MODULE 4.
HOW ARE PHONES MADE?

MODULE 04

K-2 3-4 5-6 7-8 9-10

LESSON OBJECTIVE

In this module students will appreciate and understand the variety and quantity of resources that come together to manufacture a mobile phone. Students will be introduced to the idea that products have life cycles and will be encouraged to consider the impact of the product life cycle on the environment.

AUSTRALIAN CURRICULUM CONTENT DESCRIPTION

YEAR 5 SCIENCE

- Important contributions to the advancement of science have been made by people from a range of cultures (ACSHE082)
- Scientific understandings, discoveries and inventions are used to solve problems that directly affect peoples' lives (ACSHE083)
- Scientific knowledge is used to inform personal and community decisions (ACSHE217)

YEAR 6 SCIENCE

- Electrical circuits provide a means of transferring and transforming electricity (ACSSU097)
- Important contributions to the advancement of science have been made by people from a range of cultures (ACSHE099)
- Scientific understandings, discoveries and inventions are used to solve problems that directly affect peoples' lives (ACSHE100)
- Scientific knowledge is used to inform personal and community decisions (ACSHE220)

LESSON OUTLINE

1. Read the Fact Sheet: Mobile Phone Manufacturing and watch the Mobile Phone Manufacturing videos. Discuss the different stages of the mobile phone life cycle.
2. Divide the students into five groups and assign each group with one stage of the product life cycle.
3. Ask each group to produce a presentation of their stage of the product life cycle.
4. As part of the presentation they need to investigate the social, environmental and economic benefits and costs at each stage of the product life cycle.
5. The work can be presented as an oral activity, flow diagram, poster, Prezi or Powerpoint presentation.
6. When all groups have produced their presentation, they can present it to the class as 'experts' on that stage of the mobile phone life cycle.
7. Share your student work and upload the presentations to the MusterKids Zone on the MobileMuster website.
8. Recap: using the information presented students can complete the Worksheet: How Are Mobile Phones Made? Either individually or as a class.

RESOURCES

1. Interactive whiteboard (IWB)
2. Facts Sheet: Mobile Phone Manufacturing
3. Video: Mobile Phone Manufacturing
   a. Part 1
   b. Part 2
   c. Part 3
   d. Part 4

SUPPORT MATERIAL

- Pod cast– Life Cycle of a mobile phone (New York Hall of Science).
- Video: Product Life Cycles. Short animations on YouTube that get kids to look at the life cycle of products, where things come from and what happens when things get thrown away.
- TED Talks: Sustainability by design.

EXTENSION ACTIVITIES

There are many household appliances that use environmental rating systems to measure the sustainability of products. Vodafone has developed a voluntary environmental rating scheme which looks at the environmental and ethical performance of many of the mobile phones they sell.

Visit the Vodafone Eco Rating site, view the Video: Vodafone Eco Rating and look at how you can calculate the mobile phone's impact on the environment. The rating system measures water usage, energy and raw materials, pollution, hazardous materials, carbon emissions, recyclability and ethical practices.

If you were an engineer working for a mobile phone manufacturer and wanted to create a new environmentally sustainable mobile phone, how would you design the phone? In your response consider the entire life cycle of a product — from materials acquisition, materials processing, manufacturing, packaging, transportation, use and disposal of the product.