

- 1 When limestone is heated it forms lime (calcium oxide) and carbon dioxide.



Which statement is **not** correct?

- A Carbon dioxide is a greenhouse gas which may contribute to climate change.
- B Slaked lime is used to neutralise industrial waste.
- C The lime can be used to treat alkaline soil.
- D This reaction is an example of thermal decomposition.

- 2 Lime (calcium oxide) is used to treat waste water from a factory.

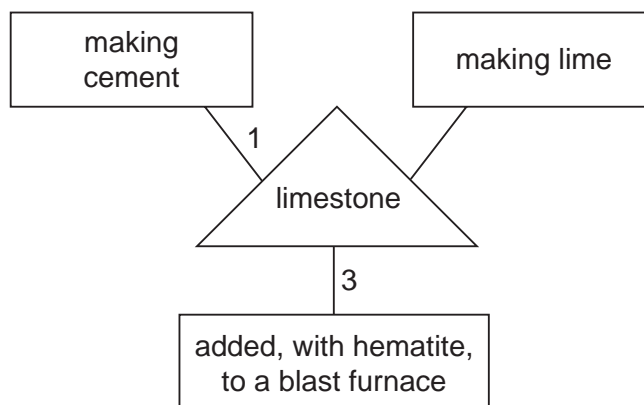
Which substance is removed by the lime?

- A ammonia
- B sodium chloride
- C sodium hydroxide
- D sulfuric acid

- 3 Which process is used to make lime (calcium oxide) from limestone (calcium carbonate)?

- A chromatography
- B electrolysis
- C fractional distillation
- D thermal decomposition

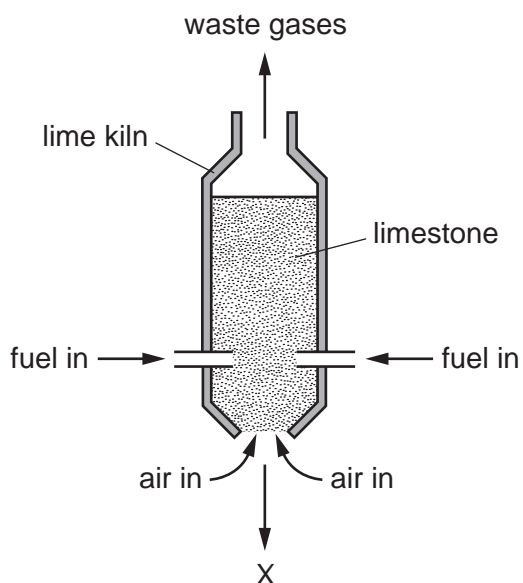
4 A student is asked to draw a diagram showing the uses of limestone.



Which numbered lines show a correct use of limestone?

- A** 1, 2
- B** 1 and 2 only
- C** 1 and 3 only
- D** 2 and 3 only

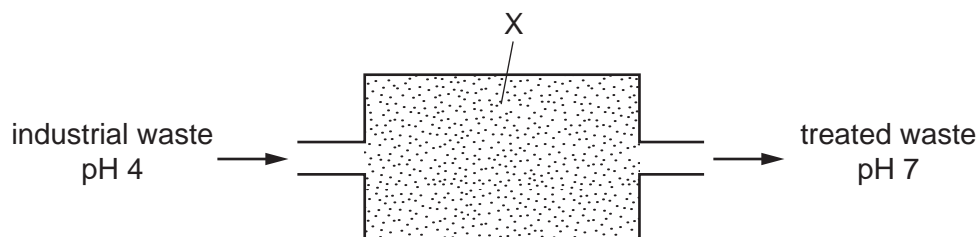
5 The diagram represents a lime kiln.



What leaves the furnace at X?

- A** calcium carbonate
- B** calcium hydroxide
- C** calcium oxide
- D** calcium sulfate

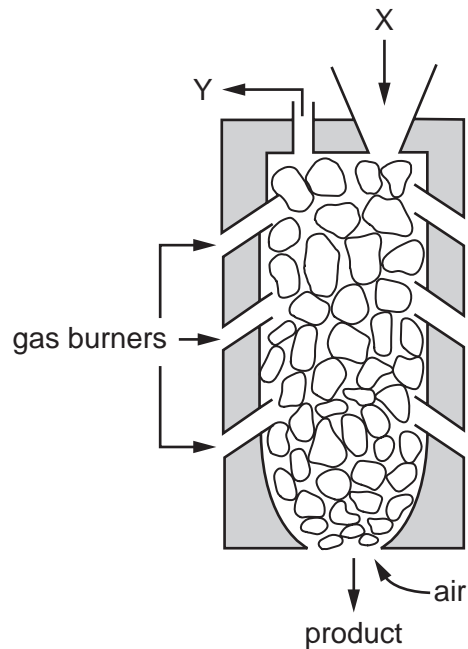
6 Substance X is used to treat industrial waste.



What is X and which type of reaction occurs during the treatment?

	X	type of reaction
<b>A</b>	calcium oxide (lime)	neutralisation
<b>B</b>	calcium oxide (lime)	redox
<b>C</b>	carbon	neutralisation
<b>D</b>	carbon	redox

7 The diagram shows a kiln used to manufacture lime.



Which row identifies X and Y?

