Space

Students will begin to understand Earth's precious resources, undertaking research to identify what these are, and the products created for everyday life. Students will begin to identify factors for liveability, linking to design of their own Planet B.

Subject area:

Humanities and Social Sciences

Year level:

Year 7

Learning objectives:

- Differentiate between Earth's renewable and non-renewable resources.
- Understand water is a precious resource that cycles through the environment.
- Understand the factors influencing liveability.
- Apply understanding of liveability to design own Planet B.

Curriculum links

Water in the world	WAHASS71
Water in the world	WAHASS73
Water in the world	WAHASS76
Place and liveability	ACHGK037
Place and liveability	ACHGK045
Place and liveability	ACHGK039

Cross curriculum priorities - Sustainability

OI.1	The biosphere is a dynamic system providing conditions that sustain life on Earth.
OI.3	Sustainable patterns of living rely on the interdependence of healthy social, economic and ecological systems.
OI.4	World views that recognise the dependence of living things on healthy ecosystems, and value diversity and social justice, are essential for achieving sustainability.
OI.7	Actions for a more sustainable future reflect values of care, respect and responsibility, and require us to explore and understand environments.

General capabilities

Literacy

Critical and creative thinking

Personal and social capability

Information and communication technology (ICT) capability

Ethical understanding

Our precious resource

Earth has many precious resources, some renewable and many not. In this activity students will view a short video on Earth's precious resources, consolidating their understanding in completion of a comprehension activity sheet. Students will then research more about our precious resources, collating their findings into a Popplet to share with the class.

Time required:

1 hour

Resources required:

- **iPad or computer per student**
- **Activity page 1: Earth's precious resources**

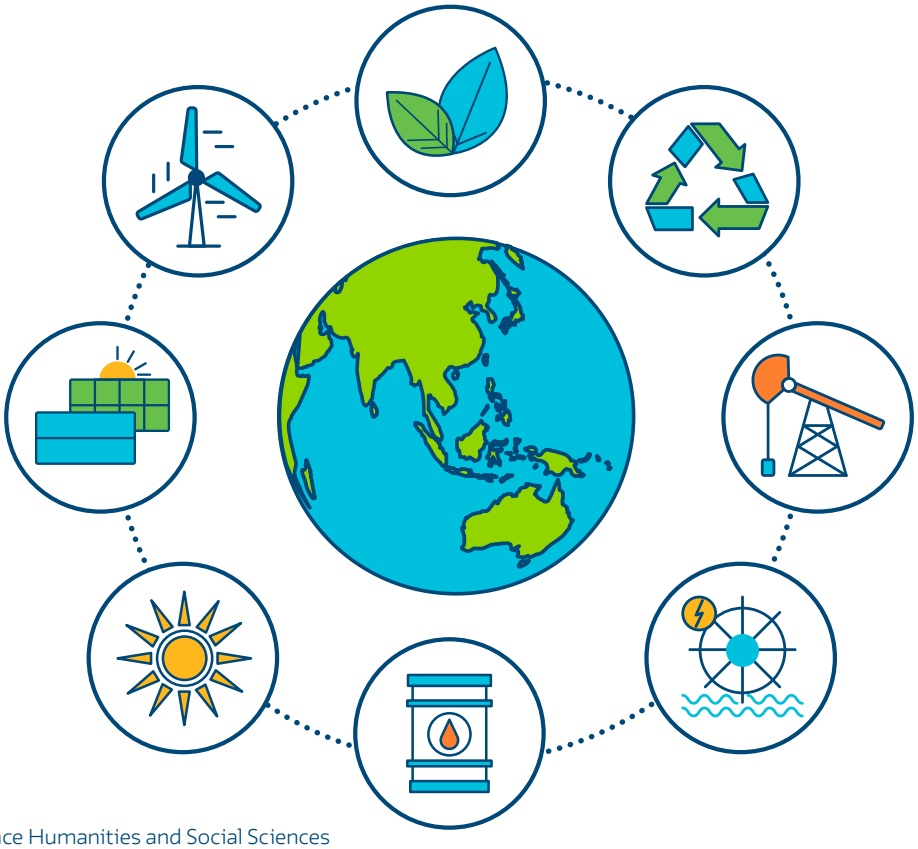
Preparation:

