

Student task:

Sort the cards into the table under the correct heading. To do this you must read and match the description to each process.

Hydrolysis	Hydration	Carbonation	Solution	Oxidation	Chelation

Cards:

1. On contact with CaCO_3 carbonic acid (in rainwater) creates calcium bicarbonate ($\text{Ca}(\text{HCO}_3)_2$).	2. Humus releases organic acids, which attack certain minerals. The organic acids often allow Iron and aluminium ions to be released and transported by water.	3. Minerals within the rock can now disintegrate; this is most common in rocks containing feldspar.	4. Some minerals in rock require no chemical reaction to be soluble, e.g. rock salt readily dissolves in water.	5. H^+ can combine with certain minerals in rocks (mainly feldspar), these release Na, (sodium) K (potassium) and Mg (magnesium).	6. $\text{Ca}(\text{HCO}_3)_2$ is readily dissolved and leaves behind only the clay and quartz properties of limestone.
7. The water absorption also allows the minerals to swell and creates stress.	8. The dissolved O_2 forms oxides or hydroxides on contact with rock minerals.	9. This is why this process carries the same name as a form of physical weathering.	10. This is most common in rocks containing Iron that is oxidised to its ferric form.	11. Water is absorbed into the crystal structure of the minerals within a rock.	12. Clay minerals like haolinite are quartz grains where Na, K and Mg ions have been removed.
13. The most common form of this weathering takes place in limestone.	14. Water within the crystal structure causes chemical changes.	15. The weathering of feldspar produces clay minerals.	16. Carbonic acids release H^+ ions (Hydrogen) from water.	17. Limestone contains calcium carbonate (CaCO_3).	18. Oxygen (O_2) is in dissolved form in water (H_2O).
19. Minerals in rocks can react with oxygen.	20. A more common name for ferric form iron is rust.	21. Granite contains feldspar.			



Answers:

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21. Granite contains feldspar.	7. The water absorption also allows the minerals to swell and creates stress.	6. Ca (HCO ₃) ₂ is readily dissolved and leaves behind only the clay and quartz properties of limestone.		8. The dissolved O ₂ forms oxides or hydroxides on contact with rock minerals.	
15. The weathering of feldspar produces clay minerals.	14. Water within the crystal structure causes chemical changes.	17. Limestone contains calcium carbonate (CaCO ₃).		10. This is most common in rocks containing Iron that is oxidised to its ferric form.	
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