EveryTuition Revision- etrevision.co.uk
Connect With A Tutor: everytuition.org

GCSE Chemistry Topic 10 AQA: Using resources

Exam Questions/Mock Exam Questions

Questions For Foundation, Higher, and Triple Science (scroll down for questions for higher and triple science only):
(It would still be recommended to answer the foundation tier questions for triple science and higher tier to ensure you have good understanding).

Q1.
Jack is learning about natural resources.

State two examples of natural resources.

_____

_____

[2]

Q2.
Harry is revising finite resources.

State what is meant by the term *finite resource*.

_____

_____

[2]

Q3.
Ben is learning about potable water.

State what is meant by the term *potable water*.

_____

_____

[2]

Q4.
Daniel visits a water treatment plant.

State two processes used to make water potable in the UK.

[2]

Q5.
Oliver reads about distillation.

Explain why distillation can be used to make salty water potable.

[2]

Q6.
Ethan is investigating wastewater treatment.

List the three main stages in wastewater treatment.

[3]

Q7.
Sam is learning about bioleaching.

State one advantage and one disadvantage of bioleaching.

Advantage: _____

Disadvantage: _____

[2]

Q8.
Charlie is revising phytomining.

Explain how plants are used in phytomining to extract copper.

[2]

Q9.
Noah is comparing recycling with quarrying.

Give one environmental benefit of recycling metals.

[1]

Q10.
Jacob is studying life cycle assessments (LCAs).

State two stages considered in an LCA.

[2]

Q11.
William looks at plastic bags.

Explain why LCAs for plastic bags can sometimes be biased.

[2]

Q12.
Alex is learning about rusting.

(a) State the two substances needed for iron to rust.

[1]

(b) Give one method of preventing rusting.

[1]

[Total: 2 marks]

Q13.
Luke is revising alloys.

State why alloys are often harder than pure metals.

[2]

Q14.
James is learning about glass.

State one use of soda-lime glass and one use of borosilicate glass.

[2]

Q15.
Tom is learning about fertilisers.

Explain why farmers use NPK fertilisers.

[2]

Higher Tier

Q16.
Jack is studying potable water.

Explain why potable water is not the same as pure water.

_____

_____

[2]

Q17.
Harry looks at desalination.

Describe one method that can be used to obtain potable water from seawater.

_____

_____

[2]

Q18.
Ben is investigating wastewater.

Explain why wastewater must be treated before it is released into the environment.

_____

_____

[2]

Q19.
Daniel compares bioleaching and phytomining.

Give one similarity and one difference between these two methods of copper extraction.

Similarity: _____

Difference: _____

[2]

Q20.
Oliver is learning about copper extraction.

Suggest why traditional mining methods are being replaced by bioleaching and phytomining.

_____

_____

[2]

Q21.
Ethan is revising metal recycling.

Explain why recycling metals is often more sustainable than extracting new metals.

_____

_____

[2]

Q22.
Sam is completing a life cycle assessment (LCA).

State three things that are considered in the production stage of a product's life cycle.

_____

_____

_____

[3]

Q23.
Charlie looks at LCAs of plastic bags.

Explain why LCAs can sometimes be subjective.

[2]

Q24.
Noah is studying alloys.

(a) Define the term *alloy*.

[1]

(b) Explain why alloys are usually harder than pure metals.

[2]

[Total: 3 marks]

Q25.
Jacob is learning about steels.

State one use for:

(a) low-carbon steel.

[1]

(b) high-carbon steel.

[1]

(c) stainless steel.

[1]

[Total: 3 marks]

Q26.
William is studying glass.

Compare soda-lime glass and borosilicate glass in terms of their composition and properties.

[3]

Q27.
Alex is revising ceramics.

State one property and one use of ceramics.

Property: _____

Use: _____

[2]

Q28.
Luke is learning about composites.

Explain why composites can be useful materials.

[2]

Q29.
James is studying polymers.

(a) State what is meant by a thermosoftening polymer.

[1]

(b) Explain why thermosoftening polymers can be melted and reshaped.

[2]

[Total: 3 marks]

Q30.
Tom is learning about polymer properties.

Explain how the structure of thermosetting polymers gives them their properties.

[2]

Q31.
Jack is revising corrosion.

Explain the difference between corrosion of iron and corrosion of aluminium.

[2]

Q32.
Harry investigates methods to prevent rusting.

(a) State one method of preventing rusting.

[1]

(b) Explain how sacrificial protection works.

[2]

[Total: 3 marks]

Q33.
Ben studies the Haber process.

State the raw materials needed for the Haber process.

[2]

Q34.
Daniel looks at the conditions of the Haber process.

State the temperature, pressure, and catalyst used.

[3]

Q35.
Oliver is revising fertilisers.

State why NPK fertilisers are important for agriculture.

[2]

Q36.
Ethan looks at ammonium nitrate.

Explain why ammonium nitrate is a particularly good fertiliser.

[2]

Q37.
Sam is revising industrial chemistry.

Explain why compromises are used in choosing the conditions for the Haber process.

[3]

Q38.
Charlie is learning about potable water in other countries.

Suggest one method that can be used in a country with little fresh water to make seawater drinkable.

[1]

Q39.
Noah is comparing sustainability.

Explain why recycling glass is better for the environment than making new glass.

[2]

Q40.
Jacob studies pure substances.

Explain why potable water is not chemically pure water.

[2]

Triple Science

Q41.

William studies alloys.

Explain, in terms of structure, why alloys are stronger than pure metals.

[3]

Q42.
Alex investigates composites.

Give two examples of composite materials and state one use for each.

[2]

Q43.
Luke is studying polymers.

Compare the properties of thermosoftening and thermosetting polymers, linking them to their structures.

[3]

Q44.
James is learning about rusting.

(a) State the word equation for the rusting of iron.

[1]

(b) Explain why aluminium does not corrode in the same way as iron.

[2]

[Total: 3 marks]

Q45.
Tom is revising the Haber process.

Explain why a temperature of 450 °C is used instead of a lower temperature, even though a lower temperature would produce a higher yield.

[2]

Q46.
Jack studies equilibrium.

(a) State what is meant by dynamic equilibrium.

[1]

(b) Explain how pressure affects the position of equilibrium in the Haber process.

[2]

[Total: 3 marks]

Q47.
Harry looks at fertilisers.

Explain why the use of fertilisers must be carefully controlled.

[2]

Q48.
Ben investigates water treatment.

Compare how potable water is produced from groundwater, seawater, and wastewater.

[3]

Q49.
Daniel is studying glass.

Explain how the properties of borosilicate glass differ from soda-lime glass, and why this makes it useful.

[2]

Q50.
Oliver looks at life cycle assessments (LCAs).

Explain why LCAs are important for choosing between different materials for the same product.

[2]

Q51.
Ethan studies sustainable chemistry.

Explain why it is important to reduce the use of finite resources.

[2]

Q52.
Sam investigates alternative ways to produce potable water.

Evaluate the advantages and disadvantages of using reverse osmosis compared to distillation for producing drinking water.

[3]

Q53.
Charlie is revising ammonia production.

State the balanced chemical equation for the Haber process.

[1]

Q54.
Noah is studying industrial chemistry.

Evaluate the environmental and economic impacts of extracting copper using phytomining compared to traditional mining methods.

[3]

Q55.
Jacob is revising sustainable development.

Suggest and explain two ways industries can operate more sustainably.

[3]