Biology extension review: evidence and application

Student activity • observation and reasoning

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The question

Can you connect an unfamiliar result to a justified explanation?

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

Equipment

- Student booklet, pencil and ruler
- Previous extension practical records, biotechnology diagrams and biodiversity sampling records

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

Course coverage: Biology-only final consolidation and application.

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. Select one earlier extension practical and write its question, independent variable, dependent measure and key controls from memory.

2. Distinguish replication, measurement precision, validity and limitations using your actual or clearly labelled practice evidence.

3. Explain one biotechnology process and separate cloning, selective breeding and genetic engineering.

4. Compare biodiversity measures and explain why sampling effort must match before comparing richness.

5. Complete the six original prompts, then correct each answer using the relevant earlier lesson.

6. Create a short revision plan naming specific misconceptions and the evidence or calculation needed to resolve them.

Cleanup

- Return shared reference packs and keep the corrected work and revision plan.

Record your evidence

Blank spaces are for your own work

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Reference and task data

This final separate-Biology review uses existing resources and original questions. It does not replace practical experience or claim that invented values are measurements. Keep revision priorities specific and check units, subscripts and course labels.

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. Why distinguish independent repeats from repeated readings on one organism?

2. Can a significant-looking graph alone establish causation?

3. Does cloning insert a new gene by definition?

4. What is a transgenic organism in the course model?

5. Why compare equal quadrat areas and effort?

6. What makes a revision correction useful?