

MOBILE CONNECTIONS

CURRICULUM GUIDE



mobilemuster.com.au



Mobile Connections allows students to look at their personal connections to mobile technology and how it influences people's choices and actions and the implications for society, the economy and the environment.

Through geographical inquiry, students develop deep knowledge of our mobile connections and the resulting consequences on places. The guide engages students in key learning activities and case studies that investigate place perceptions, access to technology, tourism, m-commerce, trade, transport and how people's decisions affect the way products and services are produced and consumed.

Providing solutions to complex global issues requires students to be future-focused, possessing the dispositions of a global citizen. *Mobile Connections* encourages students to be informed, critical, curious and empathetic so they will have the confidence and skills to plan and conduct geographic action for a sustainable future. The final stage of inquiry in the guide addresses opportunities for action including the running of a MobileMuster. Through an understanding of the circular economy, and the need to recycle the Earth's resources responsibly, students can advocate for change within their school and community.

The program fosters the use of technology in the classroom as an educational resource that transcends the classroom bounds. This allows students to engage with content and concepts in a way that provides for dynamic, interactive, collaborative and relevant learning experiences. As students build capacity in using information and communication technologies (ICT) they enhance their ability to contribute in an increasingly knowledge-based and technologically sophisticated society. It is recommended that students have access to mobile technology, or other types of connected devices, to build on these capabilities.

About the Authors

MobileMuster partnered with educational experts from the Field of Mars Environmental Education Centre to develop the *Mobile Connections* Curriculum Guide. The guide has been reviewed by curriculum experts and key stakeholders ensuring it delivers quality teaching and student learning outcomes. *Mobile Connections* is a dynamic concept. This guide will be updated annually ensuring content, source materials and relevant issues are current.

To support *Mobile Connections* in the classroom access the digital resources including animations, interactives and reference material from the MobileMuster [website](#). A digital multimodal book in both [ePub](#) and [Apple Books](#) formats has been designed to support Section 4 and 5 of the *Mobile Connections* program. It contains narrated videos, stunning images, interactive activities and detailed text to help students design and implement positive actions for sustainability.

MOBILE CONNECTIONS BY SECTION

SECTION 1	LESSON 1	LESSON 2	LESSON 3	LESSON 4	LESSON 5	LESSON 6
MOBILE CONNECTIONS	WHAT ARE MY PERSONAL CONNECTIONS TO PLACES?	HOW DOES MY PHONE CONNECT ME TO PLACES?	HOW IS TECHNOLOGY CONNECTING PEOPLE AND PLACES?	WHY ARE MOBILE CONNECTIONS IMPORTANT FOR THE FUTURE?	WHAT ARE THE CONSEQUENCES OF OUR MOBILE CONNECTIONS?	WHAT IS THE FUTURE FOR OUR MOBILE CONNECTIONS?
SECTION 2	LESSON 7	LESSON 8	LESSON 9	LESSON 10		
MOBILE TOURISM	WHAT IS MOBILE TOURISM?	WHY IS MOBILE TOURISM IMPORTANT FOR THE FUTURE?	WHAT ARE THE CONSEQUENCES OF MOBILE TOURISM?	WHAT IS THE FUTURE FOR MOBILE TOURISM?		
SECTION 3	LESSON 11	LESSON 12	LESSON 13	LESSON 14	LESSON 15	
MOBILE COMMERCE	WHAT IS MOBILE COMMERCE?	HOW IS TRADE CONNECTING AUSTRALIA TO OTHER COUNTRIES?	HOW IS M-COMMERCE CONNECTING US THROUGH TRADE?	WHAT ARE THE CONSEQUENCES OF M-COMMERCE ON GLOBAL TRADE?	WHAT IS THE FUTURE OF M-COMMERCE?	
SECTION 4	LESSON 16	LESSON 17	LESSON 18	LESSON 19	LESSON 20	LESSON 21
MOBILE FUTURES	WHAT IS THE FUTURE FOR OUR MOBILE CONNECTIONS?	WHAT IS THE STORY BEHIND MY PHONE?	HOW TO DESIGN FOR A MORE SUSTAINABLE FUTURE?	HOW IS THE MOBILE PHONE INDUSTRY MOVING TOWARDS A MORE SUSTAINABLE PHONE?	WHERE CAN OUR PHONES END UP?	WHAT HAPPENS TO MOBILE PHONES WHEN THEY ARE RECYCLED?
SECTION 5	MOBILE ACTION					



THE AUSTRALIAN CURRICULUM

Learning Area Year 9 Geography

Key inquiry questions

A framework for developing students' geographical knowledge, understanding and skills is provided through the inclusion of inquiry questions and specific inquiry skills, including the use and interpretation of maps, photographs and other representations of geographical data.

The key inquiry questions for Year 9 are:

What are the causes and consequences of change in places and environments and how can this change be managed?

What are the future implications of changes to places and environments?

Why are MobileMuster and interdependencies important for the future of places and environments?

Unit 2: The Geography of Interconnections

Geographic Knowledge and Understanding

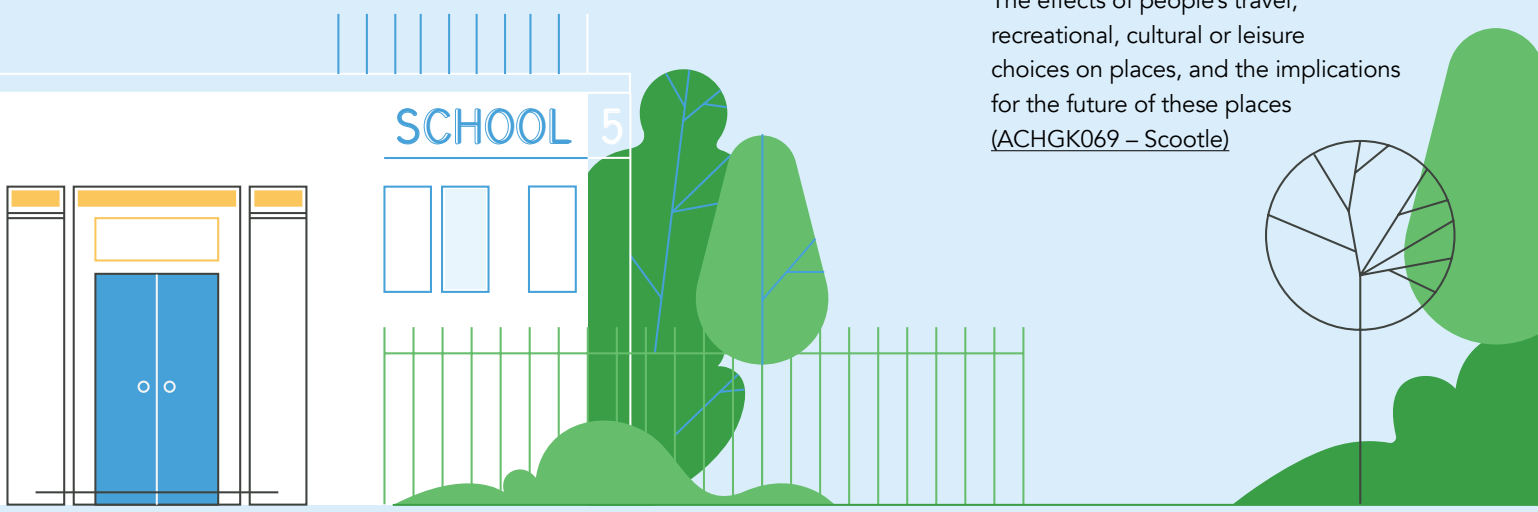
The perceptions people have of place, and how these influence their connections to different places ([ACHGK065 – Scootle](#))

The way transportation and information and communication technologies are used to connect people to services, information and people in other places ([ACHGK066 – Scootle](#))

The ways that places and people are interconnected with other places through trade in goods and services, at all scales ([ACHGK067 – Scootle](#))

The effects of the production and consumption of goods on places and environments throughout the world and including a country from North-East Asia ([ACHGK068 – Scootle](#))

The effects of people's travel, recreational, cultural or leisure choices on places, and the implications for the future of these places ([ACHGK069 – Scootle](#))



Geographic Inquiry and Skills

Observing, questioning and planning

- Develop geographically significant questions and plan an inquiry that identifies and applies appropriate geographical methodologies and concepts ([ACHGS063 – Scootle](#))

Collecting, recording, evaluating and representing

- Evaluate sources for their reliability, bias and usefulness and select, collect, record and organise relevant geographical data and information, using ethical protocols, from a range of appropriate primary and secondary sources ([ACHGS064 – Scootle](#))
- Represent multi-variable data in a range of appropriate forms, for example scatter plots, tables, field sketches and annotated diagrams, with and without the use of digital and spatial technologies ([ACHGS065 – Scootle](#))
- Represent spatial distribution of geographical phenomena by constructing special purpose maps that conform to cartographic conventions, using spatial technologies as appropriate ([ACHGS066 – Scootle](#))

Interpreting, analysing and concluding

- Interpret and analyse multi-variable data and other geographical information using qualitative and quantitative methods, and digital and spatial technologies as appropriate, to make generalisations and inferences, propose explanations for patterns, trends, relationships and anomalies, and predict outcomes ([ACHGS067 – Scootle](#))
- Apply geographical concepts to synthesise information from various sources and draw conclusions based on the analysis of data and information, taking into account alternative points of view ([ACHGS068 – Scootle](#))
- Identify how geographical information systems (GIS) might be used to analyse geographical data and make predictions ([ACHGS069 – Scootle](#))

Communicating

- Present findings, arguments and explanations in a range of appropriate communication forms, selected for their effectiveness and to suit audience and purpose; using relevant geographical terminology, and digital technologies as appropriate ([ACHGS070 – Scootle](#))

Reflecting and responding

- Reflect on and evaluate findings of an inquiry to propose individual and collective action in response to a contemporary geographical challenge, taking account of environmental, economic, political and social considerations; and explain the predicted outcomes and consequences of their proposal ([ACHGS071 – Scootle](#))

Cross Curriculum Priorities

Sustainability

The inquiry into our mobile connections has a strong focus on education for sustainability. Through the priority of sustainability, students develop the knowledge, skills, values and world views necessary to contribute to more sustainable patterns of living.

Education for sustainability goes beyond just imparting knowledge about sustainability. It builds on an individual's capacity for transformational change. In line with the Australian Curriculum this approach is futures-oriented, with a focus on achieving environmental outcomes through informed action. Students can follow the sustainability action process, a scaffold for teachers and students to investigate the issues associated with the lifecycle of mobile phones.

This unit will take students on a journey which leads them to take action through participation in a MobileMuster at their school. It will provide them with the information and motivation to inform their community about recycling responsibly. It will also encourage students to take their knowledge with them as they become active users of mobile phones and have to make decisions about their use, reuse and recycling.



General Capabilities

Literacy

Students develop literacy knowledge and skills as they view and assess information for learning and communicating. *Mobile Connections* encourages students to access various information sources, to process information for meaning and to communicate to express ideas, opinions and emotional connections. The unit supports students as they navigate digital information enabling confidence in a student's digital and visual literacy.

Numeracy

Numeracy is developed as students engage with geographical skills and tools. Spatial reasoning, interpreting statistical information, recognising patterns and relationships and calculation are required as students evaluate and process geographical data to make meaning.

Information and Communication Technology

Connections to people and places and associated consequences are examined in the context of enhanced and expanding access to information and communication technology. This unit focuses on building teacher and student capacity in the use of ICT to access, process and communicate information and ideas.

Critical and Creative Thinking

Key learning activities and engagement with local, regional, national and global case studies in the unit identify and examine current social, environmental and economic issues and the associated challenges. Providing opportunities to develop capability in critical and creative thinking enhances thinking skills to propose, design, innovate and develop solutions for our future.

Intercultural understanding

Students learn to value, reflect upon and critically view cultural practices and perspectives. Global case studies, as delivered in the unit's key learning activities, provide learners with opportunities to recognise cultural interconnections, commonalities and differences, enabling positive intercultural behaviours. Most importantly, it recognises growth in the necessary dispositions for building intercultural understanding, those of empathy, respect and responsibility.

Ethical understanding

Mobile Connections investigates our expanding connections with distant people and places through mobile and communication technology. Connectivity exposes students to the world's complex issues and with it the need for responses that reflect ethical considerations. The unit's process of inquiry deepens knowledge of global issues around social and environmental justice providing the pathway for socially responsible individuals and communities.

A geographical inquiry

Mobile Connections follows the geographical inquiry process.

The geographical inquiry process enables students to investigate geographical questions and follow steps to collect, evaluate, interpret, analyse and process data to allow a student to make conclusions and communicate their findings. The study of geography also provides students to form proposals, plan action and if appropriate, act upon it.

The inquiry process provides the opportunity to assess the knowledge and skills gained from inquiry as well as assessment on the geographical inquiry itself.

Geographical inquiry process assessment

To communicate and reflect on the section inquiry, students complete the following tasks assessing their knowledge and inquiry skills gained:

- collate their geographical information;
- provide evidence of data processing by evaluating resources, interpreting data, analysing data and drawing conclusions; and
- communicate their results using a variety of strategies, reflecting and proposing actions.

Students can present their findings in a variety of ways such as written reports, documentaries, animations, visual or graphical representations, infographics, role play scenarios or speeches.

RESOURCES



Developing an inquiry in Years 9–10 Geography

Sustainability action process

SECTION 1

MOBILE CONNECTIONS



OVERARCHING INQUIRY QUESTION

How does access to mobile technologies influence places?

