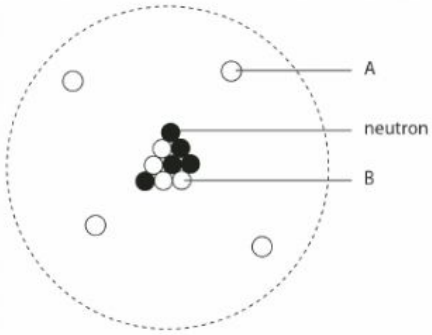
Name _____ Date _____

Disclaimer: This test and mark scheme have been written by the authors.

Mid-point test: Units 2 and 5

1 Look at the diagram of the structure of the atom.



a Label the sub-atomic particles, A and B. **[2]**

A _____

B _____

b Which scientist devised this model of the atom? **[1]**

Albert Einstein **Steven Hawking** **Ernest Rutherford** **Charles Darwin**

_____

2 Much of the electricity we use is generated in power stations that burn fossil fuels.

a In the future we cannot keep using fossil fuels to meet the increasing need for electricity.

Explain why. **[1]**

b Many people think that we will have to increase the use of renewable resources to provide electricity.

Name **two** renewable energy resources. **[2]**

3 Marcus keeps some drinks in a refrigerator.

He measures the time it takes for the drinks to warm up to room temperature after he takes them out of the refrigerator.

He wants to find out if the volume of the drink affects the time it takes to warm up.

He has identified some of the variables he needs to consider in his investigation:

- the room temperature
- the volume of the drink
- the type of drink
- the time taken for the drink to warm up to room temperature

a Name **one** other variable he needs to consider.

QUERY: This sentence has been changed in accordance with tparker request but it now doesn't make sense.

b Which one the variables that Marcus needs to consider will he change? **[1]**

c Which **two** variables must he measure? **[2]**

d Name **two** variables he should keep the same. **[2]**

4 Zara has 100 cm^3 each of two solutions of copper sulfate.

They are of different concentrations.

One, labelled A, is pale blue and one, labelled B, is a darker blue.

a Which is the more concentrated solution of copper sulfate?

Give your reason for choosing this solution. **[1]**

b Which of the following statements about solution A is correct?

Tick (✓) the box. **[1]**

Solution B has fewer copper sulfate particles dissolved in the water than Solution A. ☐

Solution A has fewer copper sulfate particles dissolved in the water than solution B. ☐

Solution B has more water particles than solution A. ☐

c Zara added more copper sulfate to solution B until no more would dissolve.

What is the name of this type of solution? **[1]**