

Rock Cycle

KS3 Chemistry · Follows the national curriculum

Name _____ Class _____ Date _____

1. Worked example

Granite has large crystals; basalt has tiny ones. Both are igneous. Explain the difference.

Step 1 · Where they cooled

Granite cooled slowly underground (intrusive); basalt cooled quickly from lava at the surface (extrusive).

Step 2 · Crystal growth

Slow cooling gives crystals more time to grow.

Answer: Slow cooling → large crystals; fast cooling → small crystals

Check: You can model this with salol cooled on a warm and a cold slide.

2. Now try one with the steps

Describe how sandstone forms.

Step 1 · Weathering and erosion

Step 2 · Deposition

Step 3 · Compaction and cementation

Answer:

3. Practice

Show your working. The marks tell you how much is expected.

1. Name the three types of rock. [1]

2. Which type of rock forms when magma or lava cools? [1]

3. Which type of rock is most likely to contain fossils? [1]

4. What is the difference between weathering and erosion? [2]

5. Name an intrusive igneous rock. [1]
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6. Name an extrusive igneous rock. [1]
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7. Name the metamorphic rock formed from limestone. [1]
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8. Name the metamorphic rock formed from mudstone or shale. [1]
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9. Why does slow cooling make larger crystals? [1]
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10. Give the TWO processes that turn loose sediment into solid rock. [2]
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11. Name ONE type of chemical weathering. [1]
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12. Why are metamorphic rocks not made by melting? [2]
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13. Sedimentary rock builds up at about 1 mm per 10 years. How many metres would form in 10 000 years? [2]
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14. Explain why the rock cycle is called a 'cycle'. [2]
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4. Before you hand it in

"Metamorphic rocks form when rocks melt."

Metamorphic rocks change by heat and pressure WITHOUT melting.

Using 'weathering' and 'erosion' same word.

Weathering breaks rock; erosion moves the pieces.

"All igneous rocks have big crystals."

Intrusive (slow, underground) = large; extrusive (fast, surface) = small.

Thinking the rock cycle happens quickly.

Only volcanic eruptions and some erosion are fast.