Ensure each student has access to:

1. Earth's precious resources.
2. Popplet app.
3. A printed copy of Activity page 1: Earth's precious resources.

Steps:

1. Set the scene with a video presentation: Earth's precious resources to help students understand we can't live without water.
2. Students are to complete the activity page while viewing the video.
3. In pairs, students spend time researching ten of Earth's precious resources and identify three products created using this resource for our everyday life. Ask students to save their research webpages to refer to in the next activity.
4. Using the Popplet app, ask students to organise their research information to identify:
   a. The top 10 natural resources across the globe.
   b. Which countries are the main producers of these resources.
   c. Any patterns across these countries in relation to economic and environmental growth.



Impacts of liveability

To extend understanding of resources, students will classify natural resources using the Brainpop platform. They will delve deeper into the origin of these resources across the planet, the living standards and impact on the people in these regions and begin to collate a set of personal liveability criteria.

Time required:

1 hour

Resources required:

- **iPad or computer per student**
- **Notebooks to record information**
- **Images of cities, communities and places of interest across the world**

Preparation:

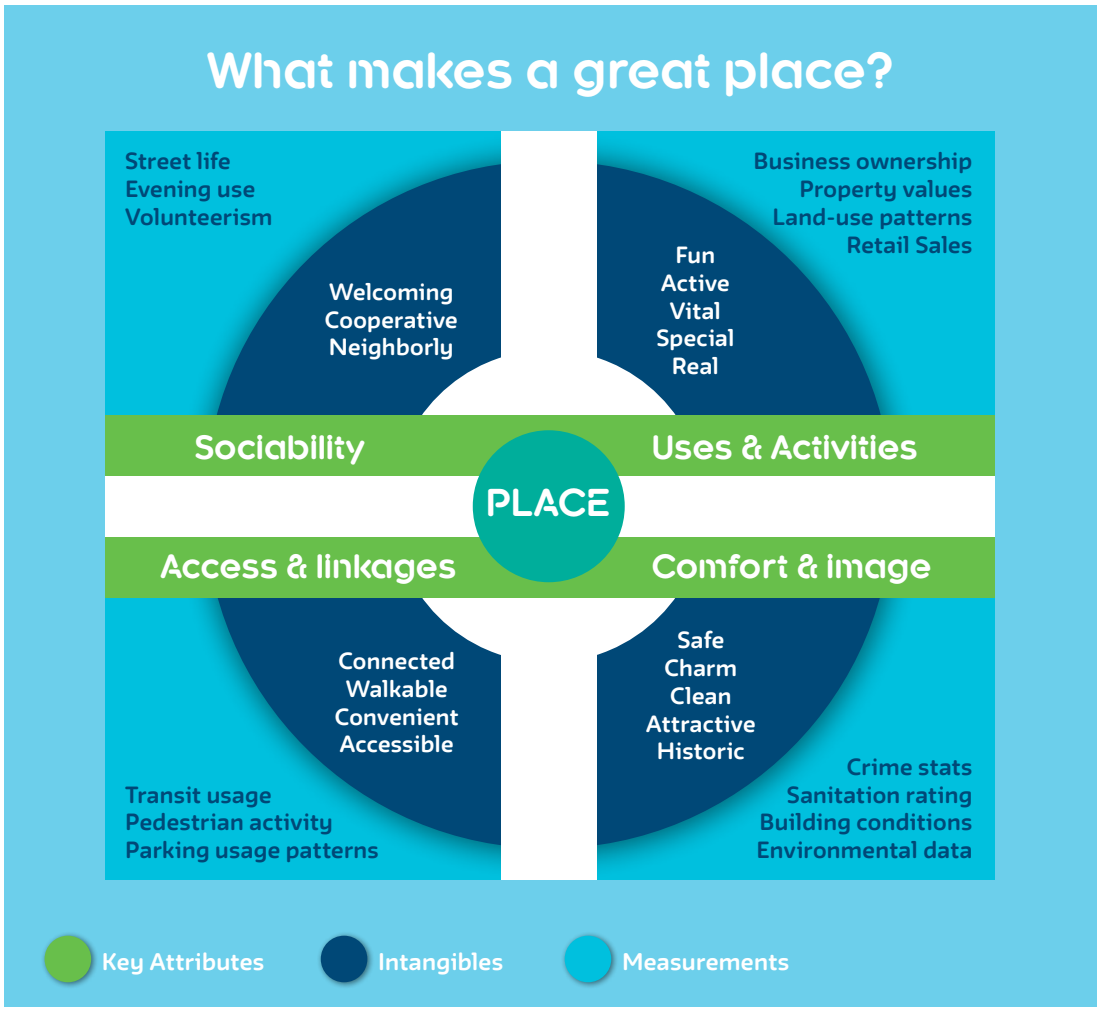
1. Ensure students have access to Sortify natural resources game.
2. Have images of cities, communities and places of interest across the world ready to display.

