system (circulation) — so all three work together as a connected system.

Q8 (Light and shadows preview). The chapter mentions that studying light and shadows helped explain day, night, and eclipses. Explain in one or two sentences how shadows are related to day and night.
Solution: Day and night happen because Earth rotates on its axis, and at any moment, only the half of Earth facing the Sun receives direct light while the other half is effectively in Earth's own "shadow" (away from the Sun) — so night is essentially the region of Earth currently blocked from sunlight by the planet's own rotation.

Q9 (Interconnected science). Give an example of how a discovery in one field of science (e.g. chemistry) could lead to new questions in another field (e.g. biology).
Solution: Example: discovering that a certain chemical (like a new fertiliser compound) changes soil pH could raise new biology questions, such as "How does this pH change affect which plants can grow in that soil?" or "Does it help or harm helpful soil microorganisms?" — showing how a chemistry-focused discovery naturally opens up biology-focused follow-up questions.

Q10 (Reflective question). According to this chapter's framing, what makes someone "think like a scientist" in everyday life, even outside a classroom or lab?
Solution: Thinking like a scientist in everyday life means staying curious about ordinary things (like why a stain changes colour, or why a fruit tastes different at different ripeness stages), asking specific, testable questions about those observations rather than just accepting them, looking for patterns and cause-effect relationships, and being willing to test an idea rather than assume it's true — the same mindset the chapter encourages, whether or not you're in a formal lab setting.