Name: Date:

25 total marks

Science Assessment Year 4: Electricity

What is Electricity

1. Choose the correct word in each box to make this sentence right:

All things are made up of **microorganisms / atoms**. These help make electric **current/generators**.

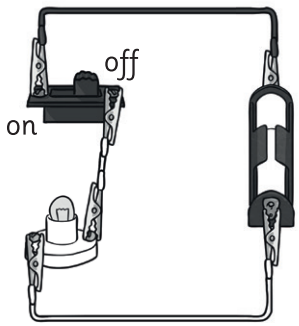
1 mark

2. Name a way that we see electricity occurring naturally.

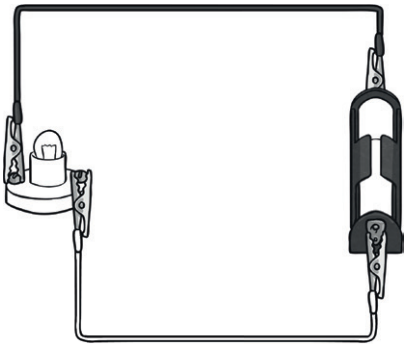
.....

1 mark

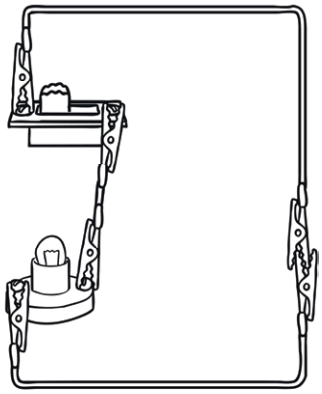
3. Tick whether the bulb will be lit or not lit in each of these diagrams:



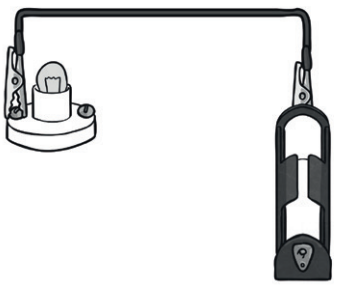
Lit: ☐ Not Lit: ☐



Lit: ☐ Not Lit: ☐



Lit: ☐ Not Lit: ☐



Lit: ☐ Not Lit: ☐

4 marks

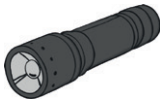
Total for this page

Everyday Electricity

4. Draw lines to match these items to **battery** or **mains** electricity:





Mains Electricity	Battery Electricity

3 marks

5. Name two ways of making electricity from a renewable source.

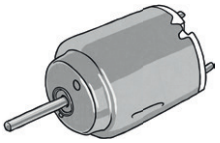
.....

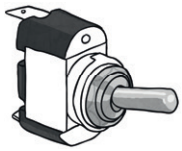
1 mark

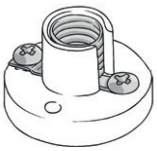
Electrical Circuits

6. Name these pieces of equipment that you might use when you are making electrical circuits:

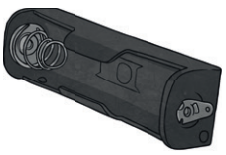








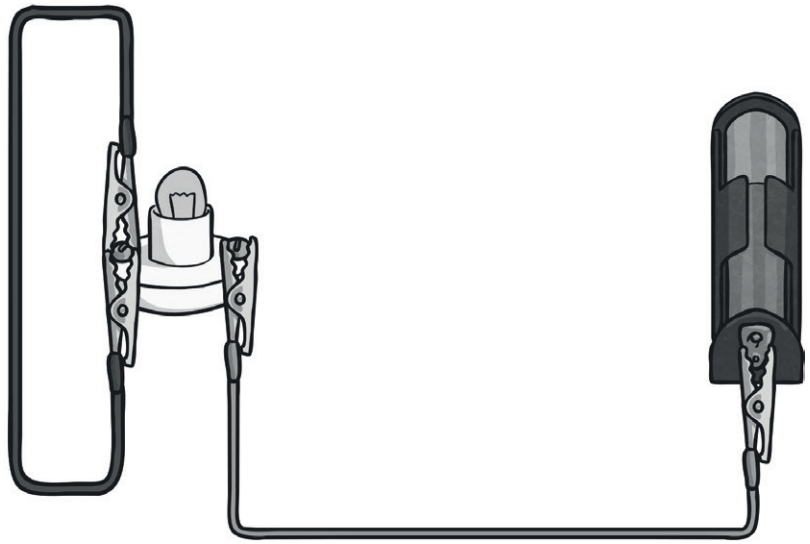




3 marks

Total for this page

7. Will the light bulb in this circuit light up? Explain why or why not:



Will it light up?