Steps:

1. Referring to information collected on natural resources in Activity page 1: Earth's precious resources students need to sort the natural resources into categories, including renewable, non-renewable and recyclable. They then need to understand the origins of each resource, such as forests and oceans.
2. Students will then complete the natural resource game using Sortify.
3. Ask students to reflect on the main countries producing natural resources from the previous activity. Think about the quality of life in these countries.
4. Explain to students that people live in places with these characteristics, but why? Use the following examples to highlight different environments:
   a. Indonesia's volcanic zone: ash clouds, mudflows, poisonous gases, lava flows and tsunamis threaten lives, and livelihoods in Indonesia every year yet millions continue to live under volcanoes. Poverty restricts peoples' ability to move (economic factor).
   b. Nanavut: home of the Inuit who have occupied the Arctic for over 4 thousand years, living on environmental resources and developing a unique culture based on seasonal cycles of the land and sea. Liveability changes over time -young people are leaving. Technology can overcome remoteness & improve social connectedness (economic, environmental, social & cultural factors impact on liveability).
5. Discuss the features students would like in the places they live and the development of personal liveability criteria.
6. Using a variety of images of places across the world, have students rank them according to their perceptions of liveability - or where they would like to live - from most to least (e.g. local streets, Australian towns, overseas places).
7. Students then write a list of the factors they would not want to bring to Planet B (e.g. noise, extreme heat or cold, pollution, traffic, crime, danger, emptiness, isolation). Answers will depend on students' location and experiences.
8. Discuss and list the criteria students used to determine their rankings. Compare perspectives of different students.
9. What features are difficult to illustrate in an image that may be an important influence on liveability? Tangible & intangible characteristics.
10. At the end of the discussion, students (individually or in groups) need to develop a set of liveability criteria to apply to a local place in their workbooks.

Extension Activity 1

11. Any criteria developed by students should contain qualitative / quantitative / tangible and intangible attributes.
12. Open question: If you could live anywhere in the world, where would you live and why? Students need to create a detailed report to answer the inquiry question. Students must integrate maps (location), climate graphs, employment statistics, travel, recreational facilities, access to services and facilities and transport connections as part of their report.



Planet b

With an awareness of desired factors influencing the liveability of a place, students will apply their understanding to the design of their Planet b, using Canva as a platform to promote their planet to potential inhabitants.