This section explores our personal connections to places through the lens of our mobile phones. As information and communication technologies advance, and access to mobile technology rapidly increases in Australia, students are increasingly connecting to people, places, information and goods and services through their mobile devices. Australians now enjoy high levels of access to ICT and it is recognised that young people in particular are increasingly digitally connected.

However, access to ICT is not equitable on the national or global scale. This inequality is known as the digital divide. Identification of the digital divide across scales, and the impact this has on places, allows students to investigate the issue through the geographical inquiry process.

Suggested apps

Photos

Google Slides

PowerPoint

Keynote

Haiku Deck

Pic Collage

Google MyMaps

Google Maps

Apple Maps

WHAT ARE MY PERSONAL CONNECTIONS TO PLACES?

Learning intention

Students will be introduced to the topic *Mobile Connections*. To engage with this topic the main ideas around connections will be presented as a slideshow of images found on the camera roll of a mobile phone. Students identify connections to places, perceptions of places and our connection to people and reflect on the role mobile technology plays in these connections.

Teacher notes

This unit is driven by our connections to people and place as influenced by our mobile devices. To maximise the learning intention some of the activities in this resource will require the use of a mobile phone. Current education policy relating to mobile phone use in schools differs and as such activities in *Mobile Connections* can be modified. Activities requiring a mobile phone can be delivered as homework or using other devices such as a laptop or tablet.

The [Office of the eSafety Commissioner](#) is an independent statutory office and provides invaluable advice to students on keeping safe online. In this lesson students may wish to investigate the debate relating to access to mobile devices in schools.

Preparation:

- Prepare a slideshow of personal connections as found in the camera roll of a mobile device. It is recommended that the teacher share images from their own camera roll.
- Allows students to share their own personal connections in the lesson.

Questions for inquiry**What are our personal connections to places?****How are we connected to these places?****What are our perceptions of these places?****Where are these places?****What factors influence our connections to places?****Stimulus**

View slideshow of connections.



ACTIVITY 1

Reflect on the slideshow of connections. Discuss the following points:

- places
- scale of places
- transport and infrastructure connections
- family connections
- consumption connections
- entertainment connections
- perceptions of places
- ‘the world is getting smaller’
- issues associated with the connections we make through mobile technology.

ACTIVITY 2

Examine your own personal connections through images on your camera roll.

1. Create a new album in Photos on your device and name the album, My Connections.
2. Select up to 10 images from your camera roll and social media sites that represent your connections to places. Consider images of places you have visited, your family connections, personal products you own, entertainment choices, foods and places you may like to visit in the future.
3. Discuss your personal connections.
4. What factors influenced your connection to these places and people?
5. Collate your images into a collage using PicCollage or other collage app.
6. Share your collage with the class.

EXTENSION ACTIVITY 1

Create a Google MyMap to locate the places you have connections with. Connections can be categorised, pinned and annotated.

Possible categories may include travel, places you have been to or wish to go to, recreation and leisure such as sporting interests, hobbies, activities and cultural connections such as family connections and heritage, foods, family traditions.

1. Locate and pin the connections.
2. Add details of the connections by adding text and photos.

EXTENSION ACTIVITY 2

Explore the maps app on your mobile phone and the functionality it provides to connect people and places. Discuss:

1. What information, goods and services can be shared using this app?
2. Who benefits from this sharing of information? Who may not?

RESOURCES

Debate on mobile phones in the classroom
abc.net.au/news

Office of the eSafety Commissioner
esafety.gov.au

Impact of digital devices in schools
- CESE Literature Review



Suggested apps

Book creator

Pages

Survey Monkey

Google Forms

Canva

T-chart

Pros and Cons

HOW DOES MY PHONE CONNECT ME TO PLACES?

Learning intention

Students will be introduced to the idea of the global citizen and will be made aware of the digital tools that lead to our connections to people and places. Students will investigate the way their phones connect them to the world through apps and photos and the idea 'the phone is the window to the world' will be established. Students will investigate and reflect on their personal use of phones and explore the global phenomenon of smartphone technology.

Teacher notes

Two current trends need to be considered in this lesson. Firstly, users of information technology are increasingly influenced by online content and social media. Secondly, young people are accessing information online at an increasing rate and are significantly using mobile devices to do so. A young person's connections can be both physical and virtual and can cross all scales. Furthermore, security of a person's online information and data is a growing concern. Digital security is an important element of digital literacy especially for young people. The extension activity provides information to students about the privacy settings and how to keep their personal information private.

Questions for inquiry**What apps do I use on my phone?****How do these apps connect me to people and places?****What would life be like without my phone?****Is there a problem around information and communication technology access?****Stimulus**

Play [The Lost Summer game](https://www.esafety.gov.au/education-resources/classroom-resources/lost-summer) and discuss the decisions students make in the game. [esafety.gov.au/education-resources/classroom-resources/lost-summer](https://www.esafety.gov.au/education-resources/classroom-resources/lost-summer).

The Lost Summer is a role-playing video game, designed to be a highly engaging experience for high school students while building digital intelligence skills and encouraging online safety.



ACTIVITY 1

Reflect on the uptake of smartphone technology as examined in [The App Effect video](#) (6.15mins). Undertake the following activities:

1. Identify the key message in the video.
2. Evaluate the message for reliability and bias.
 - Who created the message?
 - Why was the message made?
 - Who is paying for this?
 - How is the message trying to get my attention?
 - Who is represented in the message and who is not?
3. Select one app from the video and use think, pair, share to:
 - Describe how this app is used by people.
 - Explain how the app benefits people.

ACTIVITY 2

Create a digital book identifying how phones connect people to the world.

1. Create a digital book using an app such as Book Creator or Pages.
2. Insert the title – A window to my world. Insert a suitable title page image.
3. Insert a creative photo of yourself using your phone to view the world. Add an explanatory statement.
4. Insert a screenshot of your home screen. Label your most used apps.
5. Insert an image of your favourite app. Describe how you use it, why you like it and its potential benefits?
6. Write a concluding statement about how your phone connects you to your world.
7. In pairs, compare books and discuss how the apps on your phone connect you to people and places at different scales. Consider social connections, access to information, entertainment and services.

ACTIVITY 3

View the video [Apple Appocalypse](#) (3.05min).

Discuss the following ideas using visible thinking strategies:

- What would life be like without your phone?
- What would you miss if you had to go without your phone for a day, a week or more?
- How would you feel without a phone?
- Do you think we spend too much time on our phones? Explain your decision.
- Do you think phones should be banned from school? Explain your decision.
- What was life like before smartphones or other wireless mobile phones?

EXTENSION ACTIVITY 1

What information do individuals unwittingly make available about themselves while using apps and online services? Read the guide presented by the Australian Government Office of the [eSafety Commissioner](#) about how to protect your information.

- What actions do you need to take to ensure your privacy is maintained?
- How should this message be communicated to other young people?

RESOURCES

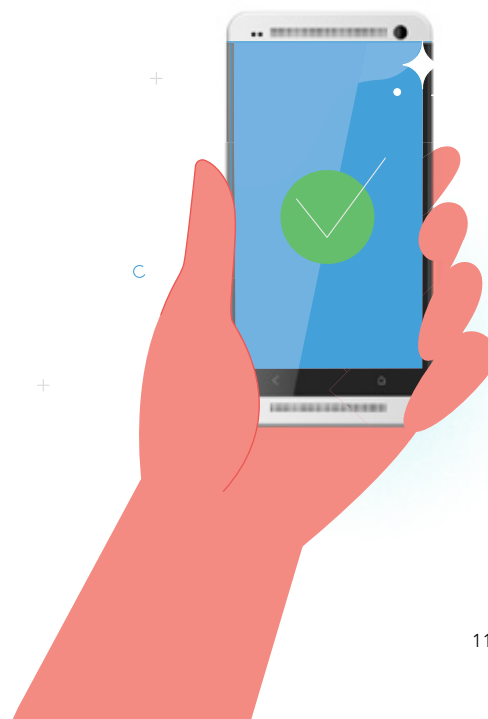
The App Effect
[youtube.com](https://www.youtube.com/watch?v=...) (6.15mins)

Apple Appocalypse
[youtube.com](https://www.youtube.com/watch?v=...) (3.05mins)

Evaluating media for reliability and bias
Common Sense Education: [commonsense.org](https://www.common Sense.org)

eSafety Guide to Games, apps and social networking
[esafety.gov.au/esafety-information/games-apps-and-social-networking](https://www.esafety.gov.au/esafety-information/games-apps-and-social-networking)

Visible Thinking
pz.harvard.edu/projects/visible-thinking



Suggested apps

Popplet

Padlet

Post-it Plus

Paper by 53

Sketches

Notes

HOW IS TECHNOLOGY CONNECTING PEOPLE AND PLACES?

Learning intention

Students will examine the Valley of Roses in Morocco and Rozelle in Sydney, Australia as portrayed in the picture book *Mirror* by Jeannie Baker. Students identify and make comparisons between the two places and the way people live in each place. Attention will be given to access to technology, the use of technology and the way we connect. Students will consider perceptions of places and reflect on their perceptions of places before and after reading. The idea of the digital divide and associated global consequences will be recognised and responses addressing the overarching question for inquiry in this section will be formulated.

Teacher notes

Picture books are a valuable tool in the geography classroom for teaching geographical concepts, skills and knowledge. They provide a rich use of visual representations, a variety of different perspectives and are able to communicate on a range of global issues such as environmental and social justice, sustainability and cultural diversity. For more information about using picture books in Geography see the Guide to using picture books in Geography K-10.

Prior to a shared reading, ask students to comment and write down their personal experiences and perceptions of Morocco and Australia.

Questions for inquiry**What are our perceptions of different places?****How are rural Morocco and urban Sydney similar and different?****Do you think people in different places have similar experiences of information technology as people in Australia?****What are the consequences and challenges of our mobile connections?****Stimulus**

Read the picture book *Mirror* by Jeannie Baker.



Suggested apps

Keynote

POP – Prototyping on Paper

Google Slides

WHY ARE MOBILE CONNECTIONS IMPORTANT FOR THE FUTURE?

Learning intention

Students will examine stories of mobile phone use in different places and explain how this increases people's connections to services, information and people in other places. They will investigate how mobile phone use can influence the quality of life for people in different places.

Teacher notes

Access to the internet is now inextricably linked to human development. The United Nations has addressed access to the internet as a human right and it sits within Sustainable Development Goal 9. The internet provides unlimited access to information, education, services such as banking and health, business opportunities, employment and greater human connections through social media. Improvements in technology enable people from different places to connect in different ways and has the potential to improve the lives of people around the world. As technology advances and we move towards a 5G network, it is believed by many that we will encounter the world's fourth industrial revolution.

Questions for inquiry

Is mobile technology improving the lives of people?

How is mobile technology improving the lives of people?

How is mobile technology changing people's connections to services, information and people in other places?

Stimulus

View the video [Mobile for Development](#) (1:15min).



ACTIVITY 1

Investigate how apps are able to improve the lives of people in places.

Option 1

Access [TED.com](https://www.ted.com) 'Big solutions using cell phones' playlist as an investigation starting point.

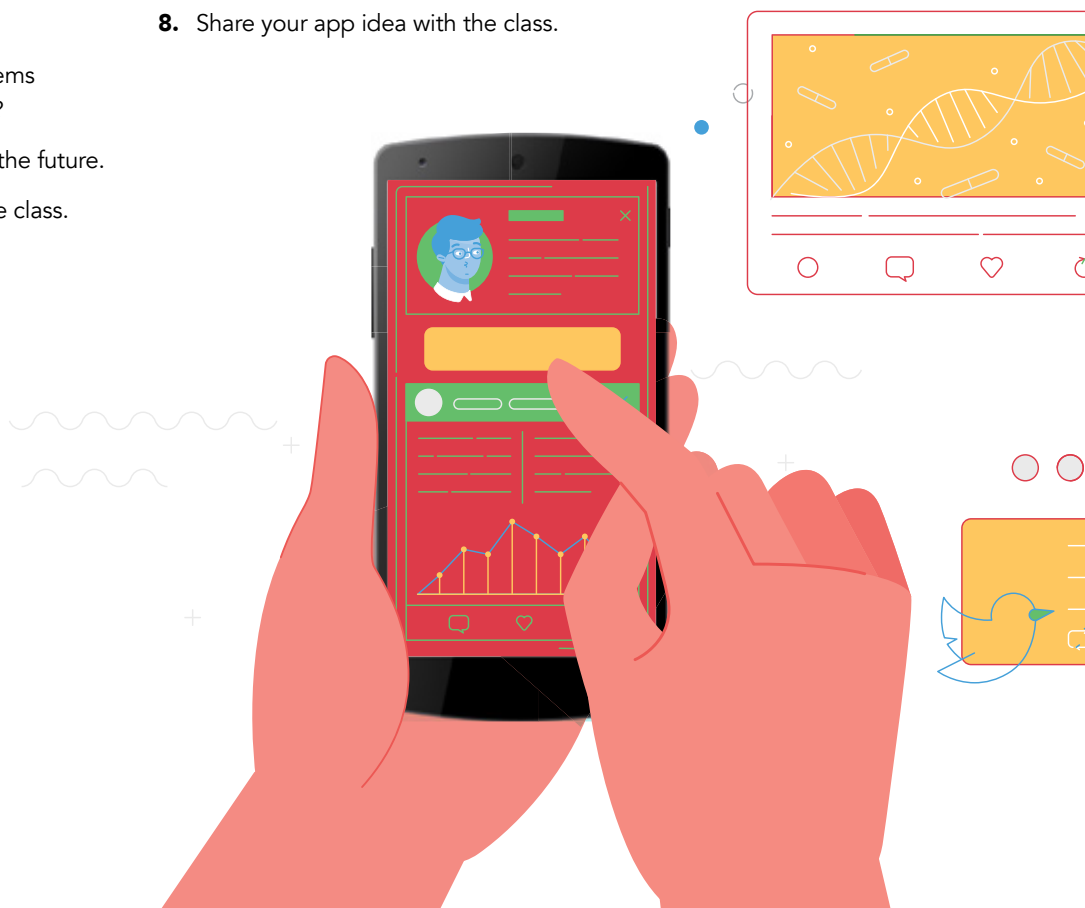
Investigate an app that has been developed to enhance the lives of people around the world.

