BIG WORLD, SMALL PLANET

Module 1: Getting Started with Sustainability

Student Edition



A comprehensive guide to global issues and sustainable solutions

Facing THE Future™

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SMALL PLANET

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and Sustainable Solutions

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About Facing the Future

Facing the Future is a program of Western Washington University. Facing the Future's mission is to create tools for educators that equip and motivate students to develop critical thinking skills, build global awareness, and engage in positive solutions for a sustainable future.

Facing the Future develops and delivers standards-based hands-on lessons, student texts, curriculum units, and professional development opportunities for educators. Facing the Future curriculum is in use in all 50 U.S. states and over 140 countries by teachers and students in grades K-12, in post-secondary education, and across multiple subject areas. Facing the Future reaches over 1.5 million students through its programming.

For more information, visit **www.facingthefuture.org**.

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Unit 1

Introduction to Sustainability

Essential Questions For This Unit

1. *What does sustainability mean?*
2. *Why is sustainability important to me?*
3. *How can I live more sustainably?*
4. *How can I develop a sustainability worldview?*

We're All Connected

We live in an interconnected world. Movies, music, news, manufactured goods like clothing and electronics, and people travel across the globe. With this much exchange of ideas, culture, and material goods, our actions in one region are sure to affect people living in other regions. Understanding how and where we connect can help us understand how we might impact others. This understanding can also help us find ways to make these new lines of contact work benefit of all.

Think About It!

With whom do you feel connected? Are they physically near or far from you? What makes a connection feel alive and central in your life? What other connections do you have – or could you have – beyond those with other people?

Connecting with People

Today, we can connect with other people through various modes of technology: cell phones, social media, the Internet, even movies and television. But of course, we have not always had so many ways to communicate. For most of history, people could only connect with others near them. These close, face-to-face relationships still form an important part of our sense of belonging. We connect personally with our families, our friends, our schoolmates, and our neighbors. Maybe we have coaches or teachers, teammates, or even pets to whom we feel close. These relationships are the foundation of connection. We care about these people and know they care about us. We help each other, enjoy each other, and live our lives with each other. We're connected!

As a society, we connect in broader ways. In the United States, we share a national government and Constitution, an economy, and national holidays. Although Americans have many different beliefs and perspectives, we share values such as personal liberty, freedom of expression and religion, and democracy. These common points of view create a sense of connection throughout communities and across the nation.

called the blueprint for life and carry information within our cells about characteristics or traits from one generation to the next. Amazingly, humans share a significant portion of human genes with other creatures. Our closest relatives are chimpanzees: 98% of our genes are the same as those of chimpanzees. We even share about one third of our genetic information with fruit flies![1]

Given this shared biology, it makes sense to consider that we share the planet's basic life support systems of the sun, the air, water, and land with all living creatures. Plants and animals have the same needs for food, water, and physical protection as we do. Even very simple life forms like bacteria require nourishment and safety.

All living things are linked together in nature. This wide- ranging set of relationships is called the "web of life". Each species contributes something: a bird may help disperse seeds for another species, a tree may provide twigs for a nest or a hole for shelter, and a creature may be food for another. In this way, each species contributes to the well-being of the overall collection of living things, and each species is supported by the actions of other living things. Living things are also supported by the nonliving processes on the planet, which provide water, minerals from rocks and soil, carbon to build bodies, and sunshine to provide energy.

In our modern life, it may not be obvious that we are part of nature. More than half of us now live in cities. We buy our food in grocery stores, rent or buy our homes, and get our water from a faucet. Where is nature in all this? It's important to remember that, if we work our way through a few more connections, we always find that it is nature fulfilling our needs. Farmers work hard to support and protect plants, but the plants still grow because the sun shines on them. The homes we live in are made of wood from trees, bricks from clay, concrete from sand and stones, and metal from ores found in the earth. People build complex systems to capture and deliver water to our homes, but the water itself can only come from nature. Most fundamentally, we ourselves are part of nature: we can never actually be outside of or away from it.

