



## MOBILE CONNECTIONS - PRIMARY

### Learning intention

Students will investigate the life cycle of a mobile phone and what happens when they reach the end of their life. Students will recognise the environmental impacts of phones and what can be done to make sure they are recycled responsibly. Mobile Connections utilises an inquiry and sustainability action process in which students can make their own impact on mobile phone waste.

### Curriculum links

Mobile Connections has a strong focus in education for sustainability. The [Sustainability cross-curriculum priority](#) is designed to build a deep understanding of ecological systems on Earth and provides ways to view and engage with environmental and sustainability issues in different contexts.

Sustainability learning is described through a set of organising ideas that focus students on developing and understanding of the ecological and human systems of the Earth (Systems), the way in which we view or engage with environmental and sustainability issues and perspectives (World views) and the ways in which we develop and implement solutions for sustainability (Futures).

The organising ideas for Mobile Connections are described below.

- Ol.3 Sustainable patterns of living rely on the interdependence of healthy social, economic and ecological systems. (Systems)
- Ol.5 World views are formed by experiences at personal, local, national and global levels, and are linked to individual and community actions for sustainability. (World views)
- Ol.6 The sustainability of ecological, social and economic systems is achieved through informed individual and community action that values local and global equity and fairness across generations into the future. (Futures)
- Ol.7 Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments. (Futures)
- Ol.8 Designing action for sustainability requires an evaluation of past practices, the assessment of scientific and technological developments, and balanced judgments based on projected future economic, social and environmental impacts. (Futures)



The following information describe links to the Australian curriculum for the Humanities and social sciences subject area.

### ***Australian curriculum content descriptions (Year 5)***

#### **Inquiry and skills**

##### Questioning

- Develop appropriate questions to guide an inquiry about people, events, developments, places, systems and challenges (ACHASSI094)

##### Researching

- Locate and collect relevant information and data from primary and secondary sources (ACHASSI095)
- Organise and represent data in a range of formats including tables, graphs and large- and small-scale maps, using discipline-appropriate conventions (ACHASSI096)
- Sequence information about people's lives, events, developments and phenomena using a variety of methods including timelines (ACHASSI097)

##### Analysing

- Examine primary and secondary sources to determine their origin and purpose (ACHASSI098)
- Examine different viewpoints on actions, events, issues and phenomena in the past and present (ACHASSI099)
- Interpret data and information displayed in a range of formats to identify, describe and compare distributions, patterns and trends, and to infer relationships (ACHASSI100)

##### Evaluating and reflecting

- Evaluate evidence to draw conclusions (ACHASSI101)
- Work in groups to generate responses to issues and challenges (ACHASSI102)
- Use criteria to make decisions and judgements and consider advantages and disadvantages of preferring one decision over others (ACHASSI103)
- Reflect on learning to propose personal and/or collective action in response to an issue or challenge, and predict the probable effects (ACHASSI104)

##### Communicating

- Present ideas, findings, viewpoints and conclusions in a range of texts and modes that incorporate source materials, digital and non-digital representations and discipline-specific terms and conventions (ACHASSI105)



## *Australian curriculum content descriptions (Year 6)*

### **Inquiry and skills**

#### Questioning

- Develop appropriate questions to guide an inquiry about people, events, developments, places, systems and challenges (ACHASSI122)

#### Researching

- Locate and collect relevant information and data from primary and secondary sources (ACHASSI123)
- Organise and represent data in a range of formats including tables, graphs and large- and small-scale maps, using discipline-appropriate conventions (ACHASSI124)
- Sequence information about people's lives, events, developments and phenomena using a variety of methods including timelines (ACHASSI125)

#### Analysing

- Examine primary and secondary sources to determine their origin and purpose (ACHASSI126)
- Examine different viewpoints on actions, events, issues and phenomena in the past and present (ACHASSI127)
- Interpret data and information displayed in a range of formats to identify, describe and compare distributions, patterns and trends, and to infer relationships (ACHASSI128)

#### Evaluating and reflecting

- Evaluate evidence to draw conclusions (ACHASSI129)
- Work in groups to generate responses to issues and challenges (ACHASSI130)
- Use criteria to make decisions and judgements and consider advantages and disadvantages of preferring one decision over others (ACHASSI131)
- Reflect on learning to propose personal and/or collective action in response to an issue or challenge, and predict the probable effects (ACHASSI132)

#### Communicating

- Present ideas, findings, viewpoints and conclusions in a range of texts and modes that incorporate source materials, digital and non-digital representations and discipline-specific terms and conventions (ACHASSI133)



## Teacher notes

Mobile Connections uses the Sustainability Action Process as the framework for students to plan, execute and evaluate action for sustainability. They use an inquiry approach to assist student's construction of knowledge and understanding. Students will develop and implement a MobileMuster project at their school and reflect on their success and learning.