1. Describe the app and the product or service it is delivering.
2. Identify the group of people the app targets.
3. Identify the geographic location or region for which the app is developed.
4. Outline how people will benefit from using the app.
5. Are there potential problems for people using the app?
6. Predict the outcomes for the future.
7. Share your results with the class.

Option 2

Develop an App Prototype using Keynote or Google Slides that could improve the lives of one group in a society around the world.

1. Describe the product or service the app will deliver.
2. Identify the group of people the app targets.
3. Identify the geographic location or region for which the app is developed.
4. Infer the issue it will solve.
5. Infer the benefits to people in this place from the use of the app.
6. Predict the outcomes for the future.
7. Describe the design, features and interactivity of the app.
8. Share your app idea with the class.

**RESOURCES**

The GSMA Mobile for Development
gsma.com/mobilefordevelopment

App prototyping Swift Playgrounds Learn to Code 1 & 2
apple.com

GSMA – Mobile for Development life stories
youtube.com

Big solutions using cell phones
ted.com (3:31min)

Suggested apps

Google Slides

PowerPoint

Keynote

Haiku Deck

Padlet

WHAT ARE THE CONSEQUENCES OF OUR MOBILE CONNECTIONS?

Learning intention

Students will identify digital inequality and assess the impact of this on people and places. Specifically, students will investigate the digital divide as it relates to education in regional Australia and the changes this has made on people and places. Students were introduced to the concept of the digital divide in Lesson 3.

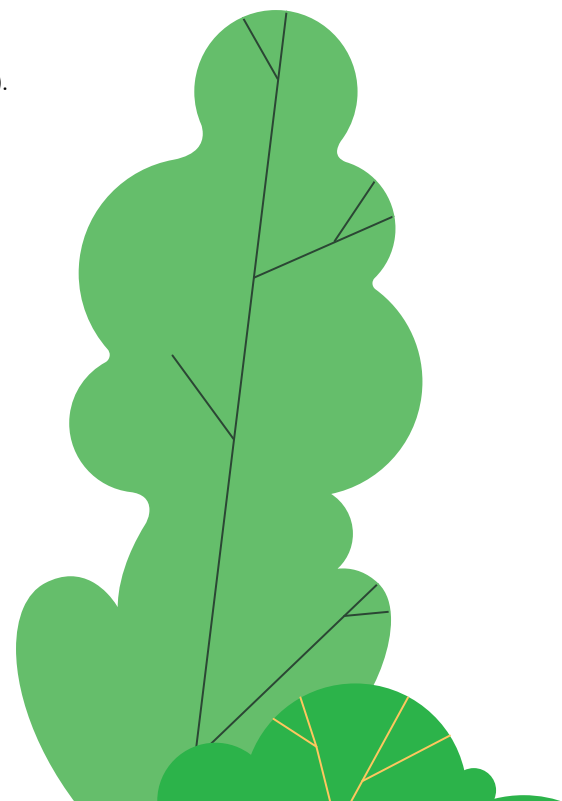
Teacher notes

The digital divide is the gap between individuals and communities that have access to information and communication technologies and those that don't. This results from a lack of access, lack of affordability and an inability to be active digitally. It can be present across different demographic groups and across local, national and global scales. The digital divide at the international scale is called the global digital divide.

Three million Australians are currently digitally excluded. They are excluded from essential services such as health and finance, information and education, work and enterprise and social connectedness.

Questions for inquiry**What is the digital divide?****How does the digital divide impact on people and places?****Stimulus**

View the trailer for [Without a Net](#) (0.54min).



ACTIVITY 1

Reflect on the core message of 'Without a net' and the experiences of people who find themselves on the wrong side of the digital divide.

View the ABC TV Lateline episode 'Slow internet in regional Australia creating a 'digital divide' and harming education and business (8.45min).

1. Using a Placemat visible thinking strategy, explain the meaning of the phrase 'digital divide'.
2. Identify the factors that lead to inequalities in accessing digital technology.
3. Identify the groups of people who have limited access to digital technologies.
4. Describe the impact this inequality has on people and the places they live.

RESOURCES

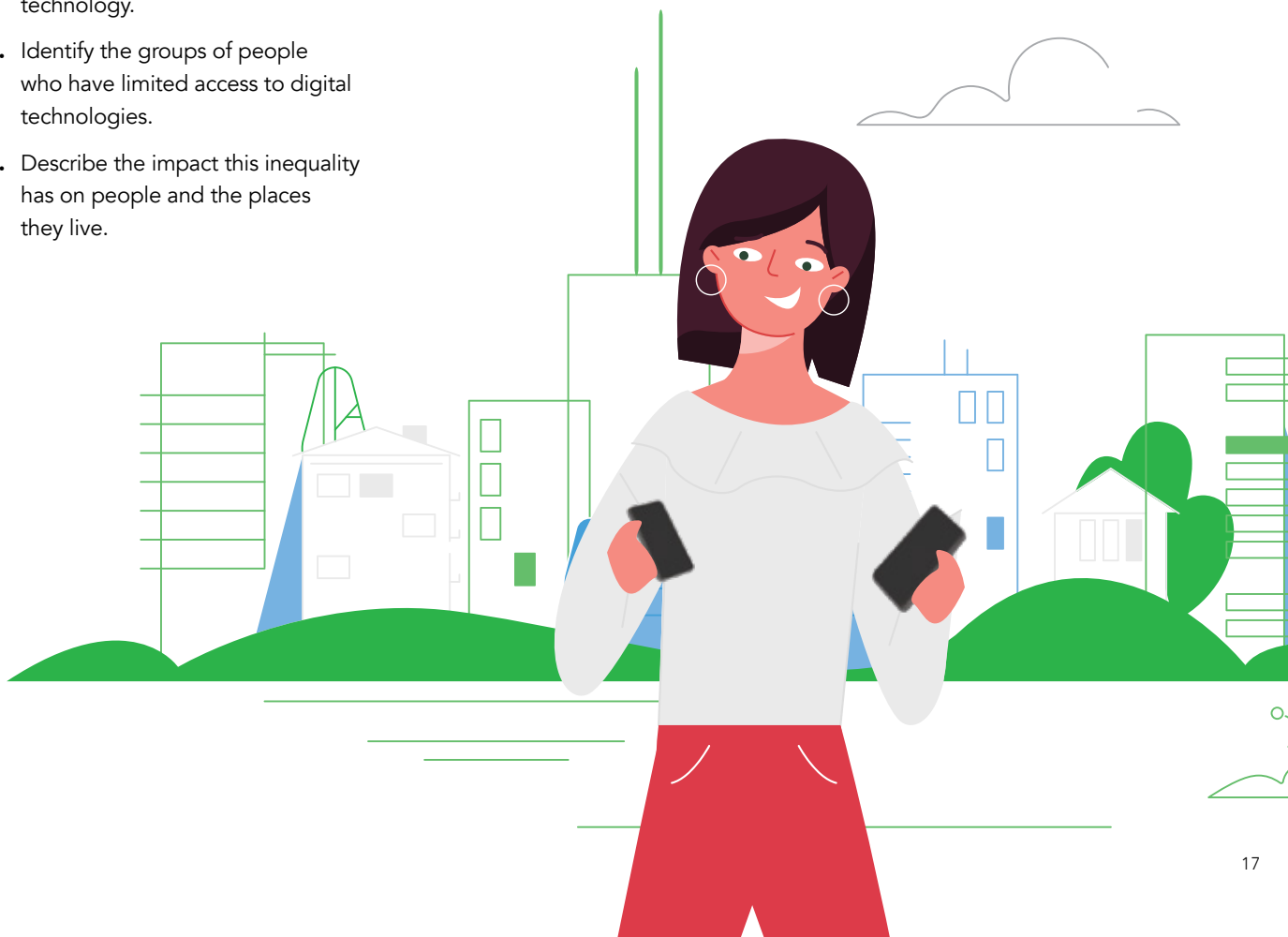


Digital exclusion in Australia
digitalinclusionindex.org.au

Lateline video
abc.net.au

ABC TV Lateline
 Slow internet in regional Australia creating a 'digital divide' and harming education and business
abc.net.au (8.45min)

Without a Net Film
youtube.com (56.25min)



Suggested apps

Book creator

Powerpoint

Keynote

Prezi

Notes

Clips

WHAT IS THE FUTURE FOR OUR MOBILE CONNECTIONS?

Learning intention

In this final lesson students identify the United Nations Sustainable Development Goal 9 and the specific Target 9c that seeks to increase access to information and communications technology in least developed countries by 2020. Students investigate current attempts that address global, national and local digital inequalities to meet this target.

Teacher notes

Throughout this section students have investigated their personal connections to places through the lens of their mobile phones. In addition they have examined advancements in mobile technology and its role in connecting people to services, information and people in other places. The benefits of technology have been assessed and recognition of a digital divide across scales has been established. This final lesson allows students to investigate solutions to the identified challenges of our mobile connections.

Questions for inquiry

What solutions are there for bridging the digital divide?

What other consequences come from our mobile connections and how can we overcome them?

Stimulus

Read the [United Nations Sustainable Development Goal 9 – Industry, Innovation and infrastructure](#) focussing on Target 9c.



ACTIVITY 1

Investigate [Project Loon](#).

1. Describe how balloon powered internet increases connectivity to people in regional and rural areas.
2. Explain one example how this technology assists people after natural disasters.
3. Assess the benefits internet balloons have on meeting SDG 9c.
4. In teams, propose alternative technologies that would help to bridge the digital divide.

ACTIVITY 2

View the [MobileMuster: What's Inside Your Phone?](#) animation (1:29min).
Undertake the following activities:

1. Identify a consequence of our mobile connections.
2. Create a KWL chart on the ideas presented in the video.
3. Ask school staff about the history of MobileMuster in your school in the past.
4. Identify the benefits of running a MobileMuster at your school.
5. Organise to run a MobileMuster at your school, as outlined in Section 5 of this unit, to offer students opportunities to take action.



RESOURCES



United National Sustainable Development Goal 9
sustainabledevelopment.un.org/sdg12

Global digital inequality
internetworldstats.com

Project Loon
loon.com

What's Inside Your Phone? animation
vimeo.com/mobilemuster (1:29min)

SECTION 2

MOBILE TOURISM

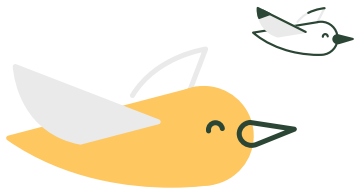


OVERARCHING INQUIRY QUESTION

How does mobile technology influence tourism?

This section explores the role of mobile technology in the tourism industry. Tourism provides countries with huge economic benefits providing export earnings, employment opportunities and investment. As a consequence, countries and regions actively promote tourism and are increasingly using mobile technology to do so.

Social media and mobile apps that inform today's traveller are changing the face of tourism promotion, delivery and experience. Students will identify the factors that lead to changing tourism patterns. Identification of the growing influence of mobile technology and its social, economic and environmental impacts on places will be investigated through the geographical inquiry process.



Option for assessment

This task requires students to plan a travel experience for one week to any destination in the world. Planning should utilise digital planning tools such as online maps, a full itinerary including travel methods, accommodation, food and activities. As a result of the planning students can assess their impacts on places by the choices they make. Student reflection on the inquiry allows for students to consider their own choices and actions when considering the challenges of changing patterns of tourism.

Questions for inquiry:

What role does information technology play in the tourism industry?

Are there potential problems or issues associated with mobile tourism?



Activity

Students create a digital travel portfolio that includes:

Destination

- What type of tourist will you be?
- How will this influence your travel destination and decisions?
- Which locations will you visit?
- Why did you choose this location?

Travel arrangements

- How will you travel to your destination?
- How will you travel in this place?

Accommodation

- What type of accommodation will you stay in?
- Who owns the accommodation?

Activities

- List the experiences in which you will participate.
- What are your influences for doing these activities?

Food

- Where will you eat?
- Who owns these places?

Budget

- What is the cost of the transport, accommodation, food and activities?

Planning reflection:

- List the apps you will use to plan your travel experiences.
- What online companies did you access to research and plan your travel experience?
- Where did you spend your money?
- How many of these places are owned and operated by locals and/or transnationals?

Impacts

- Identify how many people travel to this same destination annually.
- Identify negative and positive impacts of tourism in this place.
- Assess if tourism to this place is beneficial or detrimental.



WHAT IS MOBILE TOURISM?

Suggested apps

Camera

Photos

Snapseed

Instagram

Snapchat

Clips

iMovie

Learning intention

Students will examine the different types of tourism and the factors that account for the yearly increase in global tourist numbers. They will use visual thinking strategies to explore the factors that have led to changing tourism patterns. Students will investigate the role that mobile technology plays in the promotion of tourism on places and the impact this has on a country's tourism industry.

