



Circuits and Conductors

Learning Objective:

To recognise some common conductors and insulators, and associate metals with being good conductors.





What do the words 'conductor' and 'insulator' mean? Write a definition for each.

Conductor:

Insulator:

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A conductor is a material or device that allows electricity to pass through it.

An insulator is a material or device that does not allow electricity to pass through it.

What components do you need to complete a circuit that would make a bulb light up? Why do you need each of the components?



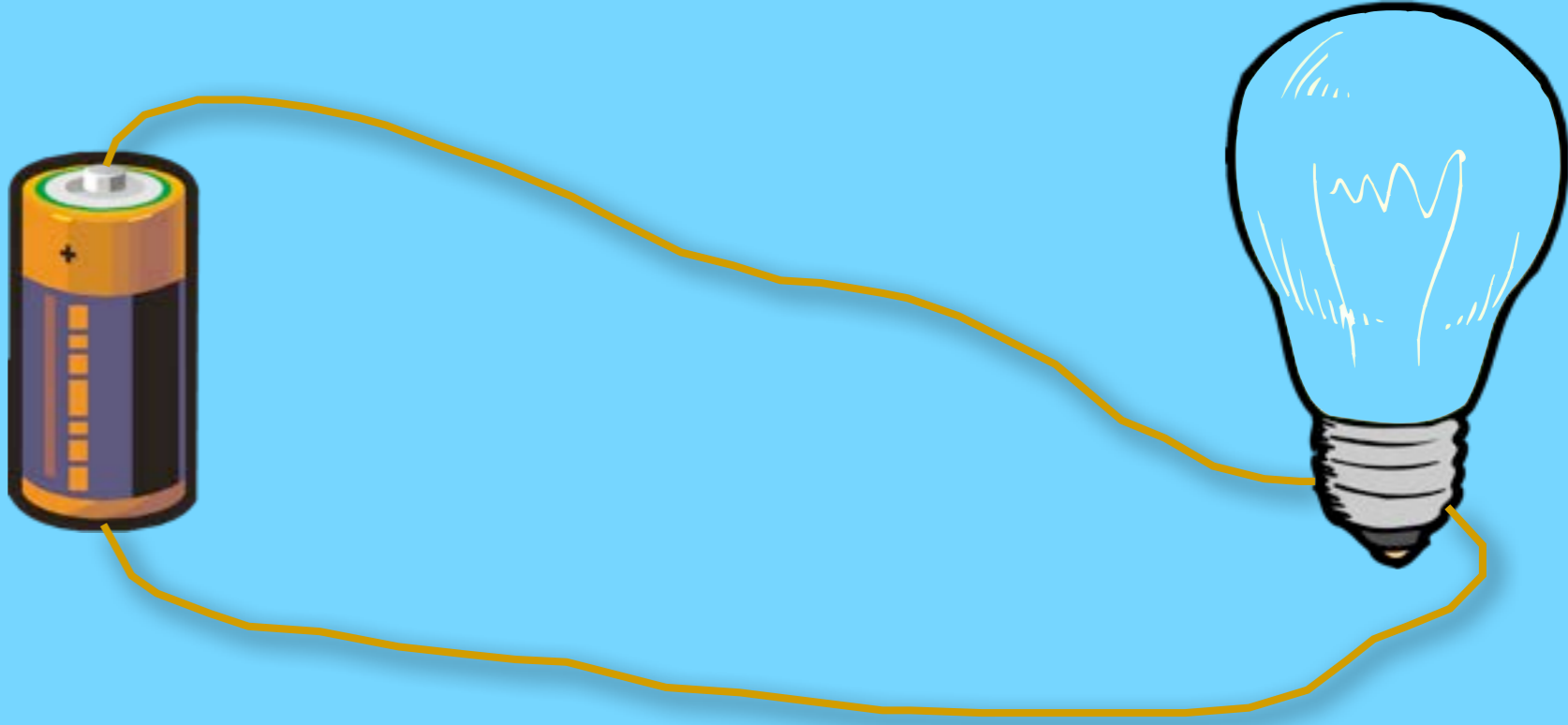
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Sparky wants to create a circuit to light up a bulb but he doesn't have any wire. He has tried to use string instead. Why will his bulb not light up?



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Wire is needed in a circuit because the metal conducts electricity (allows electricity to pass through it) which allows the electricity produced by the battery to flow around the circuit.

Which of the items below do you think are conductors and which are insulators?



a wooden spoon



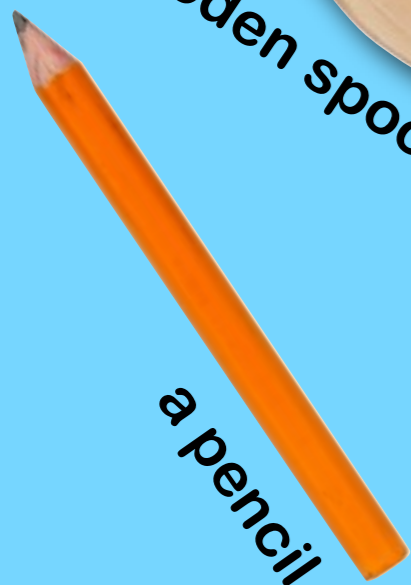
a stone



a rubber



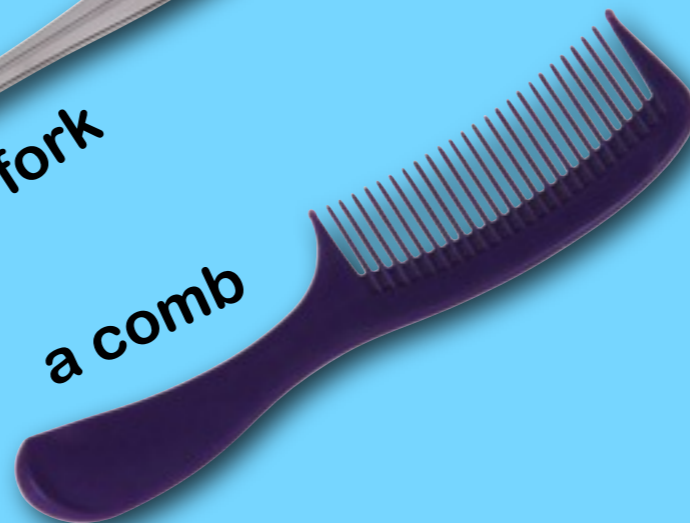
a coin



a pencil



a fork



a comb



a can



a mug

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**How could you
test which
materials would
conduct electricity
and which
wouldn't?**

Discuss your ideas.

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An easy way to test whether a material is a conductor or an insulator is to set up a simple circuit. Make sure the battery and the bulb both work and then include the object you are testing into the circuit. If the bulb lights up, the object is a conductor. If it doesn't, it is an insulator.

