

U1L1A1 | The Earth: Our Home

overview

In this activity you will learn about the Earth as a complex system. You will hear the reflections of the astronauts who have seen the earth from space and learn how their unique perspective informs our understanding of sustainability. At the end, you can complete an exit card to demonstrate your learning (Activity 4).

learning goal

- To understand that the earth is a complex system categorized into four distinct but interconnected spheres.
- To understand that humans, as part of this system, exist within these spheres and change the Earth through our activities.

success criteria

- I will correctly complete an exit card to demonstrate my understanding of these ideas

Inquiry Question

- How can seeing the world from the perspective of astronauts and scientists help motivate us to make change toward sustainability for the Earth?

The Earth Spheres

The Earth is made up of four spheres:

- the _____
- the _____
- the _____
- the _____

Understanding how these four spheres interact is essential to our efforts to minimize the negative impacts of our actions on the environment.

The Atmosphere

- _____
- contains _____ needed by living things
- _____

U1L1A1 | The Earth: Our Home

The Lithosphere

- the _____
- made up of _____
- forms the _____, the _____ and is the basis for terrestrial (land-based) ecosystems

The Hydrosphere

- all the earth's _____ (cryosphere)
- most found in _____, some in _____,
- _____, _____ and _____

The Biosphere

- all the _____
- humans are such a dominant species that some scientists have given us our own sphere

name: _____

Interaction of the Four Spheres

The four spheres of the Earth are closely connected. Water (hydrosphere) flows through the soil (lithosphere) which also contains air (atmosphere) and is inundated with millions of microscopic and larger living organisms (biosphere).

A change in one sphere often results in a change in one or more of the other spheres.

The interaction of the three physical earth spheres allows for the cycling of energy, water and nutrients throughout the environment. These conditions allow for the survival of the components of the biosphere, including humans.

U1L1A1 | The Earth: Our Home



Moraine Lake, Alberta Canada (christophermartinphotography.com, 2014)

It is important for humans to understand the Earth's complex systems, so that:

- _____
- _____
- _____