Teacher notes

For every group of travellers, the mobile phone is an essential item. It provides vital services and information for the traveller providing a safer, more efficient and economical experience. Increased leisure time, higher incomes, gap years, bucket lists and YOLO attitudes have increased travel opportunities.

Questions for inquiry

What is mobile tourism?

What factors account for tourism increases?

What role does mobile technology have in the promotion of tourism?

Stimulus

View [Hilarious Selfies](#).



ACTIVITY 1

View the graphs on Tourism on the [Our World in Data](#) website. Identify how tourism has changed over time and as a class brainstorm the factors that has led to this increase.

Investigate the role of social media on tourism patterns by completing the following activities:

1. View the websites of Instagram influencers such as Daniel Tran and Lauren Bath.
2. Read the [National Geographic](#) article that investigates how Instagram is changing travel and complete the following activities.
 - Describe the role of an Insta influencer.
 - Comment on the increase in tourist numbers in Trolltunga between 2009 and 2014.
 - Identify and describe the problems places experience with large increases in tourism.
 - Compare the 'image and ideal' sold to Trolltunga tourists to the reality of the experience.
 - Explain what is meant by "Now you're less than 10 clicks away from seeing an image on Instagram to purchasing a ticket to go there".

EXTENSION ACTIVITY 1

Inquiry question

How is photography used to influence our tourist choices?

Take a photo in your local area and edit appropriately with the intention to promote visitation to this place.

1. Analyse the process taken during the selfie task. Consider the following questions:
 - Why did you choose the location?
 - What camera angles did you use and why?
 - What editing features were used to maximise the image for a social media audience?
2. Assess the potential success of your photo.
 - Do you believe you could influence your peers with the use of social media?
 - How does the use of photography change our perceptions of places?
3. Create a short video answering the inquiry question.

RESOURCES



Hilarious Selfies

thisinsider.com

Insta influencers

Lauren Bath: [instagram.com](https://www.instagram.com)

Daniel Tran: [danieltranphotography.com](https://www.instagram.com/danieltranphotography.com)

National Geographic

How instagram is changing travel: [nationalgeographic.com](https://www.nationalgeographic.com)

WHY IS MOBILE TOURISM IMPORTANT FOR THE FUTURE?

Suggested apps

Camera

Notes

padlet

Learning intention

Students will examine the Australian tourism industry through statistics from the Tourism Australia website. The volume and income generated by tourism in Australia will be examined, the relationship between economic benefits and the approach to marketing Australia as a tourist destination will be explored. Students will identify the economic benefits tourism provides to people in places.

Teacher notes

Tourism is one of Australia's biggest export industries with international visitors spending billions every year in Australia. Tourism benefits Australia's economy by providing employment and investment in both urban and rural areas. Tourists travel to Australia for its natural landscapes and wildlife, aquatic and coastal environments and food and wine. As digital technology advances, the use of the technology for promotion and as a tool for tourist experiences is evident for both businesses and individuals. Digital technology is influencing the way people make decisions. Places are affected by people's choices and decisions.

Questions for inquiry

Who travels to Australia?

Why does Australia promote tourism?

Stimulus

[Selfie tourism – GIGA selfie \(1:58min\)](#).



ACTIVITY 1

View ABC's Splash video 'Attracting Chinese tourists south'.

1. Identify the contribution Chinese tourism brings to the Australian economy.
2. Describe the changes in Chinese visitor expectations when visiting Australia.
3. Consider strategies that tourist operators might employ to appeal to the rich and growing middle class in China.

View the GIGA selfie promotional video. Discuss, using visual thinking strategies, the following questions:

1. Identify the creators of the GIGA selfie campaign?
2. Identify the target market for the GIGA selfie campaign?
3. What is the perception of place the GIGA campaign wishes to promote?
4. In your opinion, how effective is this campaign?

ACTIVITY 2

View the [Tourism Australia Corporate](#) website and complete the following activities:

1. Locate 'Our campaigns' from the About menu and select a targeted campaign for investigation.
 - Identify the key message of the campaign.
 - Identify the group of people the campaign targets.
 - Describe the strategies used in the campaign.
 - Consider why Tourism Australia is targeting this group of people.
2. Read the infographic on the economic importance of tourism located on the Tourism Statistics page. Write a [PEEL paragraph](#) explaining why Australia promotes tourism.

RESOURCES

Tourism Australia: GIGA Selfie
mmaglobal.com

Australia Tourism Website
tourism.australia.com/en

Tourism Research Australia
tra.gov.au

ABC's Splash video 'Attracting Chinese tourists south'
splash.abc.net.au (2:30min)

Teaching PEEL paragraphs
virtuallibrary.info/peel-paragraph-writing



Suggested apps

T-chart (pros and cons)

Notes

Excel

Numbers

WHAT ARE THE CONSEQUENCES OF MOBILE TOURISM?

Learning intention

Students will identify and evaluate the impacts of tourism on places. Students will examine visual representations to identify the impacts of tourism. To examine images students will identify the subject matter of the image, describe and make inferences about the image and evaluate the image as a source of reliable information. To interpret photographs is to practise the skill of asking questions.

Teacher notes

Examining the impacts of tourism through visual representations provides students with the opportunity to analyse photographs as a source of geographical information. To stimulate student inquiry a search of negative tourist impacts will be conducted. Some images may be disturbing to some students so a slideshow should be prepared in advance.

Questions for inquiry**What tourist activities have negative impacts on places?****How do these activities impact places?****Stimulus**

Conduct an images search on your internet browser to view negative impacts of tourism or read the CNN article on the tourist attractions that are dying.



ACTIVITY 1

Follow steps 1-3 to critically analyse several selected images.

- Evaluate the image as a source of information.
 - What was the purpose of the photo?
 - Who was the intended audience?
 - Has the photo been manipulated in some way?
 - Is it useful as a source of information?
- Identify and note observable features.
 - What do you see?
 - What objects or people are shown?
 - What environment is shown?
 - What action is taking place?
- Make inferences.
 - What activity is taking place?
 - What impacts may occur from the activity?
 - What are the social, economic and environmental impacts from the activity?

ACTIVITY 2

As a class, brainstorm the benefits that arise from both domestic and global tourism. To generate ideas, use visible thinking routines such as Question Starts or Circle of Viewpoints.

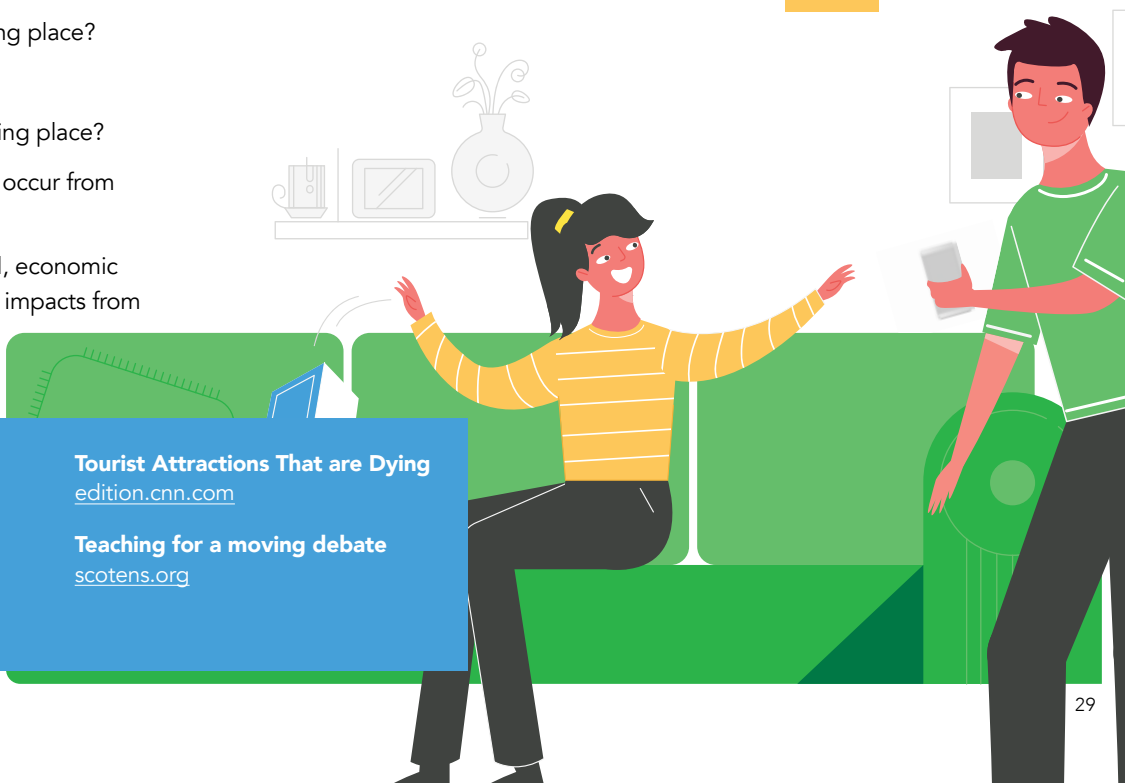
Create a T-chart on Tourism Pros and Cons.



EXTENSION TASK

To assess the impacts of tourism, conduct a moving debate on the statement 'Tourism benefits the world'.

- Move to different sides of the room marked with agree and disagree.
- Persuade others on either side of the argument with a different view, opinion and perspective.
- Listen to viewpoints and move to different sides of the argument throughout the debate.



RESOURCE



Tourist Attractions That are Dying
edition.cnn.com

Teaching for a moving debate
scotens.org

Suggested apps

Google Slides

PowerPoint

Keynote

Haiku Deck

iStopmotion

Procreate

VideoScribe

iMovie

Assembly

Sketches

WHAT IS THE FUTURE FOR MOBILE TOURISM?

Learning intention

In this section students have explored the growing influence of information and communication technology in the tourism industry. Social, economic and environmental impacts have been examined and in this final lesson students will revisit Trolltunga in Norway to consider strategies to achieve sustainability for the future. Through the inquiry students develop dispositions that enable them to reflect on their choices and feel empowered to advocate for change.

Teacher notes

Social media plays a significant role in the promotion of tourist destinations and has changed tourist patterns globally. Solutions for sustainable tourism into the future is the responsibility of many including individual choices.

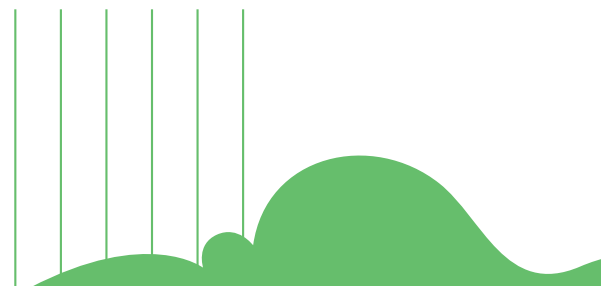
Questions for inquiry

What role did mobile tourism have on Trolltunga?

What strategies can be implemented in Trolltunga and other places to achieve socially and environmentally sustainable tourism?

Stimulus

View the video [Take an Isolated Selfie While Hundreds of Tourists Wait](#) (1:05min).



ACTIVITY 1

Read the following articles to deepen your understanding of the issues surrounding tourism in Trolltunga.

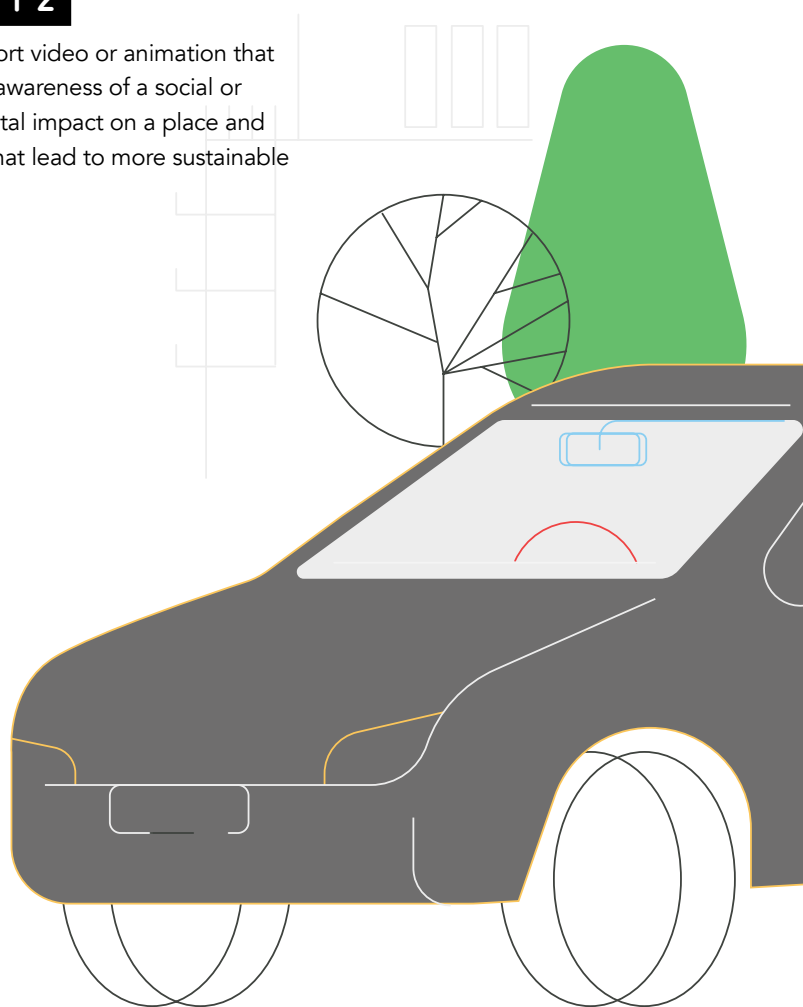
[Why Norway is Teaching Travellers to Travel](#) by Shannon Dell 2017.

