Charge My Phone
Curriculum Activity

Secondary (7 - 10)

ACTIVITY DESCRIPTION

The Charge My Phone activity introduces the concept of energy transformation and illustrates the different forms energy takes before appearing as electrical energy in our everyday lives. Students will look at the conversion of energy required to charge a mobile phone from the source to the electrical power supply and are asked to order the different steps of the process in a chronological sequence.

KEY CONCEPTS

Forms of Energy, Energy Transformations, Fossil Fuels, Resources, Energy Efficiency.

KEY LEARNING INTENTIONS

1. Students will be able to identify different forms of energy; including moving vs stored energy
2. Students will understand that energy cannot be created or destroyed but transformed from one form to another
3. Students will recognise the need for a complete circuit to allow the flow of electricity

VICTORIAN CURRICULUM LINKS 1Q

Science

7 – 8	9 – 10
Energy appears in different forms including movement (kinetic energy), heat, light, chemical energy and potential energy; devices can change energy from one form to another **(VCSSU104)** Science and technology contribute to finding solutions to a range of contemporary issues; these solutions may impact on other areas of society and involve ethical considerations **(VCSSU090)**	Energy flow in the Earth's atmosphere can be explained by the processes of heat transfer **(VCSSU132)** The interaction of magnets can be explained by a field model; magnets are used in the generation of electricity and the operation of motors **(VCSSU131)**

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RESOURCESMART SCHOOLS MODULE LINKS

This activity links to the ResourceSmart Energy Module - Actions B1.2, B1.3
(Speak to your CERES ResourceSmart Schools Facilitator about further links to the Energy module)

SUGGESTIONS FOR ASSESSMENT

Formative

1. Participation in the Charge My Phone activity
2. Completion of the reflection questions

DISCUSSION QUESTIONS

1. Label the transformation of energy throughout the process and discuss the by-products (e.g. steam, heat, light, carbon emissions)
2. What environmental impacts are associated with coal fired electricity generation?
3. What are other forms of energy? How does new science and technology contribute solutions to energy generation?

EXTENSION ACTIVITIES

1. Identify different forms of energy around us in the room or outside and discuss moving vs stored energy (ResourceSmart Schools Energy Module – actions B1.3)
2. Discuss electrical circuits and conductors/insulators and how energy is able to be transferred to another place and transformed (ResourceSmart Schools Energy Module – actions B1.3)
3. Invite a local indigenous group to share their traditional perspectives on the different forms of energy used to meet their needs for comfort and everyday tasks (ResourceSmart Schools Energy Module – actions B1.5, B1.6)
4. Students to write a report about key findings of the activity and share in your school's newsletter and website, including tips about being more energy smart at home (ResourceSmart Schools Energy Module – actions C1.1, C1.3, C3.5)
5. Extend activity to research other sources for generating electrical energy in Australia and around the world (e.g. water, nuclear, solar). Engage with students from other schools interstate or overseas to share findings (ResourceSmart Schools Energy Module – actions C3.7)

ACCESS THIS ACTIVITY

Visit the **Sustainability Hub** to download the activity - http://sustainability.ceres.org.au/energy-activities/

For more info:
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