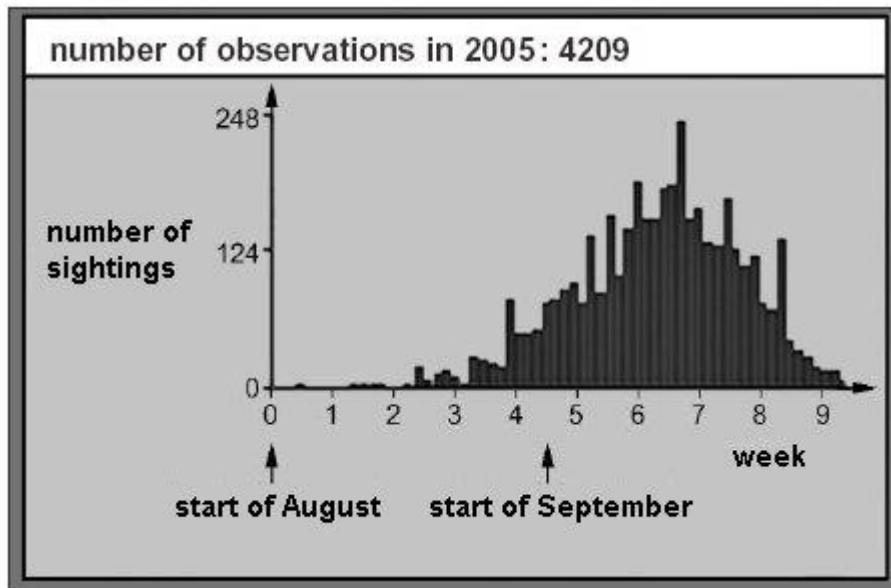


SET 2 - Aiming for level 5-6 at GCSE

- Q1.** Every autumn the BBC asks people all over the UK to record when and where they see the first ripe conkers.
The results are shown on a website.
Conkers only ripen in the autumn.



Information from <http://www.bbc.co.uk/nature/animals/wildbritain/autumnwatch/results/conkers.html> (December 2005)

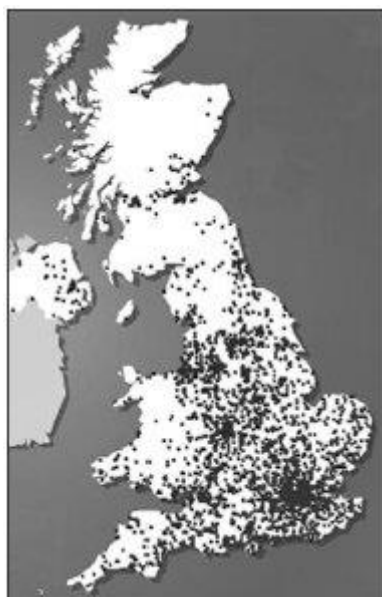
- (a) Some pupils discussed these results and made some conclusions.

Tick a box in each row to say whether the conclusion is **true** or **false** or whether you **cannot tell** based on the results.

	true	false	cannot tell
There are more conkers in 2005 than there have been in other years.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
There are only 248 conker trees in the UK.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The most common time for the first ripe conkers was in September.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The number of sightings decreased between August and September.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2 marks

- (b) The map shows where members of the public saw ripe conkers in the UK.



- (i) Suggest **one** reason why it is a good idea to collect data by asking the public to observe when conkers ripen.

.....
.....

1 mark

- (ii) Suggest **one** reason why it is **not** a good idea to collect data by asking the public to observe when conkers ripen.

.....
.....

1 mark

- (c) The data was collected in one year.

What data would the BBC need to collect to find out if the time of year in which conkers ripen is changing?

.....

1 mark

- (d) Conkers ripen earlier in the south of the country than in the north.

Suggest why conkers ripen earlier in the south.