.....

Why?

.....

.....

.....

.....

1 mark

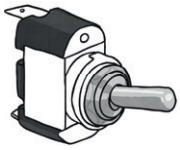
8. Why would you want to put a switch in a circuit?

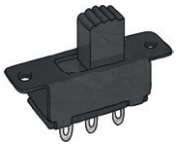
.....

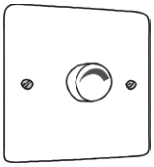
1 mark

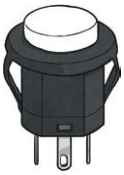
Total for this page

9. Join up these pictures of switches to their name:









- slide switch
- push button switch
- pull switch
- dimmer switch
- rocker switch
- selector switch
- key switch
- toggle switch

3 marks

10. Why do most bathrooms have pull switches?

.....

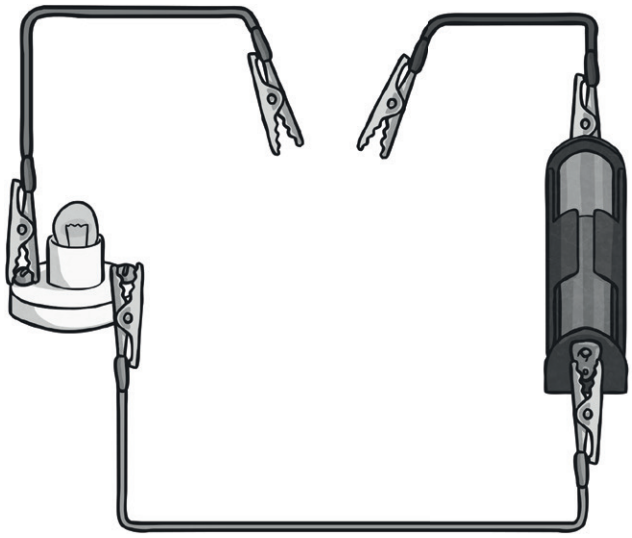
.....

2 marks

Total for this page

Electrical Investigation

A group of Year 4 children have made this circuit to test some different materials to see if they will conduct electricity or not:



11. What do the children mean when they say 'conduct electricity'?

.....

.....

1 mark

This is the table of results they got from their investigation:

	Does it light the bulb?
Wood	No
Copper wire	Yes
Paper	No
Plastic ruler	No
Paper clip	Yes

12. What is the independent variable that they are testing?

.....

1 mark

13. What should the title of the first column be?

.....

1 mark

Total for this page

14. What do you notice about the materials that **do** conduct electricity?

.....

1 mark

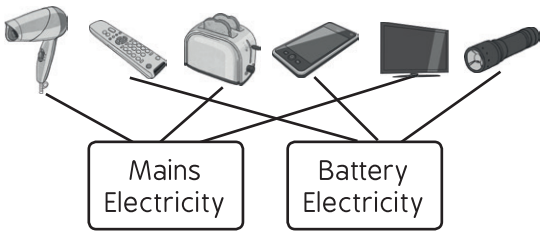
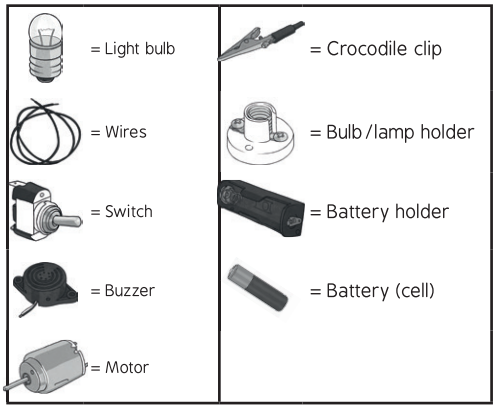
15. What is the name for a material that **does not** conduct electricity?