Teachers should allocate several weeks to allow time for a thorough investigation of the issue and provide time for implementing the action throughout the term. Students could work in small groups as the work sequentially through the five steps in the Sustainability Action Process.

To support Mobile Connections in the classroom access the digital resources including animations, interactives and reference material from the MobileMuster website. The Mobile Connections digital book can be used to document their learning and develop their action. It contains narrated videos, stunning images, interactive activities and detailed text to help students design and implement positive actions for sustainability. The digital book or a journal can be used to record their understanding, develop ideas and run the MobileMuster project.

## Questions for inquiry

**What is the life cycle of a mobile phone?**

**What resources are required in the mobile phone production process?**

**Where can our phones end up?**

**What is e-waste?**

**What can we do to recycle e-waste responsibly?**

## Resources

[NSW Department of Education, Sustainability Action Process learning resources](#)

[MobileMuster website](#)



## LESSON 1: What is a sustainable mobile phone lifecycle? Making the case for change

Mobile phones are pretty incredible. They help you connect to people, places, information and goods and services across the globe. But what happens when they are upgraded or no longer work. This lesson explores the life cycle of a mobile phone.

These activities have been developed to explore the sustainability issue and cover step one in the sustainability action process. Students will access the current situation for mobile phone recycling in their school and community. They will investigate concepts and ideas relating to the issue and start thinking about what needs to change.

1. Explore the e-waste sustainability issue by watching the War on Waste episode on electronic waste.
2. Assess the current situation in the school by finding out if your school is currently part of the MobileMuster schools program or if there are MobileMuster collection points in your local community. [To search enter your local suburb in the MobileMuster locator.](#)
3. Investigating concepts and ideas relating to the sustainability issue.
  - View the video: [How phones are made – Oppo Factory Tour.](#)
  - Watch the animation [What's Inside Your Phone](#) and complete the What's In a Phone Quiz
  - Identify the main stages in making a mobile phone
4. What can be done in your school and community? Conduct a survey on the number of mobile phones being stored in the school community. Ask participants why they are holding onto their old mobiles and what would motivate them to recycle.
5. Answer the questions
  - How many mobile phones and accessories are currently going to waste in our homes?
  - What current systems are in place to reuse and recycle these phones?
  - What have we discovered about mobile phone recycling at our school?
  - Draw a diagram of a sustainable mobile phone life cycle.



## LESSON 2: What is the story behind my phone? Defining the scope for action

The raw materials that are used to make mobile phone components come from all over the planet. Some of these materials are precious or rare. Generating ideas and exploring options for making a change. This lesson looks at why it is important to recycle and what action can be taken.

These activities cover step two in the sustainability action process. They identify ideas, consider the available resources and constraints and help students to select an idea for action.

1. To help generate ideas view the [Extending the Life of your Phone](#) video from the MobileMuster website and [A Free Trip to Agbogbloshie](#) by Dave Hakkens.
  - Identify what you can do to extend the life of your phone. Consider repair, reuse and reselling options.
  - Explain why people in developing countries risk their health and pollute the environment to disassemble and reuse electronic waste.
2. Explore what happens when mobile phones are recycled through the MobileMuster program. Watch the video [The Recycling Journey](#) (01.33mins). Identify three reasons why it is important to recycle responsibly through programs like MobileMuster.
3. Research information about the MobileMuster program, generate ideas and explore options for making a change. Answer the questions
  - What are the steps in running a MobileMuster?
  - What resources are available to us to start the program at school?
  - What limitations or constraints may there be to running a MobileMuster in our school?
  - If we didn't run a muster how could we raise awareness or change behaviour? Consider an awareness or education campaign that you could develop.
4. Select an idea for action. As a class and considering your resources, time frames and ideas what type of action best meets your goal. Whether you create a recycling campaign, construct an awareness artwork or run a MobileMuster the options are endless.