[Norway's natural wonders 'threatened by ill prepared tourists'](#) by Soo Kim 2016 The Telegraph.

1. Create a consequences chart outlining the impacts of tourism on Trolltunga.
2. Brainstorm solutions, using visible thinking strategies, for minimising these negative impacts from tourism.

ACTIVITY 2

Create a short video or animation that will spread awareness of a social or environmental impact on a place and strategies that lead to more sustainable practices.



RESOURCES



Trolltunga

Take an Isolated Selfie While Hundreds of Tourists Wait: [youtube.com](https://www.youtube.com/watch?v=...) (1:05min)
 Why Norway is Teaching Travellers to Travel by Shannon Dell 2017 BBC.com: [bbc.com](https://www.bbc.com/news/...)
 Norway's natural wonders 'threatened by ill prepared tourists' by Soo Kim 2016
 The Telegraph: [telegraph.co.uk/travel](https://www.telegraph.co.uk/travel/...)
 Tourism trend report: Trolltunga by Iselin Odemark 2016 Treksoft: [trekksoft.com](https://www.treksoft.com/...)

SECTION 3

MOBILE COMMERCE



OVERARCHING INQUIRY QUESTION

How do mobile technologies influence trade?

This section explores trade through the lens of eCommerce and m-commerce. The way we interact with our marketplace, trade in goods and services and transport products is constantly evolving with advancements in technology. Mobile technology is enabling more people in more countries to access, compete and engage in commercial enterprise leading to social and economic benefits for people in places.

Online shopping is associated with social media product influencing, convenience in purchasing and efficiency in distribution and logistics. Students will engage practically with m-commerce to recognise the factors for its growth, trading patterns and issues associated with the global marketplace.

Technology not only allows us to purchase online but provides information to the conscious consumer providing for more sustainable choices to be made. Students will explore apps and online content that help us become informed and conscience global citizens. Identification of the global marketplace associated with m-commerce allows students to investigate trade issues through the geographical inquiry process.

Option for assessment

A fieldwork inquiry

Students will be asked to visit a local market to investigate how local trade connects us to places and the impact m-commerce will have for the future. Issues surrounding trade on the local scale will be identified. Students will follow the steps of fieldwork inquiry to plan and conduct their fieldwork.

Acquiring geographical information

- Develop a set of inquiry questions for the fieldwork investigation.
- Select fieldwork activities that will help collect the information and data required.
- Prepare interview questions if required.
- Plan the equipment needed for the fieldwork such as cameras, clipboards, questionnaires.
- During the fieldwork, collect appropriate data for the investigation.

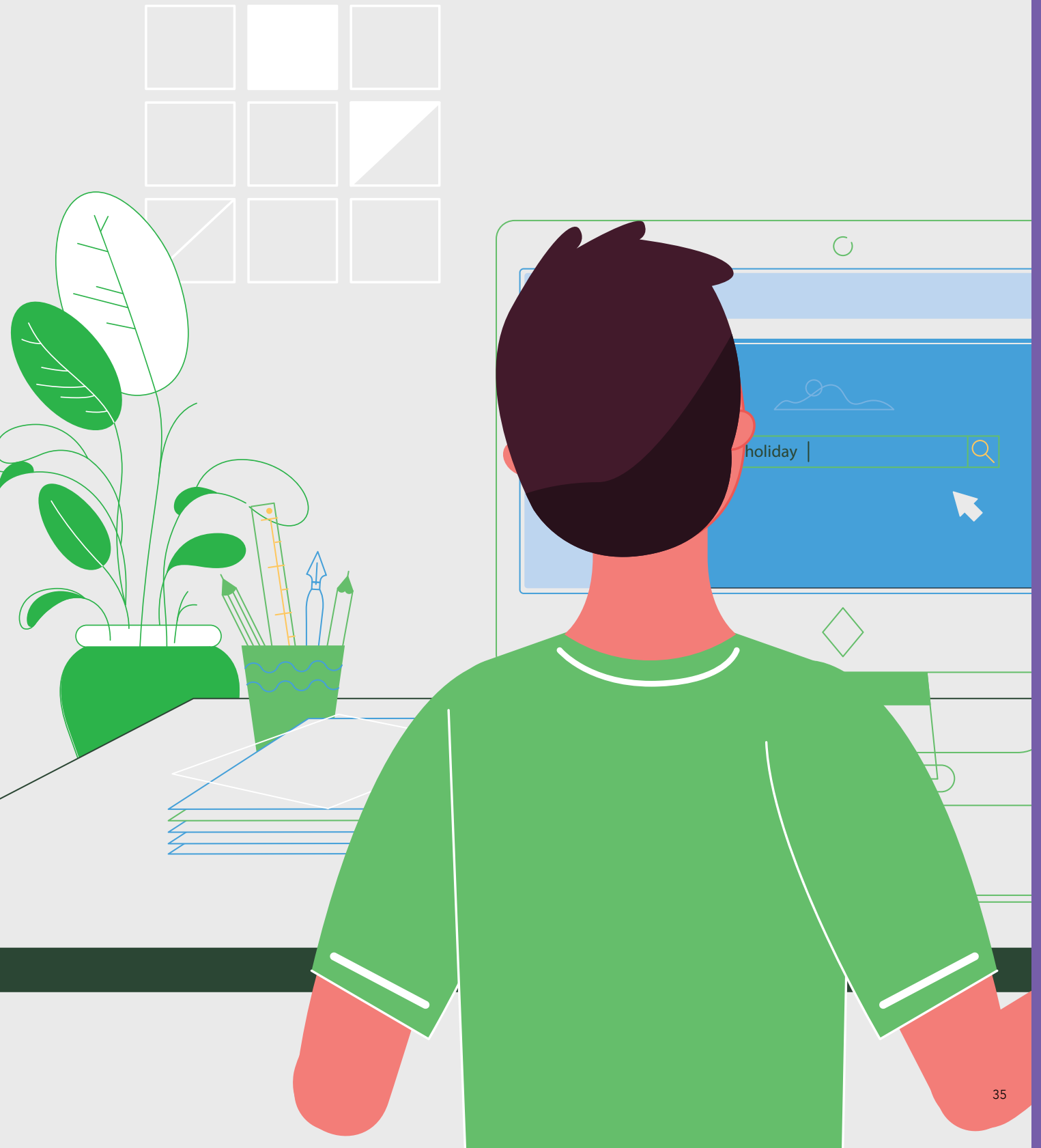
Processing geographical information

- Represent data in a range of different forms.
- Represent spatial patterns using maps that conform to cartographic conventions.
- Analyse the data to identify spatial distributions, patterns and trends and infer relationships.
- Draw conclusions from the data.

Communicating geographical information

- Present findings in a range of communication forms selected to suit your audience.
- Reflect on the inquiry undertaken.





WHAT IS MOBILE COMMERCE?

Suggested apps

Kahoot

Google Forms

Plickers

Socrative

Excel

Numbers

Learning intention

Students will identify the differences between traditional methods of commerce, eCommerce and the growth of m-commerce. A classroom inquiry into current statistics on teenage use of m-commerce will be investigated and communicated. The in-class survey provides students the opportunity to enhance their skills and use tools to collect primary data for geographical inquiry.

Teacher notes

Where electronic commerce (eCommerce) provided the commercial market with an electronic space in which to transact, m-commerce provides commercial transactions of buying and selling to be conducted with mobile wireless technology or a smartphone. Currently m-commerce makes up 11% of the eCommerce market in the United States. The US Census Bureau predicts this will rise to 45% in 2020. A report by PayPal in Australia states that almost one in two Australians use their mobile device to make purchases or payments at least once a week. This is expected to rise.

Questions for inquiry

What is eCommerce?

What is mobile commerce (m-commerce)?

What are the current trends in teenage usage of eCommerce and m-commerce in our class?

Stimulus

Examine the graphic [Growth of m-commerce shoppers January 2017](#).



ACTIVITY 1

View the [ACMA Prezi, M-commerce in Australia](#) (2.44min). Complete the following activities:

- Define the terms eCommerce and m-commerce.
- Explain what is meant by traditional commerce.
- Identify the demographic most likely using m-commerce.
- Identify the m-commerce services people use.
- Explain the factors behind the growth of m-commerce.
- Predict how m-commerce will impact your life in the future.

ACTIVITY 2

Investigate personal experiences of eCommerce and m-commerce?

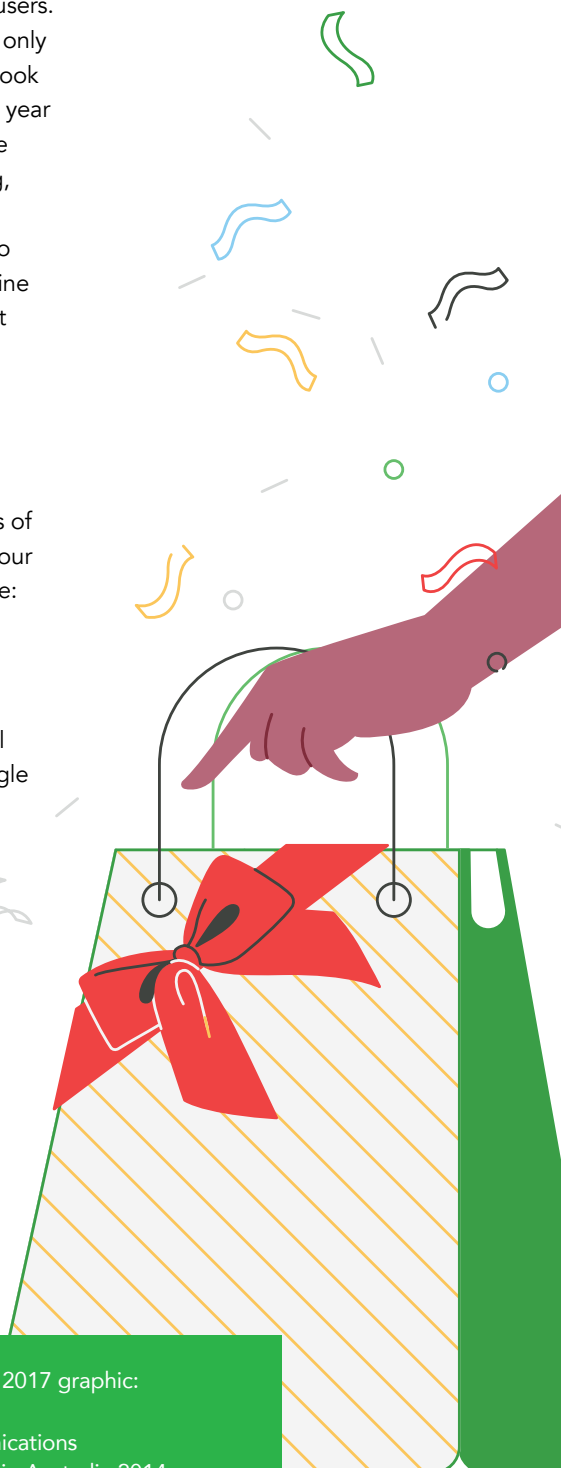
The Australian Government's Australian Communications and Media Authority (ACMA), made the following comment following research undertaken in teenage behaviour online.

"Teens remained far less likely to transact online than adult internet users. In comparison to adult Australians, only a small percentage of teens undertook transactional activities online in the year to June 2015—banking and finance transactions (12 per cent) or buying, selling and shopping transactions (20 per cent). However, in a trend to view, one in five teens now use online shopping services compared to just over one in 10 at June 2011."

The data was collected in the first half of 2015.

Survey the class to gather more recent data on student experiences of eCommerce and m-commerce in your place using the following procedure:

1. Create the question for inquiry.
2. Create survey questions.
3. Survey participants using digital platforms such as Kahoot, Google Forms or Plickers.
4. Collect and represent data in appropriate forms.
5. Analyse and draw conclusions.
6. Communicate the findings.



RESOURCES



We Are Social Growth of M-commerce Shoppers 2017 graphic:
wearesocial-net.s3.amazonaws.com

The Australian Government's Australian Communications and Media Authority (ACMA) Prezi M-commerce in Australia 2014:
[youtube.com](https://www.youtube.com/watch?v=...) (2:44min)

The Australian Government's Australian Communications and Media Authority (ACMA) Aussie Teens and Kids Online Research snapshot 2016:
acma.gov.au

HOW IS TRADE CONNECTING AUSTRALIA TO OTHER COUNTRIES?

Suggested apps

Google Charts

Canva

Piktochart

Vennage

Infogram

Grafio

Mindmeister

Maptini

InFoto

Learning intention

This lesson introduces the importance of trade to Australia's economy, our trading partners and the goods and services we import and export. Students are encouraged to make meaning of statistics through the development of graphic representations and infographics. Infographics created digitally develop skills in numeracy and digital literacy.

Teacher notes

Students will interact with The Department of Foreign Affairs to investigate Australia's trading patterns, both traditional and current.

Questions for inquiry

Who are Australia's major trade partners?

What are Australia's main exports?