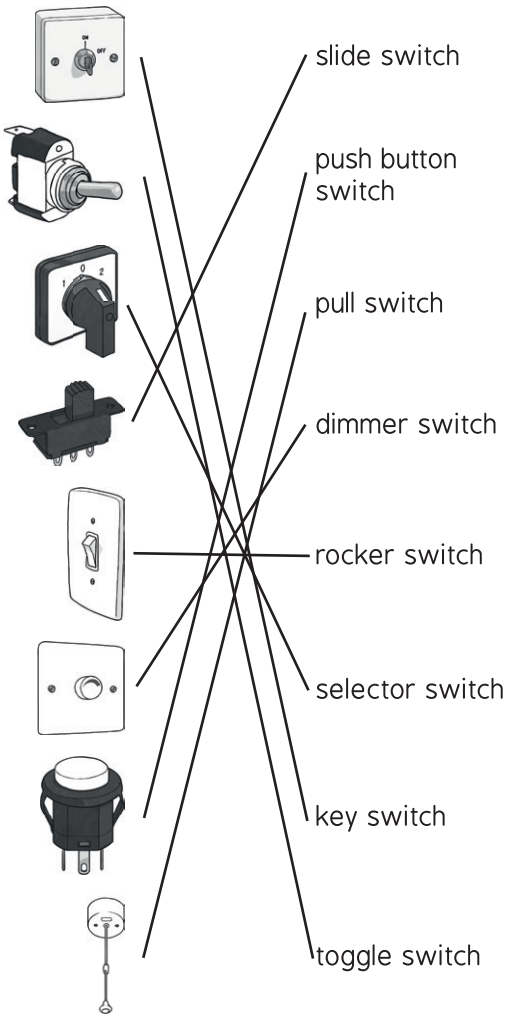
.....

1 mark

Total for this page

Answer Sheet: Science Assessment Year 4:
Electricity

question	answer	marks	notes
1. Choose the correct word in each box to make this sentence right.			
	All things are made up of **atoms**. These help make electric **current**.	1	
2. Name a way that we see electricity occurring naturally.			
	• Static electricity (or an example of this) • Lightning • (Electric) eel	1	
3. Tick whether the bulb will be lit or not lit in each of these diagrams:			
a	No (the switch is turned off)	1	
b	Yes	1	
c	No (There is no battery)	1	
d	No (Not a complete circuit)	1	
4. Draw lines to match these items to **battery** or **mains** electricity.			
		3	0 marks for 0-1 correct 1 mark for 2-3 correct 2 marks for 4-5 correct 3 marks for 6 correct
5. Name two ways of making electricity from a renewable source.			
	• Wind turbines (**not** windmills) • Hydroelectricity (or an example of this)Solar panels • Tidal	1	1 mark for any two correct.
6. Name these pieces of equipment that you might use when you are making electrical circuits.			
		3	0 marks for 0-1 correct 1 mark for 2-5 correct 2 marks for 6-8 correct 3 marks for 9 correct

question	answer	marks	notes
7. Will the light bulb in this circuit light up? Explain why.			
	• **No** + it is an incomplete circuit • **No** + there is a break/gap in the circuit • **No** + the lamp/bulb is not joined to the battery/cell in a circuit	1	1 mark for **no** plus a correct explanation. In lessons make sure that 'incomplete' is the best vocabulary.
8. Why would you want to put a switch in a circuit?			
	To turn it on/off	1	
9. Join up these pictures of switches to their name.			
		3	0 marks for 0-1 correct 1 mark for 2-5 correct 2 marks for 6-7 correct 3 marks for 8 correct

question	answer	marks	notes
10. Why do most bathrooms have pull switches?			
	• It is safer / for safety • An understanding that water and electric mixed are dangerous. • Bathrooms have water and water is dangerous when mixed with electricity so water is well away from the electric. • Wet hands cannot touch electric switches so a pull switch keeps your hands away from the switch.	2	1st mark 2nd mark Example 2 mark answers.
11. What do the children mean when they say 'conduct electricity'?			
	• Completes the circuit by letting electricity pass through it • Lets electricity easily pass through it • Electricity can travel through it easily	1	Make sure in lessons that children understand the real dangers of electricity and an 'insulator' does NOT give 100% protection from shock.
12. What is the independent variable that they are testing?			
	The material / what is going in the gap	1	
13. What should the title of the first column be?			
	• Type of material • Material	1	
14. What do you notice about the materials that **do** conduct electricity?			
	• They are metals	1	Make sure that children know about non-metallic conductors such as water and graphite (graphite can be demonstrated shown using a pencil with 2 sharpened ends).
15. What is the name for a material that **does not** conduct electricity?			
	• Insulator	1	Make sure in lessons that children understand the real dangers of electricity and an 'insulator' does **not** give 100% protection from shock.
		total 25	