



Chemistry assessment activity – Answer sheet

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Total marks available 24

Plastic is a polymer that can be used to make plastic bottles and food packaging.

Question 1 – What is a polymer [1 mark]

Molecule made up of many repeated parts/smaller molecules/monomers

Plastic is important in packaging. Every year 50 megatonnes of plastic is used on different packaging.

The pie chart below shows the mass in megatonnes of packaging used in different ways.



Question 2 – How many megatonnes of plastic are used for water bottles? [1 mark]

25 (water bottles – 50%, shampoo – 10%, food – 20%, hand cream 4% and shower gel – 16%)

Question 3 – Which was the lowest use packaging? [1 mark]

Hand cream

Question 4 – What does biodegradable mean? [1 mark]

It will break down.

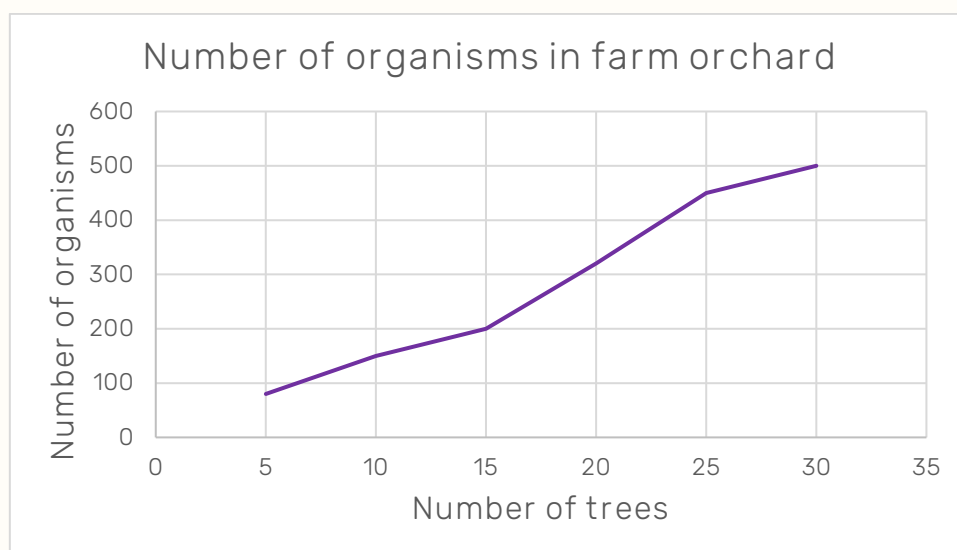
Question 5 – A supermarket is looking to try different packaging for a new range of toiletries called eco-spa. The sustainability leads have been looking at which is the best type of packaging, plastic, glass or compostable packaging.

Place a tick (✓) or a cross (✗) in the column to indicate if the type of packaging is biodegradable. [3 marks]

1 for each correct box

Packaging	✓ or ✗
Plastic	✗
Glass	✗
Compostable	✓

Sam has researched information about the numbers of trees he should plant in his orchard and the numbers of organisms – which is shown below.



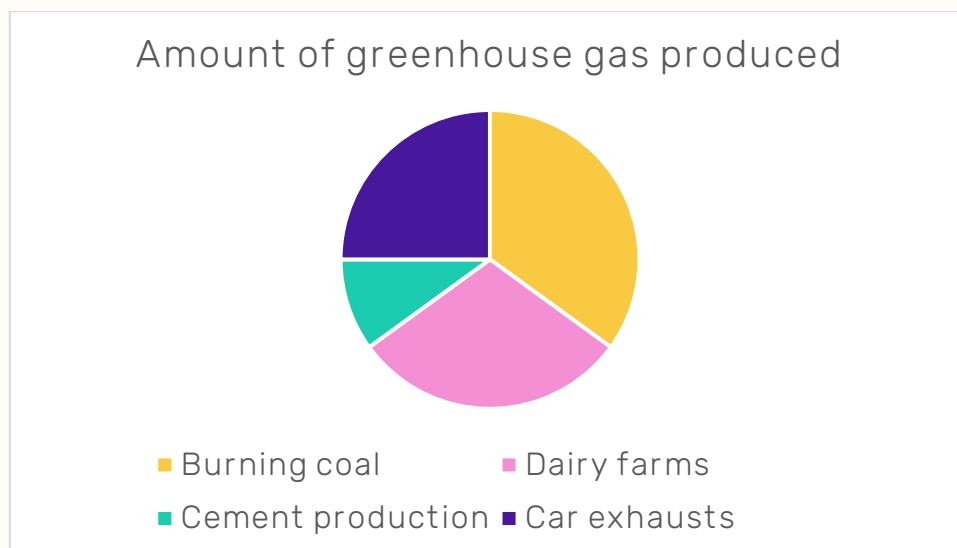
Question 6 – What happens to the number of organisms as the number of trees increases? [1 mark]

