

□ **Geology Test 2 Study Guide**

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□ **Chapter 6:**

□ How does a clastic sedimentary rock form?

□ Solid fragments and grains that are cemented together. Form through weathering, erosion, transportation, deposition and lithification compaction and cementation.

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□ How do grain size and shape, sorting, sphericity and angularity change as sediments move downstream?

□ As sediment moves away from the source, it becomes rounded and well sorted.

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□ How does a biochemical sedimentary rock form?

□ Corals produce shells of calcium carbonate which then turns into limestone.

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□ How does an organic sedimentary rock form?

□ Composed of carbon and organic chemicals from plants.

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□ What kinds of conditions produce evaporites?

□ Evaporites are composed of salts that stay behind as the water evaporates.

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□ How and in what conditions do ripple marks and dunes form?

□ Ripple marks are wave-like ridges and troughs at right angles to the flow direction. A dune is a pile of sand generally form by deposition from the wind.

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□ How do cross beds form? How can you read the current direction from cross beds?

□ Cross beds are inclined laminations inside main beds.

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□ How does a turbidity current produce graded bedding?

□ A graded bed is a layer of sediment in which grain size varies from coarse at the bottom to fine at the top.

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□ Can you tell about past environment from sedimentary settings?

□ Yes.

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□ **Chapter 7:**

□ What is metamorphism?

□ The process of changes.

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□ Which processes does a rock take to become a metamorphic rock?

□ Recrystallization-change in shape and size but no change in mineral composition.

□ Phase change-change in crystal structure by rearranging atoms in the crystals but no change in composition.

□ Metamorphic reaction-chemical reactions produce new mineral crystals that differ from the protolith.

□ Pressure solution-under high pressure and in the presence of water, dissolution on the pressurized surfaces, migration through the water, precipitation in places with low pressure.

□ Plastic deformation-under high pressure and high temperature, soft plastic minerals, change in shape without breaking.

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- What cause metamorphism?
- Heat, pressure, pressure and temperature, compression and shear, and hot water.
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- How are metamorphic rocks classified?
- Foliation
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- What is metamorphic foliation, and how does it form?
- Layering formed by mineral grain alignment or by compositional banding.
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- What is metamorphic grade, and how can it be determined?
- As pressure and temperature increase, the metamorphic grade increases.
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- Where does metamorphism occur?
- Thermal or contact metamorphism-where magma intrudes
- Burial metamorphism-where sediments get deeply buried
- Dynamic metamorphism-where a fault slides at depth
- Dynamothermal or regional metamorphism-large mountain ranges build
- Hydrothermal metamorphism-hydrothermal fluids react with rocks
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- Where would you go if you wanted to find metamorphic rocks exposed at the surface?
- Younger mountain belts, continental platforms, precambrian shields.