



Evolution & Inheritance

Gold

These Gold questions require explaining evolution and inheritance with genuine scientific reasoning.

Name: _____ Date: _____

Section A: Inheritance Reasoning

1. Explain why identical twins are genetically identical, but non-identical siblings are not.

2. A tall parent and a short parent have several children of varying heights. Explain why this might happen.

3. Explain the difference between a characteristic that is entirely inherited and one that is a mix of inheritance and environment (e.g. height and diet).

4. Why might selective breeding of animals (e.g. dogs) lead to very different-looking breeds over time?

5. Explain why studying inheritance helps scientists understand certain illnesses that run in families.

Section B: Evolution Reasoning

1. Explain, step by step, how a species might evolve to have longer necks over many generations (like a giraffe).

2. Why did Darwin's theory of evolution take many years to be widely accepted?

3. Explain why islands often have unique species not found anywhere else in the world.

4. A species of moth becomes darker in colour over several generations after a nearby factory starts producing soot. Explain why this might happen.

5. Explain why evolution happens over many generations, rather than within a single animal's lifetime.