Increases

Question 7 – Give 2 reasons for your answer to question 6. [2 marks]

- More shelter
- More food
- More insects

The pie chart shows the amounts of greenhouse gas production by 4 different human activities.



Question 8 – Name 2 examples of greenhouse gases. [2 marks]

- Carbon dioxide
- Methane
- Sulphur dioxide

Question 9- Give two human activities which may have helped to increase the concentration of carbon dioxide in the atmosphere. [2 marks]

- Cutting down trees
- Burning coal/oil/gas/fossil fuels

Question 10 – Why are greenhouse gases bad for the environment? [1 mark]

Cause global warming

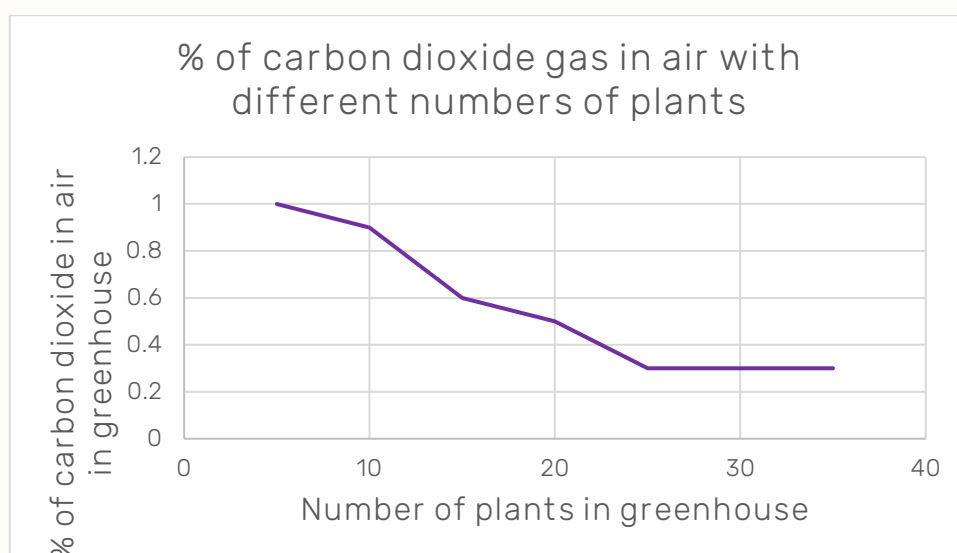
Question 11- Name the gas is given off by burning coal. [1 mark]

Carbon dioxide

Question 12 – Name the gas is given off by dairy farms and what it is released from. [2 marks]

Methane (1) from cows (1)

Sam is a farmer who would like to make his farm more environmentally friendly. He has heard that a neighbouring farm has a greenhouse with a computer that monitors the level of carbon dioxide gas in it. The farmer then checks the monitor. The levels are shown in the graph below.



Question 13 – Describe what happens to the level of carbon dioxide with changing numbers of plants. [2 marks]

- Decreases gradually from 5 to 25 plants (1)
- Then levels off (1)

Question 14 – Explain why this happens. [2 marks]

- Plants take in carbon dioxide gas for photosynthesis (1)

- Removes it from the air (1)

Question 15 – Sam has told the farmer next year he should only plant 25 plants and no more. Give 2 reasons why he has advised this. [2 marks]

- At 30 and 35 the level does not decrease any more – it is the same as 25 (1)
- No benefit/cheaper (1)

Question 16 – What will happen to the amount of oxygen in the greenhouse? [1 mark]

It will increase.

Question 17 – Sam is thinking of cutting down trees to make more room for a greenhouse at his farm. Give a reason why he should not do this and how it would affect biodiversity? [2 marks]

- Remove places for insect/birds to live or food for other organisms (1)
- This would lower biodiversity (1)

