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Q1 Figure 1 shows part of the earths crust and the location where some rock cycle process take place.

(a) Rock is broken down by ~~frost~~, rain and sun at A. What name is given to this process.

Answer Rock is broken down by frost rain and sun this process is called mechanical weathering.

(b) How is sediment grains in a river changed during transport from A to B? State two differences in the likely appearance of the grains.

Answer It is change due to the flow of water it is also called sediment load.

1) Bed load particles travel with flow by sliding or bouncing along the bottom.

2) If the ~~water~~ flows of water is strong enough to ~~flick~~ take the particles, it become part of suspend load.

(C) How do loose sediments at C become changed into solid rock?

Answer It is change due to a process called "lithification" it means stone it is a combination of two process.

1) Compaction
2) Cementation.

(D) Rocks that are deeply buried in Earth's crust may under go metamorphism describe two changes that happen in rocks during metamorphism and explain point D.

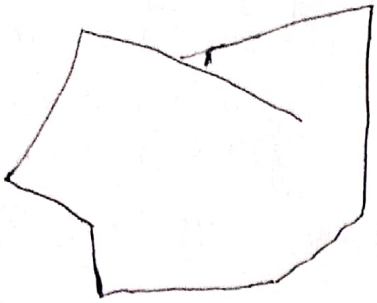
1) It is created by physical or chemical alteration by heat and pressure of an existing igneous.

2) OR a sedimentary material into a densed form.

In the point D the metamorphic rock changes again to magma and form igneous.

B. Figure 2 below shows the size and shape of typical sediment particles from the deposit produced.

1	clay mud
2	Rounded pebbles and sand
3	Sloping sand layers
4	Angular boulders.



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(ii) In your words, explain how sediment particles change as they are transported down stream by a river?

Answer The sediment particles transport due to the flow of water. The particle slides or bounces along the bottom some are very small having (0.00185mm in diameter) so these molecules stay afloat. And when the water flow is fast so it create a upward current that makes these particles move faster and add faster.

C Figure 3 shows the structure of a volcano and the rock layers beneath.

(i) What type of volcano is shown in the figure by shape and if eruption is more often, which category it fits.

Answer It is a composite volcano and if eruption is more often, it will convert to stratovolcanoe these both are same but it has a smoother, lower profile than composite volcano.

(ii) The eruption shown in Figure 3 is producing an "Ash column" that rises thousands of meters above the volcano summit.

(a) Explain how gases trapped in the magma help producing the ash column.

Answer It is produced due to volcanic eruption when dissolved gases in magma expand and escape violently in the ~~expanded~~ atmosphere. The force of gases shatters the magma and propels it into the atmosphere.

(b) Many people around the world live close to volcanoes so, when a volcano erupts, thousands of lives may be at risk.

i) Suggest one sign that might indicate if a volcano is about to erupt.

Ans Rise of magma towards the surface, which generates earth quakes.

(b) Suggest Two dangers that might result from Ash fall near a Volcano.

(i) It can threaten the health of people and live stock.

(ii) It can damage electronics and machinery and telecommunications.

(D). Answer the following Question.

(i) In table below are statements that refers to either weathering or Erosion complete table by writing weathering or erosion in the spaces provided.

	Statement	Weathering or erosion.
1)	Breakdown of Rock without being removed.	Weathering
2)	Wearing of rock during transport of Rock particles.	Erosion
3)	A process caused by wind, running water and moving ice.	~~Erosion~~ Weathering
4)	An effect of plant roots growing in rock, joints and fractures.	Erosion.

(ii) A statue was made from limestone Rain makes limestone weather more quickly than sandstone. What substance in the rain water cause this?

Ans) Carbonic acid is the substance in the rain water.

(iii) Why igneous rocks never contain fossils?

Ans Because Any Fossil in the original rock will have melted when the magma formed.

(iv) Granite takes much longer to cool deep underground than basalt lava at the Earth's surface. How and why is the size of the crystals in granite different from the size of the crystal in basalt?

Ans The difference is between Silica Content and their rates. if magma cools quickly.

Forexample: When basalt lava erupts from volcano, then many crystals form very quickly and the resulting rocks is fine-grained, with crystals usually less than 1mm, in size. Crystals have more time to grow large size.

(V) Describe one process that might be responsible to producing the large, angular, poorly sorted fragments in the scree sediments collection at the bottom of the cliff?

Answer As a result of freeze-thaw weathering water seeps into cracks in the rock, expanding when it freezes and seeping in deeper when it melts, gradually splitting the rock apart. These fragments are removed by gravity and fall onto the scree slopes beneath.