### **LESSON 3: Creating a sustainable mobile future. Developing the proposal for action**

By recycling your mobile, you'll be avoiding future greenhouse gas emissions, saving energy, protecting the environment and conserving natural resources. You're also preventing potentially hazardous materials from entering the environment. This lesson develops the proposal and considers how to communicate the benefits of recycling.

These activities cover step three in the sustainability action process. They prepare the proposal, work out how it will be communicated and who will be responsible.

1. Develop the statement for action which you can communicate to the school. Make sure your call to action is simple and easy to follow.
2. Identify the order of steps or actions needed to implement the plan. Make sure you gain agreement on the proposal from stakeholders including the Principal.
3. Before you prepare the communications plan consider how to promote your proposed action take a look at the environmental benefits of recycling. View the video [The Benefits of Recycling Your Phone](#) from the MobileMuster website.
4. Identify and describe the environmental benefits of recycling mobile phones. Interact with the [MobileMuster Environmental Calculator](#) and assess environmental benefits of recycling mobile phones.
  - What would be the environmental benefit of recycling in terms of global warming (CO<sub>2</sub> emissions prevented)?
  - What other measures are used in the environmental calculator?
5. Develop your proposal and allocate roles and responsibilities. Questions to consider:
  - Does our planning address the original problem?
  - How does this plan support all aspects of what we are going to do?
  - How can this plan be communicated? Use the information collected in the survey to help form the communications plan.
  - How do we record our actions for communicating and reporting?
  - How will we monitor our progress and success?



## LESSON 4: Goodbye old phone. Taking Action

MobileMuster is the product stewardship program of the mobile phone industry and is accredited by the federal government. It is voluntarily funded by all of the major handset manufacturers and network carriers to provide a free recycling program in Australia. This lesson is all about taking action.

These activities cover step four in the sustainability action process. They cover the implementation of the sustainable action and monitor its progress.

1. Visit the MobileMuster website and learn more about the MobileMuster program, why it was developed and who funds the program. Watch the video [MobileMuster - Our Story](#).
2. In groups, students select one of MobileMuster's member organisations and research the environmental initiatives to reduce the impacts of their products on the environment. A link to the environmental pages of MobileMuster member organisations is found on the About menu on the MobileMuster website. They include [Alcatel](#), [Apple](#), [Google](#), [HMD Global](#), [HTC](#), [Huawei](#), [Microsoft](#), [Motorola](#), [OPPO](#), [Samsung](#), [ZTE](#), [Telstra](#), [Vodafone](#), [Optus](#)
3. Implement the steps set out in the proposal. Use the resources provided by MobileMuster to communicate the sustainability action. Schools that are a registered MobileMuster collection partner will be able to use their resources including posters, videos and logo to promote the action.
4. Monitor progress. Questions to consider:
  - Who is monitoring the implementation?
  - What further action is needed to ensure success?
  - Are we following the proposed steps?
  - How are we monitoring our progress?
  - How are we collecting data?
5. Collect data on proposal implementation. Possible strategies that could be used to collect the data include surveys, interviews, film and document implementation.



## LESSON 5: Evaluating and reflecting

Change starts with education. Spreading awareness and taking action in order to make a difference can be achieved in a number of ways. This lesson is all about evaluating the sustainability action process and working out how we can create a sustainable mobile future.

These activities cover step five in the sustainability action process. They cover the evaluation of the sustainable action and reflect on the learning process.

1. To evaluate the sustainability action consider the following questions:
  - a. Were there any unexpected issues?
  - b. How could you improve the action process for next time?
  - c. What further action might you take?
2. Identify what learning resulted from the action process. If the sustainability action involved a MobileMuster collection event use the [Environmental Calculator](#) to measure the environmental impact of the action.
3. View the TED talk [Paper beats plastic? How to rethink environmental folklore by Leyla Acaroglu](#) (18.04mins). Leyla examines systems thinking in product design and development for a more sustainable future.
4. Identify what you would do differently next time and possible future directions. Present the evaluation to the school and community. You could create a documentary that describes the sustainability action and the impact that it had.