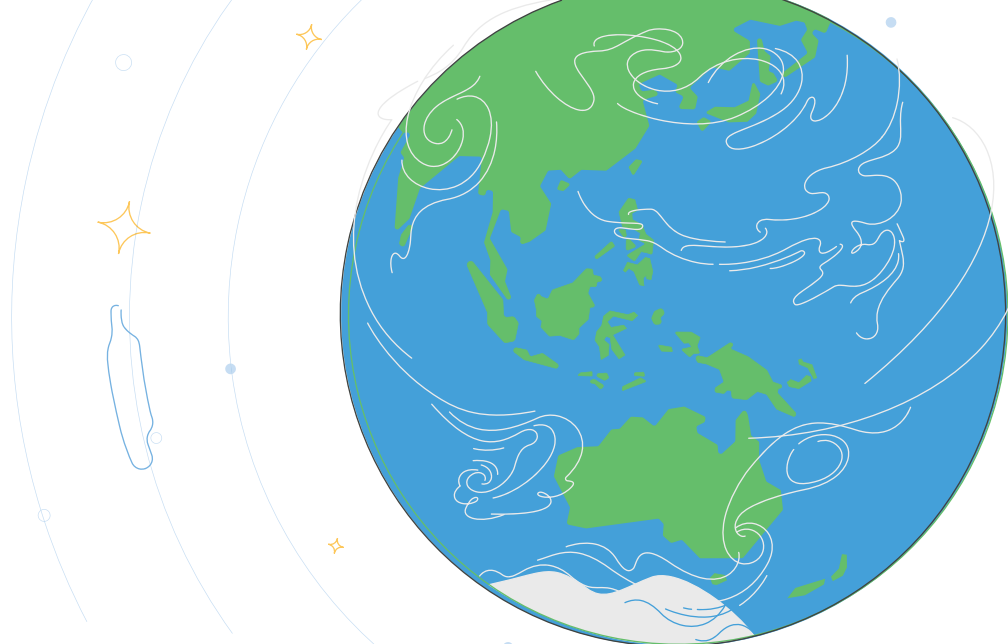
What are Australia's main imports?

How important is trade to Australia?

Stimulus

[Australia and the world - trade and Australia's trade statistics at a glance](#) located on the [Department of Foreign Affairs and Trade](#) website.





ACTIVITY 1

Students will interpret geographical information to draw conclusions about Australia's trading relationships and consider the impacts of m-commerce.

Interact with the Department of Foreign Affairs and Trade website and Australia's trade statistics at a glance webpage to create graphical representations or an infographic that represents Australia's trading partners and main exports and imports.

ACTIVITY 2

1. Explain the importance of trade to Australia.
2. Predict the impact m-commerce will have on Australian trade.

RESOURCES



Australian Trade

Department of Foreign Affairs and Trade
dfat.gov.au/pages/default.aspx
Australian Trade and Investment Commission
austrade.gov.au

Suggested apps

Sketches

Procreate

Padlet

iMovie

Stop Motion Studio

Clips

Adobe Spark Video

HOW IS M-COMMERCE CONNECTING US THROUGH TRADE?

Learning intention

Students will identify and describe goods and services and recognise trading patterns and relationships locally, nationally and globally. Students will investigate the ability to access goods and services through eCommerce and m-commerce channels and the influence this has on future trade.

Teacher notes

In preparation for this lesson a physical shopping basket of goods needs to be gathered by the teacher. The basket should include a mixture of products such as foods, personal items, electrical equipment, clothing, grocery items and service products perhaps in the form of a voucher or ticket. Students will acquire an understanding of these products and services as it applies to m-commerce and trade.

Activity 2 encourages students to examine eCommerce and m-commerce through practical experience. Through the exercise students will understand the difference between goods and services and identify interconnections on a variety of scales. The activity does not require students to purchase a product but to examine the process of buying online and to identify details about the product and the production process. No financial transactions should be made by students.

The investigation will produce findings that students evaluate in the next lesson.

Questions for inquiry

What goods and services are traded across scales?

How does m-commerce influence local, national and global trade patterns?

Stimulus

A shopping basket of goods.



ACTIVITY 1

Students investigate a teacher-prepared basket of shopping products. Present the findings as graphic representations or concept maps.

- Identify and classify the products and services into goods and services.
- Are the products made from natural or processed materials?
- Is the product made from multiple components?
- Examine the products to identify where the product was made.
- Select one food product and calculate the food miles this food has travelled using the [Food miles calculator](#).
- Define what is meant by the term food miles.
- Explain the impact food miles has on our environment.

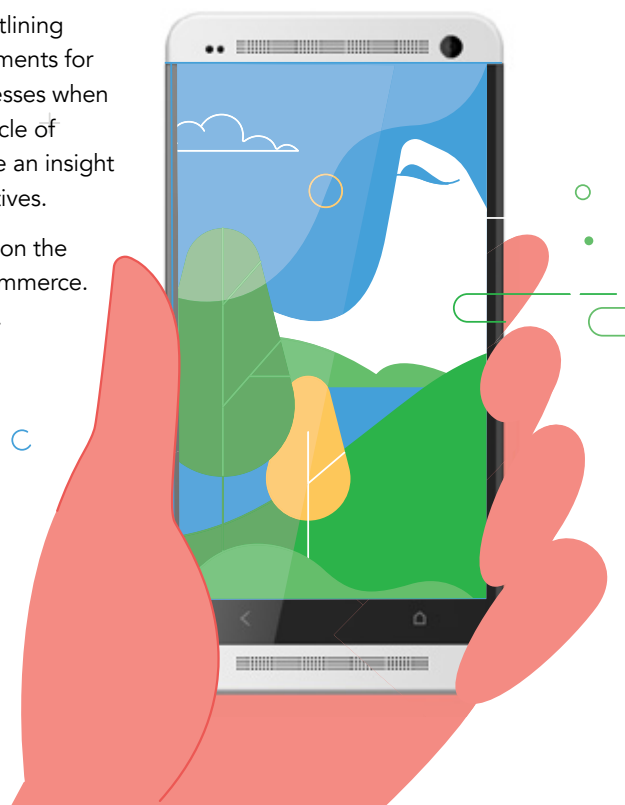
ACTIVITY 2

Interact with m-commerce to investigate the process for purchasing online products and services.

1. Read the Roy Morgan research findings, "[Amazon set to benefit from Australians' love affair with online shopping](#)" and rank the top five product categories Australian's bought online in 2016.
 2. Select a virtual product (good) from the top five categories Australian's bought online in 2016 to purchase.
 - Identify the product.
 - Provide reasons for your purchase.
 - Outline the steps using screenshots with annotations to purchase the good.
 - Rate and extrapolate on your experience of shopping online.
 3. Predict and assess future patterns of trade with the predicted growth of m-commerce then:
 - Construct a T-chart outlining the benefits and detriments for consumers and businesses when shopping online. A circle of viewpoints will provide an insight into different perspectives.
 - Formulate an opinion on the future growth of m-commerce. Justify your reasoning.

EXTENSION TASK

Create a video or animation to communicate one benefit or one detriment to teenagers on using m-commerce when shopping online.

**RESOURCES****Roy Morgan**

Amazon set to benefit from Australians love affair with online shopping 2017:

roymorgan.com

Australia's online shoppers more likely to buy local 2014: roymorgan.com

Food miles calculator

<https://www.foodmiles.com>

Suggested apps

Flight Tracker

Marine Traffic

Ship Finder

Plane Finder

Earth Observer

WHAT ARE THE CONSEQUENCES OF M-COMMERCE ON TRADE?

Learning intention

Students interact with GIS real-time freight routes and assess the potential for social and environmental impacts through our consumption decisions. Through the virtual shopping experience and viewing GIS real time freight routes, students will recognise some of the issues surrounding our global connections through trade.

Teacher notes

Trends and issues resulting to m-commerce include:

- Globalisation of the supply chain where a product may be owned and designed in one country, produced from raw materials in another and manufactured in another
- the difficulty of finding out where our stuff really comes from
- laws introducing transparency in the supply chain within the global marketplace
- the inequity of global trade for people in different places
- the worldwide movement towards ensuring trade is ethical and fair
- global transportation of goods may lead to unsustainable shipping practices and concerns around shipping pollution, port congestions, shipping debris and wildlife migration disruptions
- environmental impacts through unsustainable farming practices in places and the concept of food miles
- animal welfare and live meat export
- protecting your personal and financial information online.

Amazon was launched in Australia in December 2017. The impacts this will have on traditional consumption and trade is yet to be determined. Students may wish to investigate the impact Amazon Australia will have on Australian patterns in m-commerce and trade.

Questions for inquiry

What are the consequences of our trade connections?

Stimulus

Interactions with GIS apps.



ACTIVITY 1

View and interact with Marine Traffic, real time shipping connections. Complete the following activities:

- Locate and identify a selection of cargo ships across the globe.
- Research the cargo being shipped.
- Identify cargo shipping routes.

ACTIVITY 2

Identify the consequences of our global trade.

1. Brainstorm using visible thinking strategies such as free write to identify social and environmental impacts from global trade.
2. Create headlines on the key issues identified.
3. Research one issue associated with global trade.

EXTENSION TASK

Amazon, considered the world's largest online retail store, launched in Australia in December 2017.

What potential impact will this have on traditional spending?

What impact will this have for the future of in m-commerce and trade in Australia?

RESOURCES**Real time GIS**

Flight radar: flightradar24.com

Marine tracker: marinetraffic.com

Stat Smart Online

staysmartonline.gov.au/protect-yourself/protect-your-stuff/personal-information-and-privacy

LESSON

15

Suggested apps

iStopmotion

Procreate

VideoScribe

Google Slides

PowerPoint

Keynote

iMovie

Adobe Spark

Weebly

WHAT IS THE FUTURE OF MOBILE COMMERCE?

Learning intention

With predictions of m-commerce playing a vital role in the future of commerce and trade, students will investigate sustainability initiatives and possible futures for people and places. Students will produce a story that communicates the issue, the solutions and informs the global citizen.

Teacher notes

Digital storytelling is a powerful way to communicate issues that affect our world. Encourage students to be creative in the development of their stories. Create multiple audio-visual presentations and app smash them together in movie making apps to produce the final product.

Questions for inquiry

How does our consumption choices affect places?

What strategies can be incorporated to achieve a sustainable trading future?

How can individuals make better consumption choices?

Stimulus

View [Dave Hakkens Made In](#) (2:50min).



ACTIVITY 1

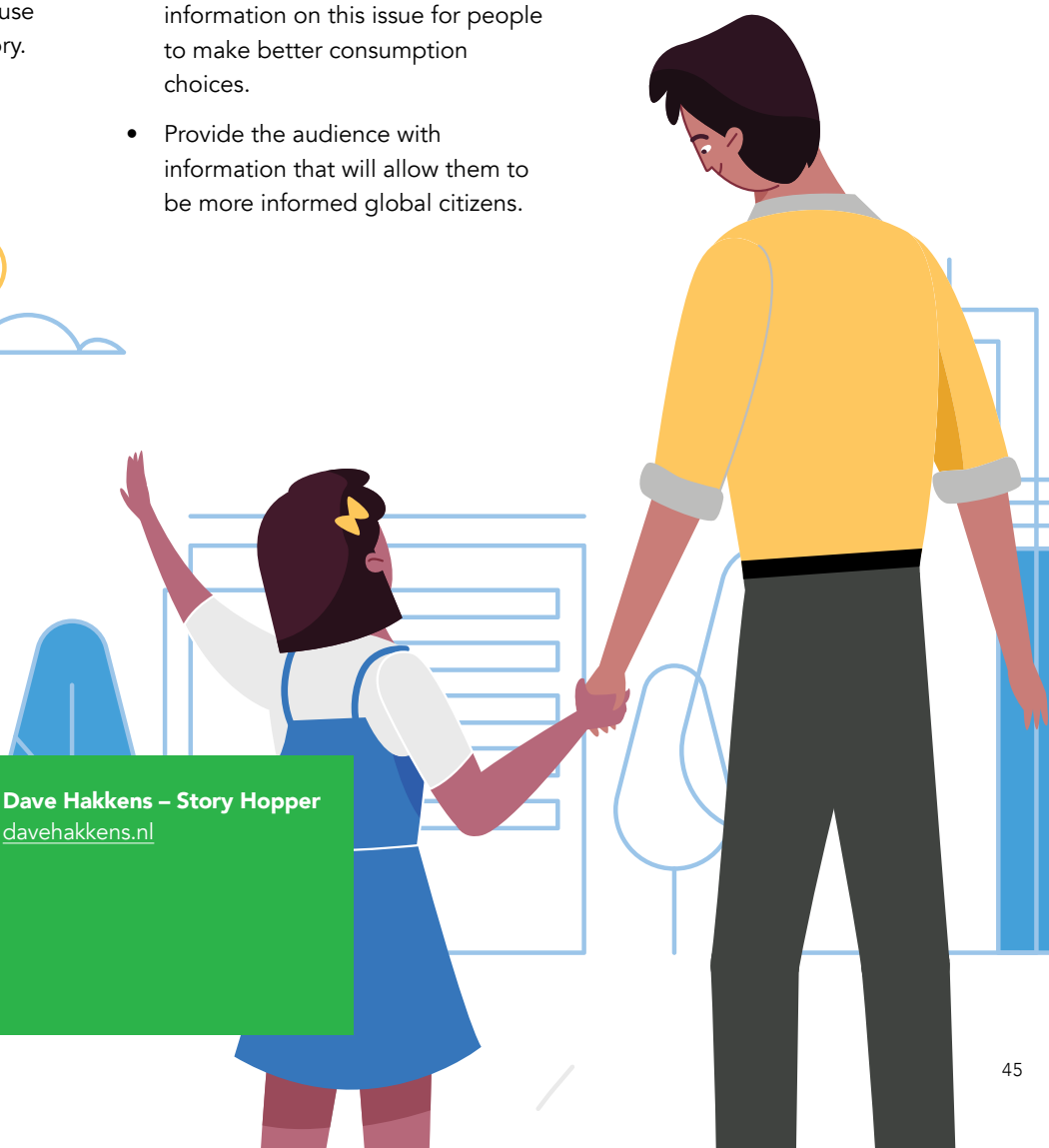
Evaluate Dave Hakken's video "Made in...".

