

Year 4 Science

Electricity- Monday



Quick Quiz

1. Name two materials that conduct electricity.
2. Name two materials that insulate electricity.
3. Why are items that insulate electricity useful?

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Quick Quiz answers

1. Silver, Gold, Copper, Steel (metals)
2. Rubber, Glass, Wood, Plastic
3. They can be used to keep electrical items safe.

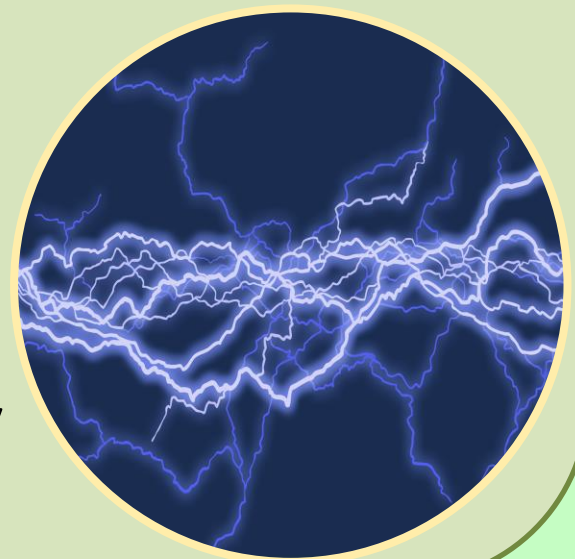
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Although we use electricity every day, it can be dangerous and safety rules must be followed.

Electricity is energy that can flow from place to place; this is called a current. This flow of energy powers all kinds of things, such as computers, lights and televisions. Fires can be caused if electrical equipment is damaged or incorrectly used.



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Being careless with electricity could cause an electric shock. If an electrical current enters your body, your heartbeat is interrupted. Your lungs contract so it is difficult to breathe and skin can be burnt. In the worst cases, a person can die from an electric shock.

How can you be safe around electricity?



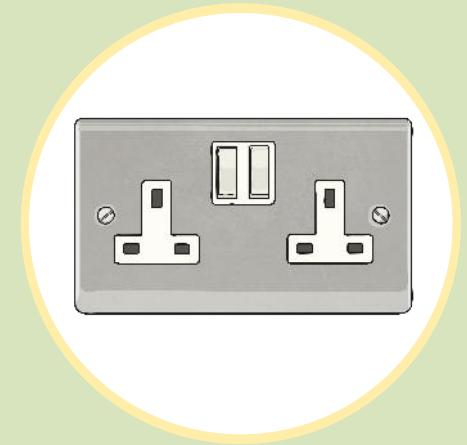
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Never put your fingers in a plug socket. Even if the switch is in the off position, there will still be an electrical current in the socket.

If you need to unplug equipment, turn off the switch on the socket and then carefully take the plug out. Don't try to yank it out!



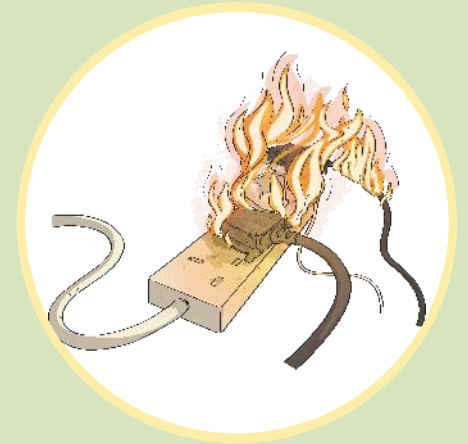
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Don't overload sockets. Using lots of extension cords could damage the electrical system and cause a fire.

If you notice an electrical wire is damaged, you must tell a grown-up straight away.



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Make sure electrical wires are tucked out of the way because they can be a trip hazard. If a pet chewed on wires, it could get an electric shock. If wires dangle from kitchen surfaces, young children could pull them causing appliances to fall and cause an injury.



If a piece of bread gets stuck in the toaster, do not use a knife to try and get the bread out - a knife is metal so it will conduct electricity.

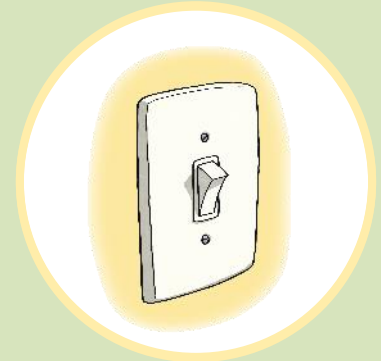


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Don't touch a light switch or plug socket with wet hands. Water conducts electricity so could cause an electric shock. This is why most bathroom lights have pull cords instead of switches.



Hair straighteners, hairdryers and other electrical devices shouldn't be used in the bathroom. Some bathrooms have special plugs so that electric shavers can be used but these are not for normal appliances.



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Chargers for phones and tablets are something that must be used with care. Here are some ways to keep safe when charging devices:

Make sure you use a genuine brand of charger from a shop. Some cheap chargers may not have undergone the appropriate safety checks. There have been cases where fake chargers have overheated and caused house fires.

Never charge your device under your pillow while you sleep. If the charger overheats, it may catch fire.



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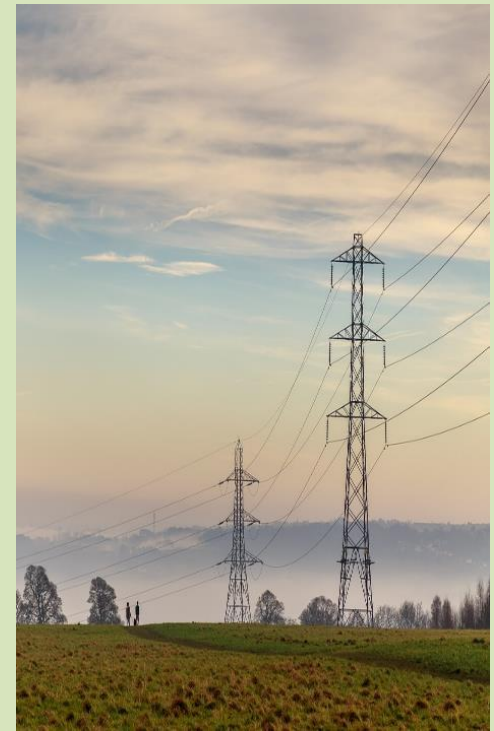
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These pylons support thick cables which carry electrical current around an area.

You should take great care when walking near pylons, making sure you don't get too close. You should never climb a pylon.

Kites shouldn't be flown near pylons or electricity cables. If a kite got caught in the wires, it could act as a conductor and you would get an electric shock.



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Today's task

On the following slide is an image of a home, which isn't exactly safe when it comes to electricity! In your books, stick in the picture (don't worry if this isn't possible) and underneath list the different dangers you notice. Explain why each one is a danger, what could potentially happen, and what you would do to make the situation more safe.

Use key words in your explanation such as:

Insulator, conductor, electricity, component.