When we recognize this common foundation of life, we see that we are connected to all living creatures.

Health and Resiliency

This big idea has to do with the health and well-being of individuals and the systems we depend on. Health can involve our individual habits and lifestyle choices, such as whether we prefer fast food or home cooked meals, or it can involve broad issues affecting individuals or society. Examples might be: hunger, disease, water quality concerns, drug or alcohol abuse, homelessness, etc. Health is also impacted by environmentally related conditions caused by poor air quality, climate change, and agricultural and industrial practices that damage the environment.

Resiliency is the capacity of a system, such as a community or an ecosystem, to deal with change and to continue to function and develop by adapting over time. Individuals can also be resilient and work towards or recover from hardship. Change can be a positive element in our lives.

A sustainability worldview is concerned with the health and resiliency of individuals and the various systems upon which they depend. Exercising control over and improving our health and that of natural and built systems allows us to more easily adapt to and even thrive throughout changing times.

Think About It!

What are some times in your life that you have had to be resilient and adapt to life events? What elements of a healthy lifestyle do you incorporate into your life as an individual or would you like to start incorporating?

What elements would you like to be a part of changing so that your community is healthier? Has the community you live in had to be resilient in the face of an event? If not, can you think of another individual or community that has?

A New Way of Thinking

Systems thinking shows us that we understand situations better when we see relationships and interconnections between the parts. Understanding these relationships between parts helps us see the big picture of sustainability issues. We can see how information flows and recognize hidden causes of problems. We can use this knowledge to create better solutions.

Learning to think in systems calls on us to think differently than we have done before. The Center for Ecoliteracy calls this change in thinking a "shift in perception." They compare systems thinking with the way we usually think, which is focused on simple cause-and-effect relationships. The table shown below summarizes these comparisons.

Traditional and Systems Thinking[17]

Cause-and-Effect Thinking *The focus is on:*	**Systems Thinking** *The focus is on:*
Objects	Relationships
How parts behave	How the combined whole behaves
Single events	Patterns of events, underlying causes, and longer time frames
Things that can be measured	Both things that can be measured and things that cannot be measured
Right answers	Right way of thinking

Now that you have learned the basics of systems thinking, you may start to see systems all around you. With practice, you will see interconnections everywhere. This skill will be a strong foundation for your growing sustainability worldview.

Activity Three

Nature Journal

Activity

1. **Observe wild nature.** Each day, look for an example of wild nature in your daily life. You might notice a bird on a nearby tree, hear rain falling on the roof, or spot a weed pushing up through cracks in the sidewalk. The only requirement is that the observation not reflect a manufactured object or anything made with a manufactured object.

One option is to choose something to observe every day over the 4 weeks of the unit. You could notice the phases of the moon, the time and location of the sunset, the presence of birds or insects, patterns of wind or clouds, or something else that catches your interest.

Here is a mindfulness-based process you can use for observing wild organisms and building a sense of nature connection:

> Step outside with the intention of experiencing yourself as part of nature. Try to let your thoughts run in the background of your mind without focusing on them. As you step outside, use your entire field of vision to take in your surroundings. Notice everything, living and non-living alike. Tune in to all of your senses. Notice sights, smells, sounds, temperature, wind, and sun. Allow some living organism to draw your attention. Keep your focus on it for at least 10 to 15 seconds, longer if you can. Just silently observe. Notice

Activity Eighteen

Tool for Engaging with Sustainability Issues: Reflection, Self-Assessment, and Commitments

Activity

1. **In your Field Book, respond to the following questions and prompts.**

    a. **Write one paragraph in response to each of the unit's essential questions:**

        i. What thinking skills are important for sustainability?

        ii. What is a system?

        iii. How can systems help me understand sustainability?

        iv. How can I become a critical thinker?

    b. **What can you do to carry through with possible sustainability actions and issues that you identified in this unit?** With whom can you share your sustainability knowledge? Write down concrete action steps, goals, and timing for any commitments you would like to make, including those