- Identify the underlining message.
- Identify the intended audience.
- Assess the effectiveness of the video in describing the issue.
- Describe the filming techniques used to present the message.
- List the techniques you can use to create a similar digital story.

ACTIVITY 2

Create a digital story that will inform people on one issue surrounding global trade.

- Describe the trade issue and how it impacts on people and places.
- Investigate current campaigns that provide more sustainable practices around the issue.
- Identify apps that provide information on this issue for people to make better consumption choices.
- Provide the audience with information that will allow them to be more informed global citizens.



RESOURCES



Dave Hakkens – Story Hopper
davehakkens.nl

SECTION 4

A MOBILE FUTURE



An illustration of a person with dark hair, wearing a dark t-shirt, holding a mobile phone in their right hand. The person is looking towards the right. The background is a light blue color with a framed picture on the wall.

OVERARCHING INQUIRY QUESTION

How can mobile technology be sustainable?

This section explores the increase in consumption patterns for digital technology, in particular our mobile devices. As technology evolves our mobile devices are continuously improving and the functionality and efficiency is enhanced. The desire to upgrade to new and better devices has led to more phones being purchased. Some of the resources used to make mobile phones are finite and non-renewable and can lead to social and environmental issues.

Students need to question what people do with old phones. How can the materials that go into making mobile phones be recovered and reused in the supply chain? Identification of how the mobile telecommunication industry is moving towards a more sustainable supply chain allows students to investigate the solutions required through the geographical inquiry process.

Option for assessment – Running a MobileMuster

Students follow the sustainability action process to run a MobileMuster in their school.

The process is outlined on the MobileMuster website and in Section 5 of this unit. Students can be assessed for the entire project or in part, such as running a successful advertising campaign, or by collecting and evaluating data collected throughout the MobileMuster program.

Suggested apps

Survey Monkey

Google Forms

Excel

Google Sheets

Numbers

WHAT IS THE FUTURE OF OUR MOBILE CONNECTIONS?

Learning intention

Students will survey the class and other classes in the year to investigate how many mobile phones are sitting inactive in people's homes. The prediction for the class survey follows research completed by MobileMuster that Australians have outdated mobile phones that are found inactive in people's homes. As the investigation progresses students will recognise the environmental, social and economic impacts of not recycling personal mobile devices. Students will reflect on global, local and individual practice in the use, storage and disposal of end of life mobile technology.

Teacher notes

Mobile technology has transformed our connections to places. Technology will continue to advance and provide endless opportunities for individuals to enhance their lives in their place. As technology evolves, sustainable and ethical practices need to be adopted to ensure for the protection of people and places into the future.

The resources used in this section can be accessed on the MobileMuster website. The *Mobile Connection* digital book can be used throughout this section to help students navigate through the content and run a MobileMuster in their school. The digital book contains narrated videos, stunning images and interactive activities to engage students in the classroom. MobileMuster is the mobile phone industry's official product stewardship program and provides a free mobile phone recycling program so that mobile phones can be recycled when they reach the end of their life.

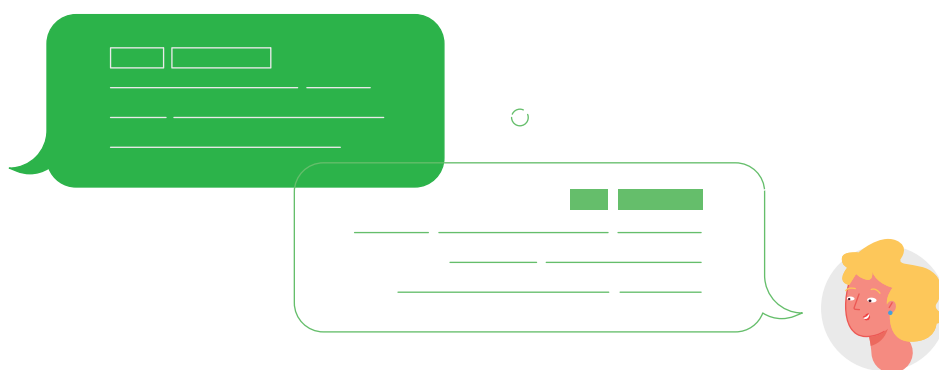
MobileMuster is managed by the [Australian Mobile Telecommunications Association \(AMTA\)](#) on behalf of its members.

Questions for inquiry**How many phones are there?****Why do we race to update?****What happens to our old phones?****Stimulus**

View the video [Everything you need to know about 5G](#) (6:14min).

Read the article [The World Has an E-Waste Problem](#).





ACTIVITY 1

After viewing the video and reading the article *The World Has an E-Waste Problem* discuss the following questions:

- Why are we updating our mobile networks?
- Why do we want to upgrade?
- What is the value of 5G?

ACTIVITY 2

Research recent statistics on global mobile subscriptions using data sources such as The World Bank. Complete the following activities:

- Calculate the numbers of mobile phone subscriptions globally and in Australia.
- Future gaze on the potential number of phones per capita.
- Research what we do with our outdated phones.

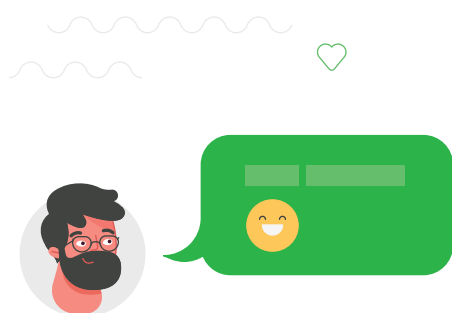
ACTIVITY 3

View the *MobileMuster: What Type of Hoarder Are You?* (0:38min) video. Create a graphic organiser to represent how students manage used mobile phones.

EXTENSION ACTIVITY 1

Conduct a survey to gather data on the quantity of unused phones in people's homes.

- Write a set of questions into an online survey tool.
- Distribute the survey to classes in the year group.
- Collate the data from all the classes in the year group and finalise the results.
- Draw conclusions from the data.
- Answer the question: Why do you think hoarding our phones is a problem?



RESOURCES

Everything you need to know about 5G
spectrum.ieee.org

Data sources

The World Bank: worldbank.org
 Australian Bureau of Statistics: abs.gov.au
 We Are Social: wearesocial.com/au
 Roy Morgan: roymorgan.com

MobileMuster: What Type of Hoarder Are You? video
vimeo.com/mobilemuster (0.38min)



LESSON 17

WHAT IS THE STORY BEHIND MY MOBILE PHONE?

Suggested apps

Keynote
Powerpoint
Haiku Deck
Procreate
Sketches

Learning intention

Students will describe the processes in the linear supply chain of mobile phone production. They will recognise the use of resources that goes into phone production, including the use of finite resources. Students will formulate opinions on the importance of creating a more sustainable and ethical supply chain for the future of mobile technologies.

Teacher notes

As mobile phone use increases so too does the potential to create environmental, social and economic impacts. Potential issues around the production process include mining, exploitation of labour, pollution, resource use and threats to habitat. The focus of the following lessons will be the responses by government, groups and individuals to minimise the effects of production and consumption.

Questions for inquiry

What are the processes in the mobile phone supply chain?

What resources are required in the mobile phone production process?

Stimulus

View the [MobileMuster: What's Inside Your Phone](#) animation (1.29min).

[How phones are made – Oppo Factory Tour](#) (5.58min).



ACTIVITY 1

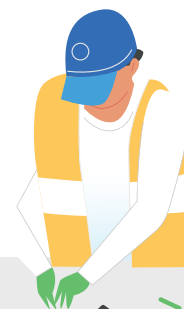
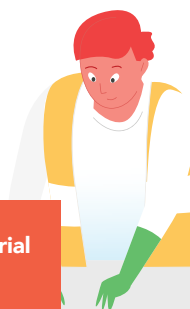
View the MobileMuster animation and create a consequences chart identifying the four stages of the production process involved in the making of mobile phones and the resulting environmental, social and economic impacts at each stage.

ACTIVITY 2

- Complete the following activities:
 - Design a KWL chart for the animation.
 - Complete the first two columns of the KWL chart: What I know, What I'd like to know.
- Interact with the [Quiz: What's In A Mobile Phone](#) on the MobileMuster website.
 - Download your Quiz certificate.
 - Explore the Further Learning section of the Quiz. Explore the phone parts to learn about each specific component and where the materials are mined and manufactured.
 - Complete the final column in the KWL chart listing what you learnt.
 - How would you rate your peers' understanding of 'What's inside your phone?' Give reasons for your answer.

EXTENSION ACTIVITY 1

Research an environmental or social consequence that results from the mobile phone production process.



RESOURCES



MobileMuster website and support material
[Quiz: What's In A Mobile Phone?](#)
quiz.mobilemuster.com.au

How phones are made – Oppo Factory Tour
[youtube](#) (5.58min)

MobileMuster: What's Inside Your Phone animation
vimeo.com/mobilemuster/inside (1.29min)

LESSON 18

HOW TO DESIGN FOR A MORE SUSTAINABLE FUTURE?

Suggested apps

Procreate

Assembly

Adobe Sketch

Simplemind

Popplet

Learning intention

Students are introduced to sustainable concepts of product development and how circular economy principles can be applied to current business practice. Students are able to rethink our approach to design and can start to imagine a more sustainable future.

Teacher notes

Designing for sustainability will help to provide solutions to current issues in our patterns of production and consumption. To extend students' knowledge in designing for sustainability, lesson sequences could be initiated using the Ellen MacArthur Foundation on 'Rethinking the system'.

Questions for inquiry

What is meant by the circular economy?

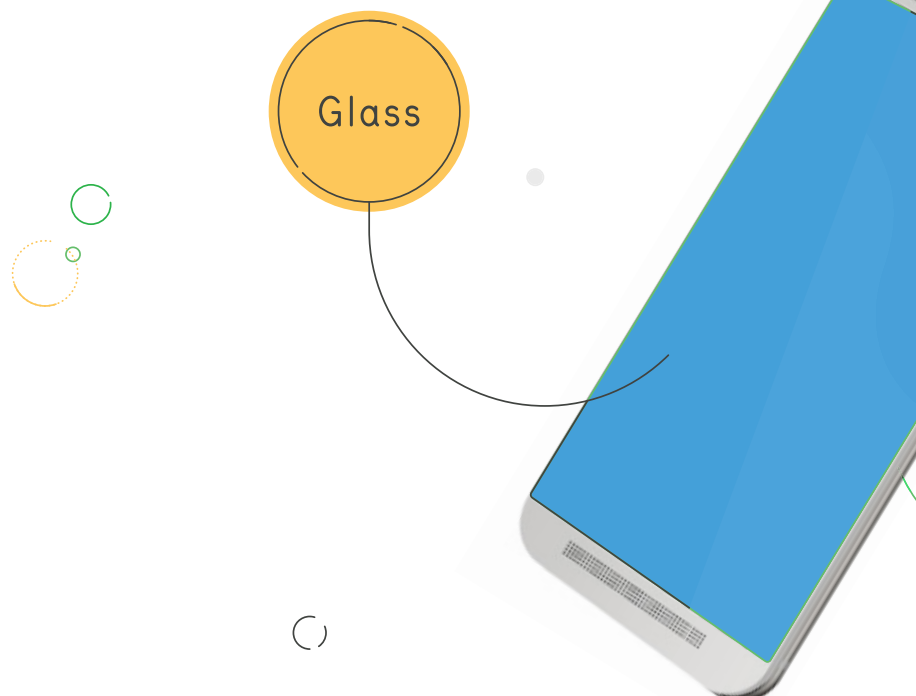
How can we rethink sustainable design?

How can we design for a more sustainable mobile phone?

Stimulus

View the video [Liam - An Innovation Story](#) (1.04min).

View [Apple's Daisy robot](#) (1.16min).



ACTIVITY 1

1. View the Ellen Macarthur Foundation video Rethinking Progress (03.48min).
2. Create an annotated diagram or visual representation of the circular economy.
3. Explain the benefits of the circular economy compared to traditional supply chains.

ACTIVITY 2

1. View the TED talk Paper beats plastic? How to rethink environmental folklore (18.04min) by Leyla Acaroglu.

Leyla examines systems thinking in product design and development for a more sustainable future.

2. Create a mind map or graphic organiser to brainstorm a systems approach to the design and development of the mobile phone. Consider:
 - The lifecycle of a product as explained by Leyla Acaroglu.
 - The advantages and disadvantages of the mobile phone at each step of the lifecycle.
 - Alternatives to the current issues surrounding the lifecycle of the mobile phone.
 - What blue sky thinking can be adopted for the mobile phone for the future?

RESOURCES



Ellen Macarthur Foundation video Rethinking Progress
[youtube.com](https://www.youtube.com/watch?v=...) (3.48min)

The Ellen Macarthur Foundation
[ellenmacarthurfoundation.org](https://www.ellenmacarthurfoundation.org)

TED talk Leyla Acaroglu Paper beats plastic? How to rethink environmental folklore
[ted.com](https://www.ted.com/talks/...) (18.04min)

LESSON

19

Suggested apps

Google Slides

PowerPoint

Keynote

Haiku Deck

Clips

iMovie

Stop Motion Studio

Adobe Spark Page

HOW IS THE INDUSTRY MOVING TOWARDS A MORE SUSTAINABLE FUTURE?

