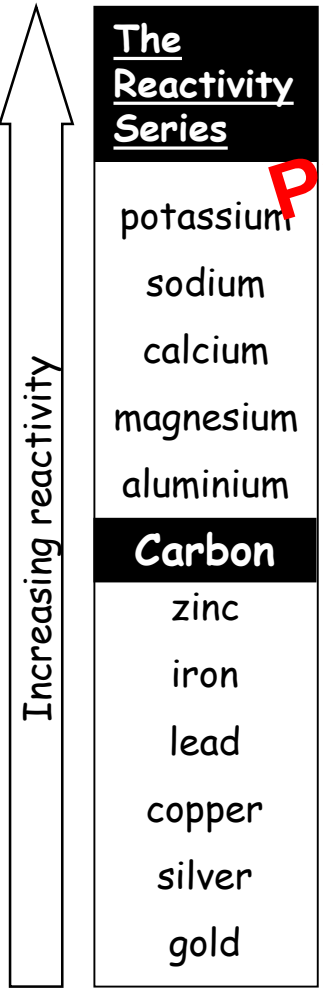
10 Questions

1. What gas is released when carbonates are heated strongly?
2. What solid product is formed when zinc carbonate is heated?
3. What is the name of the product formed when calcium oxide (CaO) is reacted with water (H_2O)?
4. What is the chemical formula of the solid formed when carbon dioxide (CO_2) is bubbled through calcium hydroxide ($Ca(OH)_2$)?
5. List 2 benefits of limestone quarrying.
6. List 2 drawbacks of limestone quarrying.
7. How can we separate calcium carbonate from water?
8. Why is the following reaction balanced: $CaCO_3 \rightarrow CaO + CO_2$?
9. What is the alternative name for calcium hydroxide?
10. List 1 social, environmental and economic consequence of busier roads caused by quarrying

10 Questions



1. A metal compound within a rock is an _____.
2. How do we extract metals above carbon?
3. Why does gold not need to be extracted?
4. Why do we use carbon to extract lead from lead sulphide as opposed to a more reactive metal such as sodium?
5. Complete the following reaction used in extraction:

   copper oxide + carbon → _____ + _____ _____

6. Name one method of extracting low-grade copper ores.
7. Name one method of extracting copper-rich ores.
8. Inside what device is the smelting process performed?
9. Why electrolysis is expensive (2 reasons)?
10. Name the process for taking ores out of the ground.

10 Questions

1. Which smart polymer would you use in nappies to absorb moisture?
2. Which smart polymer would you use to make light sensitive plasters?
3. Which smart polymer would you use to make dental bracers?
4. State 2 issues associated with biodegradable plastics.
5. State 2 issues associated with non-biodegradable plastics.
6. What is put into polymers to make biodegradable plastics?
7. What is the chemical formula of steam?

Answers to the following are **fermentation** or **hydration**:

8. Which process is cheaper?
9. Which process requires a high temperature?
10. Which process uses non-renewable sources?

10 Questions

1. Put the layers of the Earth in order from outside inwards: outer core, mantle, crust, inner core, mantle, atmosphere
2. Which layer of the Earth is the hottest?
3. Which layers of the Earth are solid (there are 2)?
4. In which layer of the Earth do convection currents occur?
5. What type of plates is the Earth's crust cracked into?
6. State 2 pieces of evidence to support Wegener's idea of continental drift
7. Why did no one believe Wegener's theory
8. What was the name given to the Earth when it was just one super continent?
9. State 3 natural events which occur at plate boundaries.
10. Why are Earthquakes difficult to predict?

10 Questions

1. Name the process by which plants and animals release energy from food?
2. What type of fuels were formed millions of years ago?
3. Write a word equation for the burning of methane in oxygen
4. Which two process in remove carbon dioxide from the air?
5. Name three reservoirs (or stores) of carbon dioxide.
6. How is carbon dioxide stored in the ocean?
7. What effect does this have on the pH of the oceans?
8. How might this cause problems for shell fish?
9. What do most scientists think that global warming is caused by?
10. Give two possible consequences of global warming?

Mark Scheme

Limestone and Carbonates – 1

1. Calcium carbonate, limestone, chalk, marble, travertine.
2. 3
3. 5
4. Sand, water, gravel cement.
5. Limewater (*accept: calcium hydroxide, or,* $Ca(OH)_2$).
6. Limewater turns cloudy/milky.
7. Calcium hydroxide, $Ca(OH)_2$
8. Clay.
9. Acid rain.
10. Thermal decomposition.

Limestone and Carbonates – 2

1. Carbon dioxide, CO_2
2. Zinc oxide.
3. Calcium hydroxide, $Ca(OH)_2$
4. $CaCO_3$
5. Provide jobs, Lead to improved roads, Filled in to make fishing lakes or for planting trees, Can be used as landfill sites when finished with. (*accept: any other sensible answer*).
6. Destroys habitats, Increased emissions, Noisy & Dusty, Dangerous areas for children, Busier roads. (*accept: any other sensible answer*).
7. Filtering (*accept: Filter paper, or, decanting*)
8. Equal number of atoms on both sides of the equation.
9. Limewater.
10. Social: noise and dust leading to health problems. Environmental: habitats destroyed to make way for roads. Economic: People late for work costs the economy money. (*accept: any other sensible answer*).

Extracting Metals

1. Ore.
2. Electrolysis (*accept: use a more reactive metal*).
3. It is found native.
4. Carbon is cheap.
5. Copper + carbon dioxide.
6. Bioleaching or Phytomining.
7. Smelting (*accept: electrolysis of copper sulphate*).

Mark Scheme

1. Respiration
2. Fossil fuels – gas, oil and coal
3. methane + oxygen ⟶ carbon dioxide + water
4. Photosynthesis and by the oceans?
5. Fossil fuels, oceans sedimentary rocks or atmosphere.
6. Carbon dioxide is dissolved in the oceans
7. Lowers the pH, they become more acidic.
8. Shell fish may find it difficult to make their shells.
9. Increase in carbon dioxide, caused by human activities, (increase in population has led to increased burning fossil fuels for electricity, travel as well as deforestation)
10. Change in weather patterns, melting polar ice caps leading to increase in sea levels