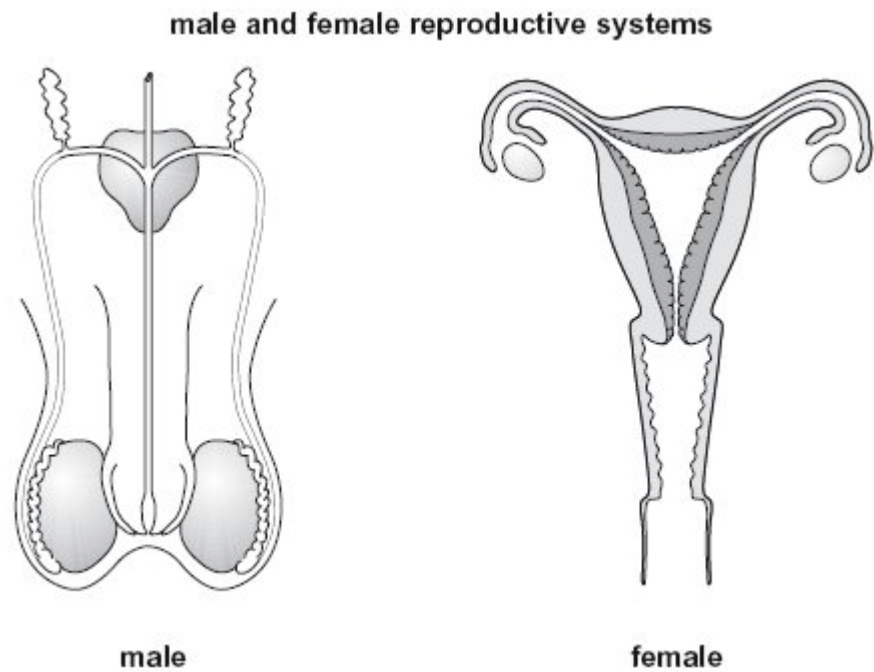
.....

1 mark

maximum 6 marks

Q2.

The diagrams below show the male and female human reproductive systems.



not to scale

- (a) The table below contains descriptions of parts of the human reproductive system. Complete the table to give the name of each part.

name of part	description
	the tube that carries an egg to the uterus
	the organ that produces sperm
	the organ that produces the egg

3 marks

- (b) The diagram below shows an unborn baby.



Complete the sentences below by filling in the gaps.

In humans, normal pregnancy lasts for months.

When the foetus is ready to be born, muscles in the uterus wall start to

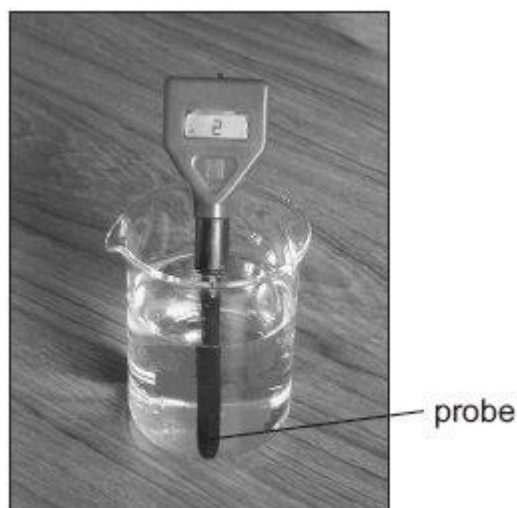
2 marks

After the baby is born, the connecting the foetus to the mother is cut.

1 marks
maximum 6 marks

Q3.

Molly used a pH sensor to test different liquids. She dipped the probe of the sensor into each liquid and recorded the pH value in a table.



- (a) In the table below, tick **one** box for each liquid to show whether it is **acidic**, **neutral** or **alkaline**. One has been done for you.

liquid	pH value	acidic	neutral	alkaline
alcohol	7			
dilute hydrochloric acid	2	✓		
distilled water	7			
vinegar	3			
sodium hydroxide solution	11			

2 marks

(b) Between each test Molly dipped the probe into distilled water.

(i) Why did she do this?

.....
.....

