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## INTRODUCTORY NOTES

The study of Earth and Space science is a broad description of the study of the earth and its place in the solar system. It includes a study of the connections between the land, the ocean, the atmosphere and the weather. Therefore four major fields of study feature in Earth and Space Science, this includes geology the study of the structure of the earth, oceanography the study of the oceans, astronomy the study of the universe and meteorology the study of the weather and atmosphere.

Of concern to politicians, educators and the science community in Australia and worldwide has been the decline in science graduate numbers and the general interest in schools for science. This has prompted many studies since 2003 and changed the focus of science education particularly in primary schools. Apart from increasing interest and graduates, the underlying goal in education currently is to improve “scientific literacy”. What is scientific literacy? In the Australian Curriculum's glossary it acknowledges that scientific literacy is:

*“An ability to use scientific knowledge, understanding, and inquiry skills to identify questions, acquire new knowledge, explain science phenomena, solve problems and draw evidence-based conclusions in making sense of the world, and to recognise how understandings of the nature, development, use and influence of science help us make responsible decisions and shape our interpretations of information.”*

Put more simply it entails being able to understand public debate over the scientific and technological issues in our world one needs to be scientifically literate.

In a scientific literacy survey undertaken in 2013 it was shown that from a sample 1515 people only 59% knew the Earth takes one year to orbit the sun. This was a decline from the same survey undertaken in 2010 (<https://www.science.org.au/sites/default/files/user-content/scienceliteracyreport.pdf>). As is

# Earth's Assets

## **Suggested Readings and Notes**

- *Isabella's Garden* by Glenda Millard
- "The Wonderland of Nature" by Nuri Mass (Page 245-274)
- Equipment for Lesson 7:

A soil sample and a medium sized screw top jar with a lid.

A second soil sample of a different type. A sandy, clay or loam soil sample.

A hand lens or magnifying glass.

## **Lesson 1– What are Earth's resources?**

Discuss with your child the idea of Earth's resources.

- Ask your child what they think Earth's natural resources means?
- Draw or list seven natural resources.
- Draw an example of each resource.
- List the resources in two groups; those that are living (biotic) and those that are non living (abiotic).

### **Notes**

Earth's resources are also called natural resources or the earth's natural resources. This refers to those things found in nature or on or under the earth that people can use. Sometimes they are called raw materials. More complex products are created by modifying these resources. People can use the earth's resources in different ways.

Those resources we think of most include **air, water, soil and minerals**. However, there are others including **plants, animals, sunlight**. Wind, rocks and tidal resources really belong to the air, minerals and water categories. Some energy sources will be confusingly suggested as natural resources.

An in depth conversation regarding classification is not needed in this lesson as renewable and non-renewable resources will be considered with more depth in a further lesson (Lesson 8).

These resources can be classified in a number of ways. Mineral resources can be divided into three groups; metals, non-metals and fuels. Another way of classifying resources is if they are biotic, that is coming from living things or abiotic they come from nonliving things. Plants, animals, and fossil fuels are biotic and minerals, air, sunlight and water are abiotic. Fossil fuels are thought to be formed from dead plant and animal material so considered biotic in origin.

Suggested Reading: The Wonderland of Nature by Nuri Mass p.245

## **Lesson 2 – A Brief Introduction to Each Resource**

Briefly discuss each resource and how it is useful to people.

- With the list of resources you have created from the last lesson find out what your child knows about each resource.
- Discuss why each resource is important to people. Illustrate these ideas.

### **Notes**

A brief list is provided below. You may find other suggestions of resources or your child may surprise you by suggesting other resources based on their ideas and interests.

#### *Air*

People, plants and animals need the oxygen and other gases in air to breathe and live. Wind is used as a source of energy to drive turbines and windmills.

#### *Water*

Water is essential to sustain life for people, plants and animals. We use water for many daily activities. Tides, waves and currents are a source of energy. This is sometimes referred to as marine energy. Reservoirs of steam and hot water are an energy source.

#### *Soil*

Soil is required to grow plants for food to sustain life. Plants need soil to grow and provide the oxygen with which we breathe.

#### *Minerals*

Minerals are used in every aspect of life, for our household goods, transport, communications, fabrics (from petroleum products), and for their beauty. They include the fuels used for energy. Rocks under the earth's surface can provide heat in the form of geothermal energy.