Time required:

1 hour

Resources required:

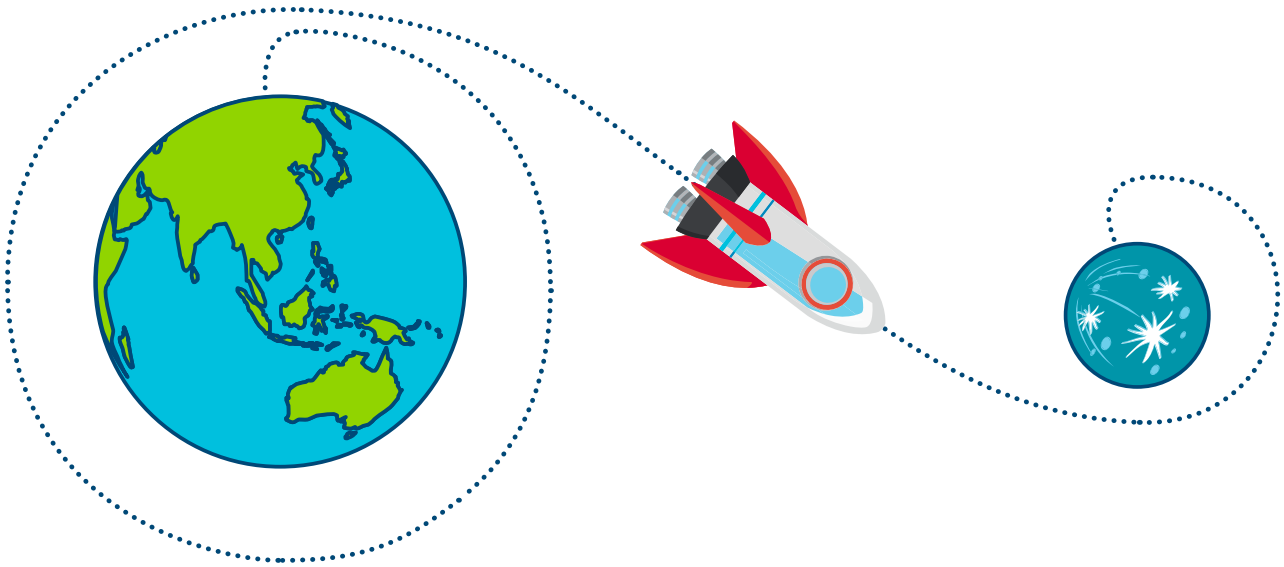
- **iPads or computer per student**

Preparation:

1. Ensure students have access to Canva app.

Steps:

1. Reflecting on understandings of natural resources and criteria created for liveability of a place, students will create their own ideal Planet b to inhabit.
2. Information about their planet will include criteria from the previous activity such as:
   a. Social and environmental factors.
   b. Uses and activities.
   c. Access and linkages.
   d. Comfort and image elements to satisfy all community members.
3. Students will then create a promotional advertisement inviting people to their Planet b. Students must attempt to make their planet desirable to either the whole community or a select group in the community. Using Canva, a free presentation application, students will need to be as creative as possible to ensure a high number of inhabitants relocate to their planet.



Earth's precious resources

Water remains the one natural resource that we cannot live without. Water is tied not only to our health but also agriculture and industry.

Following viewing of the video on Earth's precious resources, answer the questions below:

1. Name four natural resources some countries may be blessed to call their own.

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_____

2. What is the one natural resource we cannot live without? _____

3. Explain how the effective management of water is made more complicated across countries.

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4. In the case of oil, natural gas and mineral extraction, the revenue created by the continual sale of these products continues to be an important driver to economic growth. If properly managed, how can this revenue have a positive impact on developing countries?

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5. What is human development based on?

_____

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6. Explain why and how a majority of countries rich in natural resources are ranked lower in human development than countries without natural resources.

7. Innovative, economic approaches that help create the appropriate prices and market for water prices is a first step to solving what? (complete the sentence)

8. Research an example of one of these innovative, economic approaches that will help create the appropriate prices and market for this natural resource across the world.

9. How can governments across the world smooth revenue flows of natural resources?

10. Summarise how everyone across the world can take action to benefit from sustainable production and management of natural resources for years ahead.