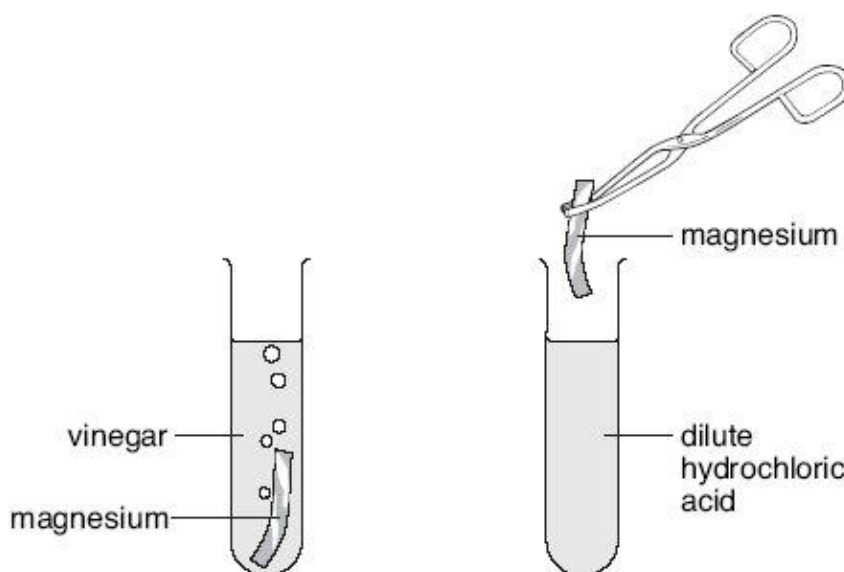
1 mark

(ii) Which other liquid in the table could Molly use between tests to have the same effect as distilled water?

.....

1 mark

(c) Molly put a piece of magnesium into a test-tube containing 20 cm³ of vinegar. She put another piece of magnesium into a test-tube containing 20 cm³ of dilute hydrochloric acid.



(i) Molly thought that magnesium would react more vigorously with hydrochloric acid than with vinegar. What information in the table made Molly think this?

.....
.....

1 mark

(ii) How would Molly be able to tell if a more vigorous reaction took place with hydrochloric acid than with vinegar?

.....
.....

1 mark

(d) (i) Complete the word equation for the reaction between magnesium and hydrochloric acid.

magnesium + hydrochloric acid → +

2 marks

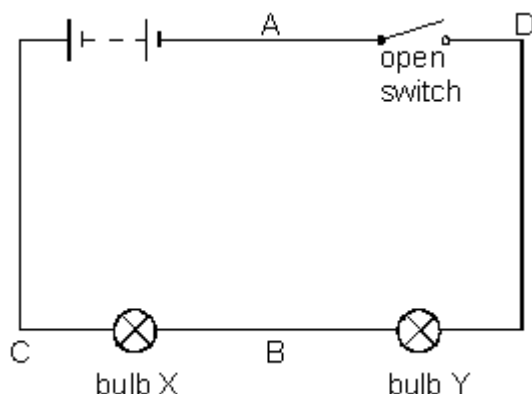
- (ii) After some time this reaction stopped. Why did the reaction stop?

.....
.....

1 mark
maximum 9 marks

Q4.

A circuit is shown below.



- (a) The switch is **open**. Steven connects point **A** to point **B** with a piece of copper wire.

Which bulbs, if any, light up?

.....

1 mark

- (b) Steven removes the copper wire and uses it to connect point **C** to point **D**.

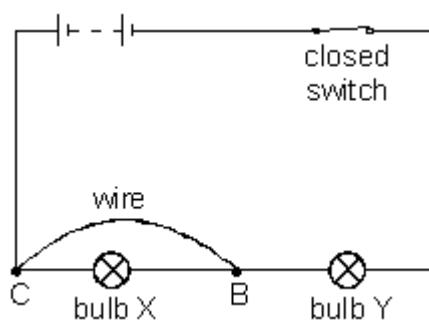
The switch is still **open**.

Which bulbs, if any, light up?

.....

1 mark

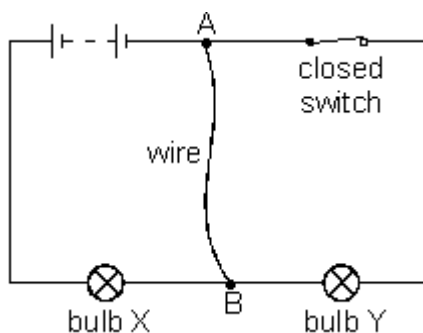
- (c) Steven removes the copper wire and **closes** the switch. Both bulbs light up, but not very brightly.
He then uses the copper wire to connect point **B** to point **C**.



Choose from the following words to answer the questions below.

gets brighter stays the same goes out

- (i) What happens to bulb **X**? 1 mark
- (ii) What happens to bulb **Y**? 1 mark
- (d) Steven removes the copper wire. The switch is still **closed**. Both bulbs light up, but not very brightly. He then uses the copper wire to connect point **A** to point **B**.



Choose from the following words to answer the questions below.

gets brighter stays the same gets dimmer goes out

- (i) What happens to bulb **X**? 1 mark
- (ii) What happens to bulb **Y**? 1 mark
- Maximum 6 marks