Learning intention

Students will investigate solutions in the lifecycle of the mobile phone through sustainable design.

Teacher notes

The mobile phone industry is making progress towards a more sustainable future. The concept of and laws associated with product stewardship provides a framework for corporate and individual responsibility to reduce the environmental, social and economic impacts of not just mobile devices but all products.

Questions for inquiry

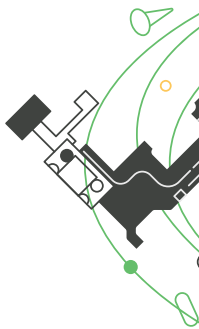
What is product stewardship?

What is the mobile phone industry doing to reduce its impacts?

What has been achieved so far?

Stimulus

View the [MobileMuster: Our Story](#) animation (1.02min).



ACTIVITY 1

Investigate the term product stewardship.

1. View the Australian Government's *Product Stewardship Act 2011*.
2. Identify the aims of product stewardship in Australia. Brainstorm a 'parking lot' of words to create a class definition for product stewardship.
3. Explain the role of MobileMuster under the *Product Stewardship Act 2011*.

ACTIVITY 2

In groups, students select one of MobileMuster's member organisations and research the environmental initiatives to reduce the impacts of their products and services on the environment.

A link to the environmental pages of MobileMuster member organisations is found on the About menu on the MobileMuster website.

- Alcatel
- Apple
- Google
- HMD Global
- HTC
- Huawei
- Microsoft
- Motorola
- OPPO
- Optus
- Samsung
- Telstra
- Vodafone
- ZTE

Create a presentation on the key environmental stewardship initiatives discovered in your research.

RESOURCES



MobileMuster
mobilemuster.com.au

Australian Government Product Stewardship Act 2011
environment.gov.au

LESSON 20

WHERE CAN OUR PHONES END UP?

Suggested apps

Google Slides

PowerPoint

Keynote

Haiku Deck

Learning intention

Students will investigate what happens to mobile phones when they reach their end of life, known as e-waste. Students will recognise the environmental and social impacts of phones when they are discarded and understand the laws that seek to limit the dumping of e-waste.

Teacher notes

“There is no such thing as away, when we throw anything away it must go somewhere” – Annie Leonard, The Story of Stuff.

Electronics waste, e-waste is the product of consumers discarding products once they are no longer useful or obsolete. Governments and industry are now seeking alternatives to a product’s end-of-life by introducing better design, circular economies and recycling initiatives.

Questions for inquiry

Where can our phones end up?

What is e-waste?

What is the impact of e-waste on places?

Stimulus

View the [MobileMuster: Extending the Life of your Phone](#) (0.59min) animation.

View [Story Hopper – A free trip](#) (4.00min).



ACTIVITY 1

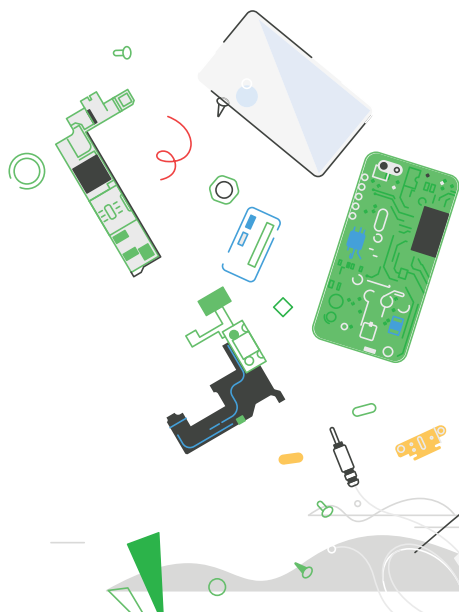
View the two stimulus videos and complete the following activities:

1. Write a definition for e-waste.
2. Create a consequences chart for e-waste that includes environmental, social and ethical impacts from disassembling and reusing electronic waste.
3. Explain why people in developing countries risk their health and pollute their environment to disassemble and reuse electronic waste.

ACTIVITY 2

View the ABC news report 'Australian e-waste ending up in a toxic African dump'.

1. How do you think Australian e-waste ends up in places like the one viewed in the video?
2. Consider ways we as individuals can ensure e-waste is recycled responsibly?



RESOURCES



MobileMuster

mobilemuster.com.au/recycling

A free trip to Agbogbloshie Dave Hakkens Story Hopper

[youtube.com](https://www.youtube.com/watch?v=...) (4.00min)

The Electronic Afterlife by Gizmogul

[vimeo.com](https://vimeo.com/...) (4.06min)

St George computer found in e-waste dump ABC News 2017

abc.net.au

LESSON 21

WHAT HAPPENS TO MOBILE PHONES WHEN THEY ARE RECYCLED?

Suggested apps

iStopmotion

Procreate

Keynote

Assembly

ClipArt

VideoScribe

iMovie

Adobe Premier Clip

Learning intention

In this lesson students will recognise the importance of recycling mobile phones responsibly. Students will examine the mobile phone recycling process in Australia: who is involved, what components are recovered and re-used in other products and how recycling mobile phones aims to reduce negative environmental and social impacts. Students will interact with the MobileMuster website to learn more about recycling in Australia.

Teacher notes

The Sustainability Action Process is the framework for students to plan and execute action for sustainability. The framework is detailed in section 5. Students can develop a case for change and develop a program to implement a MobileMuster in the school. MobileMuster is Australia's government accredited mobile phone recycling program.

Questions for inquiry

How are phones recycled?

What materials can be recovered?

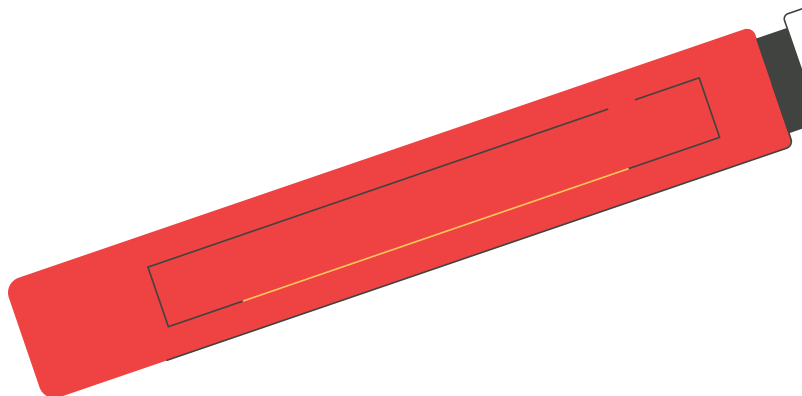
How can these materials be re-used?

What are the benefits of recycling mobile phones?

Stimulus

View the video [MobileMuster: What happens when you recycle](#) (01:43min).

Visit the [Recycling pages](#) of the MobileMuster website.



ACTIVITY 1

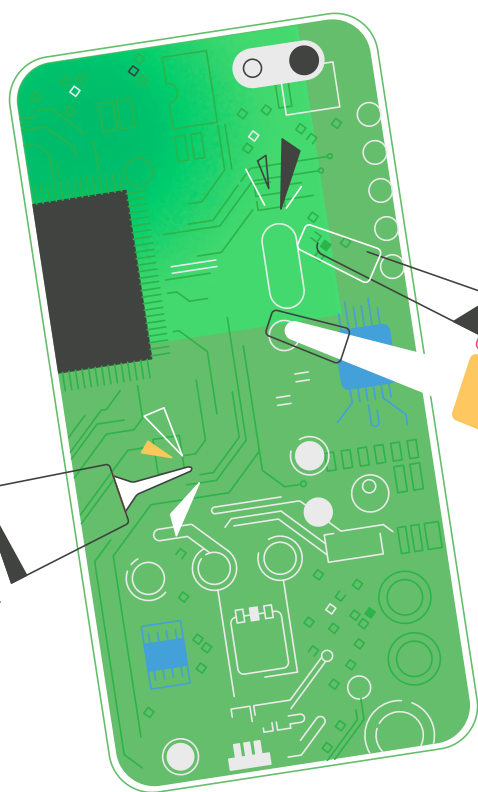
View the videos from the MobileMuster website [What happens when you recycle](#) (1.43min), [The Recycling Journey](#) (1.33min) and [The Benefits of Recycling Your Phone](#) (1.17min).

- Identify what materials can be extracted from mobile phones.
- List new products that can be created from these materials.
- Identify and describe the environmental benefits of recycling mobile phones.

ACTIVITY 2

Use the data collected from the survey conducted in Lesson 16 to complete the following activities:

- Calculate how many phones are sitting unused in students' homes.
- 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 (CO₂ emissions prevented)?
- What other measures are used in the environmental calculator?
- Consider the benefits of recycling mobile phones and make a statement to why current attitudes and practices need to be reconsidered. The statement should include the mobile phone data collected.



RESOURCES

MobileMuster
mobilemuster.com.au/recycling

MobileMuster Calculator
calculator.mobilemuster.com.au

MobileMuster: What happens when you recycle
vimeo.com (1.43min)

MobileMuster: The Recycling Journey
vimeo.com (1.33mins)

MobileMuster: The Benefits of Recycling
vimeo.com (1.17mins)



SECTION 5

MOBILE ACTION



OVERARCHING INQUIRY QUESTION

How can I contribute to a sustainable future?

Through geographical inquiry students develop complex and deep understandings of global and local issues. Once conclusions have been drawn, students are able to propose actions, predict outcomes and, where possible, take action. This section outlines a framework for students to plan and execute individual action by following the sustainability action process (SAP). The SAP provides students with the confidence, skills and tools to take action enabling them to be global citizens that advocate for a better and more sustainable world.

Students will be encouraged to run a MobileMuster collection drive at their school.

RESOURCES

School Kit

Join the MobileMuster school program and you will receive a free kit that includes:

- Information on how to run a muster at school for students and teachers
- Recycling posters and badges
- Flip book on the MobileMuster recycling process
- Samples of the materials that recover in the recycling process (circuit boards, glass, metals, plastic, battery)
- Collection box for you to use in the classroom and send them back to us for recycling.

mobilemuster.com.au/education

War on Waste

The ABC War on Waste program has inspired Australians to change their behaviour and help solve our waste problems. Watch the War on Waste Series 2, Episode 2 where Craig Reucassel examines the growing e-waste problem.

iview.abc.net.au

Digital Book

After watching the War on Waste episode use our Mobile Connections digital book to inspire students to tackle mobile phone waste in their community. The book uses the sustainability action process to plan, execute and evaluate action for sustainability. It can be downloaded as an Apple Books or ePUB version.

[Apple Books](#)

[ePub](#)

RUNNING A MOBILEMUSTER

Interact with the MobileMuster website. Follow the tips for running a successful MobileMuster. Support your project with a student-developed digital campaign. In addition, follow the steps within the sustainability action process to help guide your action.

1. Make the case for change

- How many mobile phones and accessories are currently sitting inactive in our homes?
- What current systems are in place to reuse and recycle these phones?
- Where are local [MobileMuster drop-off points](#)?
- Who at our school are stakeholders in this issue?
- What have we discovered about mobile phone recycling at our school?
- What else do we need to find out?

2. Define the scope for action

- What are the steps in running a MobileMuster?
- What resources are available to us to initiate the program?
- What limitations or constraints may there be to running a MobileMuster in our school?

3. Developing the proposal for action

- What is our MobileMuster plan?
- How we will judge the success of the plan?
- What steps need to be taken?
- What resources are needed for each step?
- Who is responsible for each step?
- Do we have the Principal's approval?
- How will we communicate the idea?
- Is our plan for action clear and well documented?



4. Implementing the proposal

- Are we following the proposed steps?
- How are we monitoring our progress?
- How are we collecting data?

5. Reflecting and evaluating

- Did we achieve our goals?
- Have we measured and described this?
- What were the strengths and weaknesses of our plan?
- How could the proposal and action be improved?
- What will we do with the evaluation information?
- How has my/our feelings and behaviour changed as a result of my/our learning?
- How well did I/we participate in any group learning activities?
- Thinking back on what was achieved, what was the most enjoyable part of the project?
- How can I apply what I've learnt to another sustainability issue?

RESOURCES



Sustainability action process
education.nsw.gov.au

MobileMuster
mobilemuster.com.au/education

Is MobileMuster already at your school?

Review the existing program by following the sustainability action process and propose action to achieve even greater benefits.



About the Authors

MobileMuster partnered with educational experts from the Field of Mars Environmental Education Centre to develop the Mobile Connections Curriculum Guide. The guide has been reviewed by curriculum experts and key stakeholders ensuring it delivers quality teaching and student learning outcomes. Mobile Connections is a dynamic concept. This guide will be updated annually ensuring content, source materials and relevant issues are current.

Field of Mars

The Field of Mars Environmental Education Centre provides environmental education and learning experiences for students and teachers. The centre has developed a range of interactive digital books to support the Australian Curriculum and provides expert professional learning workshops for teachers in the areas of environmental education and sustainability.

More information visit
fieldofmarseec.nsw.edu.au

MobileMuster

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. The program is committed to raising awareness and educating the community on why it is important to recycle.

Access the Mobile Connections supporting resources from the MobileMuster website
mobilemuster.com.au

Educational Use

The resources contained in this guide may be used for educational purposes only. We encourage teachers to use Mobile Connections in the classroom for educational purposes. Please contact MobileMuster mobilemuster@amta.org.au if you require special permission to use or reproduce our resources.



