

Nova's Rock and Fossil Expedition

Learning objective: To identify and describe the properties of igneous, sedimentary, and metamorphic rocks, and to explain how fossils are formed.

Join Nova the owl on her night-time expedition! Read the questions carefully, select the best answer, or write your response in the space provided. Remember to think like a geologist.

Answer Key: 1.C, 2.True, 3.Sedimentary, 4.B, 5.False, 6.Igneous, 7.A, 8.True, 9.Metamorphic, 10.Pressure.

Explanation for Q10: Heat and pressure change existing rocks into metamorphic rocks over millions of years.

Word bank: Igneous · Sedimentary · Metamorphic · Magma · Fossil · Permeable · Erosion · Pressure

1. 1. Which type of rock is formed when molten magma cools and solidifies? A) Sedimentary B) Metamorphic C) Igneous* D) Chalk (1 mark)

2. 2. True or False: Fossils are most commonly found in sedimentary rocks. (1 mark)

3. 3. Which rock type is often made of layers of sand, mud, and pebbles compressed together over time? (1 mark)

4. 4. What is the name of the process that breaks down rock into smaller pieces? A) Melting B) Erosion* C) Cooling D) Crystallisation (1 mark)

5. 5. True or False: All rocks are hard and cannot be scratched by a coin. (1 mark)

6. 6. Granite is an example of which type of rock? (1 mark)

7. 7. What does the word 'permeable' mean? A) Water can pass through it* B) It is very shiny C) It is extremely heavy D) It is made of fossils (1 mark)

8. 8. True or False: Metamorphic rocks are formed deep underground where there is intense heat. (1 mark)

9. 9. Which rock type is formed when other rocks are changed by extreme heat and pressure? (1 mark)

10. 10. Describe in one word what is required alongside heat to create metamorphic rock. (1 mark)

Draw: Draw a diagram of the 'Rock Cycle'. Use labels to show where magma turns into igneous rock, and where sediment builds up to form sedimentary rock.



Extension challenge: Greater Depth Challenges: 1. Explain why igneous rocks are often used for kitchen worktops. 2. Compare and contrast how sedimentary and igneous rocks are formed; what are the key differences in their environments? 3. Justify why a scientist would look for fossils in a cliff made of sandstone rather than a cliff made of granite. 4. What might happen to a sedimentary rock if it were pushed deep into the Earth's crust? 5. If you found a rock with large, visible crystals, what could you conclude about how it cooled? 6. Design an experiment to test which common rock is the most permeable.