

Nova's Guide to the Rock Cycle

Learning objective: To understand the formation and characteristics of igneous, sedimentary, and metamorphic rocks.

Read the passage carefully and answer the questions below. Ensure you use full sentences where possible.

Nova the barn owl loves to gaze at the ground as much as the stars. She explains that the Earth's crust is made of three main rock types. First, igneous rocks form when hot magma from deep underground cools and hardens. Think of lava cooling into solid stone! Second, sedimentary rocks are created when tiny pieces of sand, mud, and pebbles—called sediment—settle at the bottom of lakes and oceans. Over millions of years, these layers are squashed by the weight of the water above, turning into solid rock. You can often see clear layers in these stones. Finally, metamorphic rocks are born from change. When existing rocks are buried deep within the Earth, intense heat and pressure transform them into something new and harder, like how marble is formed from limestone. It is a slow, never-ending cycle of change. Weathering and erosion constantly break down these rocks, turning them back into sediment, ready to begin the journey all over again. Next time you pick up a pebble, remember that it has an incredible history written in its very structure.

Word bank: Magma · Sediment · Pressure · Erosion · Igneous · Metamorphic · Sedimentary

1. According to the text, what are the three main types of rocks? (2 marks)

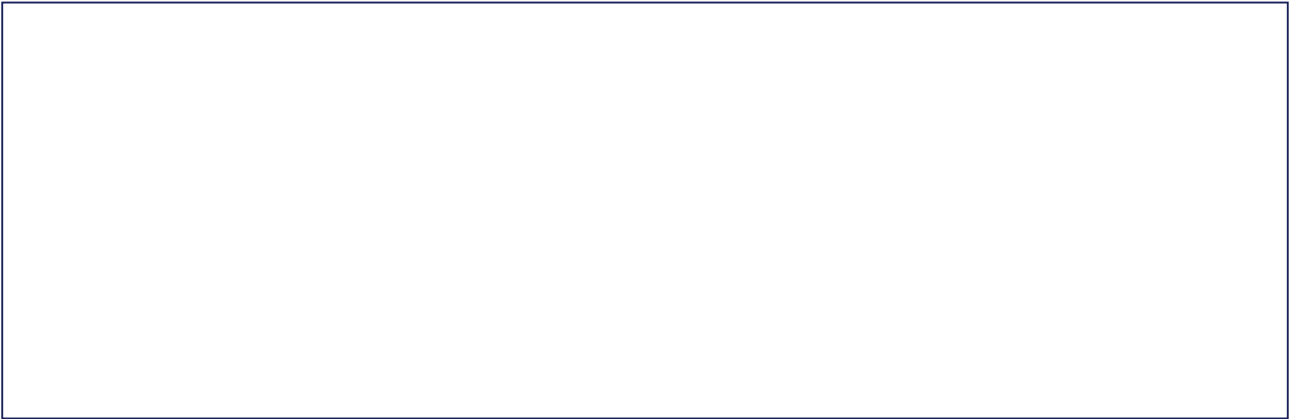
2. How do sedimentary rocks form layers? (2 marks)

3. Why does Nova describe the formation of rocks as a 'cycle'? (2 marks)

4. Why might it be difficult for a scientist to tell if a rock is metamorphic just by looking at its surface? (2 marks)

5. If you were a geologist, which type of rock would you find most interesting to study and why? (2 marks)

Draw: Draw a diagram showing the three stages of the rock cycle, including a volcano for igneous rocks, layers of sand for sedimentary rocks, and deep heat for metamorphic rocks.



Extension challenge: Research one type of local rock found in your area. Can you identify which of the three categories it belongs to and why?