	X	Y
<b>A</b>	lime	carbon dioxide
<b>B</b>	lime	steam
<b>C</b>	limestone	carbon dioxide
<b>D</b>	limestone	steam

8 The diagram shows the soil pH range over which a vegetable grows well.

The pH of the soil to be used is 5.5.



Why is lime added to the soil before planting the vegetable?

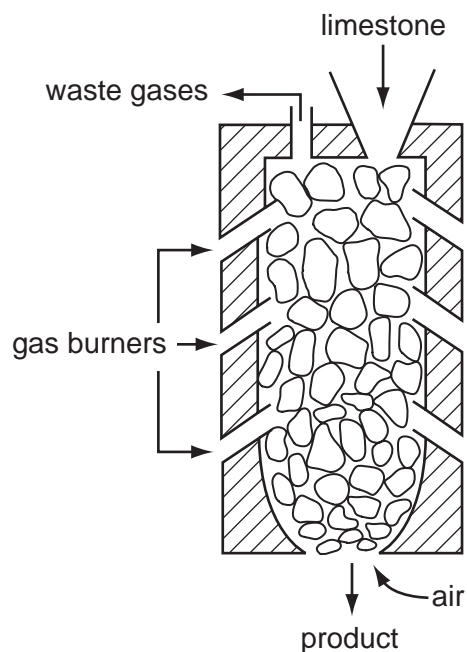
- A** The lime acts as a catalyst.
- B** The lime changes the soil acidity.
- C** The lime is an indicator.
- D** The lime supplies nitrogen.

- 9 When compound X is heated, it changes colour from green to black. Compound Y is formed and a gas is given off which turns limewater milky.

What are X and Y?

	X	Y
<b>A</b>	calcium carbonate	calcium oxide
<b>B</b>	copper carbonate	carbon
<b>C</b>	copper carbonate	copper oxide
<b>D</b>	copper sulfate	copper oxide

- 10 The diagram shows a kiln used to heat limestone.

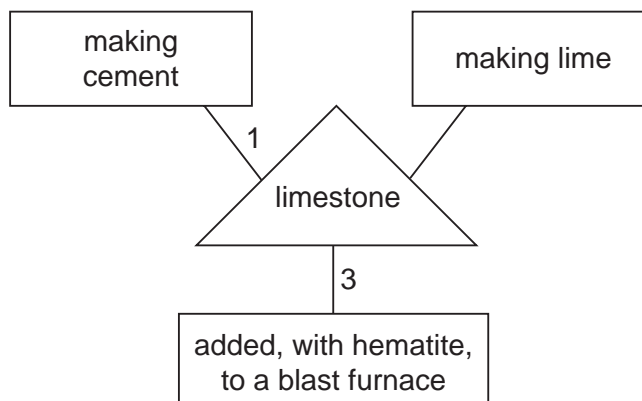


What is the product and what waste gas is formed?

	product	gas
<b>A</b>	lime, CaO	carbon monoxide
<b>B</b>	lime, CaO	carbon dioxide
<b>C</b>	slaked lime, Ca(OH) <sub>2</sub>	carbon monoxide
<b>D</b>	slaked lime, Ca(OH) <sub>2</sub>	carbon dioxide

- 11 In which process is carbon dioxide **not** formed?
- A burning of natural gas
  - B fermentation
  - C heating lime
  - D respiration
- 12 Which process does **not** produce carbon dioxide?
- A fermentation
  - B respiration
  - C the production of lime from limestone
  - D the treatment of acidic soil with lime
- 13 Carbon dioxide is produced when dilute hydrochloric acid reacts with
- A calcium sulfate.
  - B carbon.
  - C copper(II) carbonate.
  - D limewater.

14 A student is asked to draw a diagram showing the uses of limestone.



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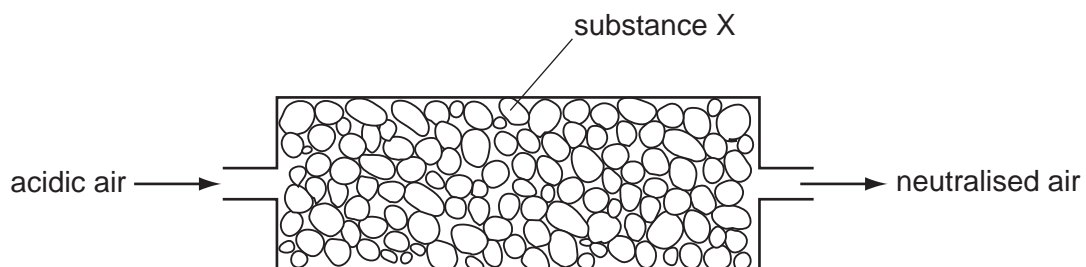
15 Two industrial processes that involve heating are

- extracting iron from its ore using a blast furnace,
- making lime.

In which of these processes is calcium carbonate used?

	extracting iron	making lime
<b>A</b>	✓	✓
<b>B</b>	✓	x
<b>C</b>	x	✓
<b>D</b>	x	x

- 16 Air containing an acidic impurity was neutralised by passing it through a column containing substance X.



What is substance X?

- A** calcium oxide
- B** sand
- C** sodium chloride
- D** concentrated sulfuric acid