Lesson 1: Environmental Health 101

Snapshot

This lesson introduces the broad concept of environmental health and why children may be particularly at risk from environmental health hazards by focusing on the differences between adults and children. These differences will be highlighted by examining the four things that all living beings need in order to survive (air, water, food, and shelter).

Preparation and Materials:

- Posters 1–3, Visual Cards 1–6, Take-Home Talk
- Flip chart and markers
- Black or white board
- Large sheets of paper for each child to make a poster
- Markers or crayons

Objectives—Students will be able to:

- define *environment* and *environmental health*;
- list the four things that all living beings need;
- understand why children are often more at risk from environmental health hazards; and
- understand that their actions can help to create a healthier environment for themselves and for everyone around them.

Vocabulary: environment, living beings, health, and impact

Procedure:

1. Introduction—The Earth and Our Club: A Comparison *(5 minutes)*
2. Define Vocabulary—Environment, Living Beings, Health, and Impact *(5 minutes)*
3. Stayin' Alive—Air, Water, Food, and Shelter *(10 minutes)*
4. The Big Four Search Activity *(10–15 minutes)*
   Optional Activity: The Big Four Poster Creation *(10–15 minutes)*
5. Close and Take-Home Talk *(10 minutes)*

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1. Introduction:
The Earth and Our Club: A Comparison *(5 minutes)*

Do Ask

*[Show **Poster #1** (Earth).]* Pass it around and ask what the class knows about the Earth.

Prompts: What is the Earth made of? Who uses it? How is it used? How do you take care of it? What happens if it's not taken care of?

Do Ask

*[Show **Poster #2** (Building).]* Pass it around and ask the class to think about the building that they are in now. What do they know about the building?

Prompts: What is it made it? Who uses it? How is it used? How do you take care of it? What happens if it's not taken care of?

Ask

The Earth and the building that the class is sitting in are alike. What do they have in common?

Prompts: People use them both. People use the resources of the Earth and the resources of the building we are in today. Both the Earth and this building can get dirty and need to be cleaned. They both need to be cared for (cleaned/not polluted) in very specific ways. There are lots of people in some areas and not a lot in others—some locations and activities are in higher demand than others.

2. Define Vocabulary: Environment, Living Beings, Health, and Impact *(5 minutes)*

Explain

Today we're going to talk about how our Earth, our city, our community spaces, our schools, and our homes are all connected and impact each other.

Ask

When you hear the word ***environment***, what comes to mind? What does the word environment make you think of?

Prompts: Do you think about basketballs or animals? Ice cream or water? Mountains or TVs?

Explain

When we hear the word ***environment***, we often think about nature, right? Things that are outdoors—plants, animals, wind, rain, water, sun, and different types of land—forests and desserts, mountains and jungles, rainforests and fields. Well, the environment is all of these things and a lot more—***environment*** means ***everything*** that affects the life, development, and survival of living things.

Ask

We hear the word pollution connected to the environment sometimes. What is pollution?

Explain

Pollution is when our air, water, or food has things in it that are not good for us. Pollution might be poisonous chemicals or other things that make us sick (such as when we drink from a river or stream). The water may look clean, but there could be dangerous chemicals in the water. When it rains and trash and debris pool together in the road it ends up going down the storm drain and flowing into the streams and lakes that we use for our drinking water. And this trash and debris can contaminate it. We call this ***rainwater runoff***. There's also runoff from farms contain pesticides, and runoff from homes and residential areas such as malls that use chemicals to treat lawns and gardens, or parasites and microbes from animals. When we breathe, drink, or eat something that is polluted or contaminated with something that is not healthy for us, scientists describe that as being exposed to an environmental hazard.

Ask

Now, can you name some living things? *[Encourage a lot of answers.]* All of these things that you named are living things and all of them are impacted by the environment around them.

3. Stayin' Alive:
Air, Water, Food, and Shelter *(10 minutes)*

Explain Do

If the environment is ***everything*** that affects a living thing and helps that living being survive, we need to figure out what we need in order to survive. *[Pass out **Visual Cards #1–6** to six students and ask them to represent that living thing—for each of the four necessary things, ask the student if it applies to the living thing on his or her card (e.g., What do frogs eat to stay alive? Do bees have shelters? Do whales need air?).]*

Do Ask

[Take a deep exaggerated breath.] What am I doing? Breathing! We need air to stay alive.

Ask

Who breathes more air, a child or an adult?

Explain

Children breathe more air then adults because they breathe more rapidly.

Ask

What did you do at lunch time? Eat and drink! We need food and water to stay alive.

Ask

Who eats and drinks more, adults or children?

Explain Do

Adults might eat more food, ***but*** children eat and drink more in relation to their body weight than adults. If a baby drinks a bottle of water and an adult drinks the same amount of water, the water takes up a much greater percentage of the baby's total weight than the adult's. *[Show **Poster #3** (Graphic of Baby and Adult).]*

Ask

That's a big difference isn't it? How else are the bodies of adults and children or babies different?

Prompts: Think about the changes that a kid goes through between ages 2 and 7.

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Explain

A lot happens to a kid in the 5 years between ages 2 and 7! The toddler grows taller, learns tons of new words, goes from walking just a little to running and playing games. And those are just the things that we can see. Inside, his or her organs and bones are growing and changing; the toddler's brain changes as he or she continues to learn.

Ask

Now think about an adult who matures from ages 30 to 35. Does an adult grow during this 5-year period as much as a child grows from ages 2 to 7?

Explain

Children develop and their bodies change in ways that adults don't. In fact, your brain and body is developing at a fast rate up until you're in your twenties. Some changes you can see and others you cannot. And remember, the environment includes everything around a child as he or she grows. If there are harmful chemicals or pollution in the environment, they will impact a child's development.

Ask

When was the last time you saw an adult playing in a sandbox? Or in the mud? Who plays on the ground more—adults or kids?

Explain

Children, your age and younger and older, play outside and they live closer to the ground. They also pick stuff up from the ground all the time, which can increase their chances of getting sick from the environment. Now this doesn't mean that kids shouldn't play outside! It just means that we need to be aware of harmful things around us so that we know how to avoid them. And it means that we all need to understand the causes of pollution and how we can help to prevent them.

Ask

Could you survive and thrive if you lived outside all the time? In winter? In thunderstorms during the summer? We need shelter from these things in order to live. And we need to think about the shelters that we create because in our homes, schools, or other places that provide shelter, there can be environmental hazards that can harm us.

Explain

Living things, like you and me and cats and insects and fish and the President, need four key things to stay alive: air, water, food, and shelter.

Ask

Are there other things that help us stay alive? *[Respond to the students' answers. They will likely give some answers that fall into the categories of air, water, food, and shelter.]* Are they things that we need or things that we want?

Ask

So, we need air, water, food, and shelter to stay alive, right? But what happens if we have water, but it's dirty? Or if we have air, but it's polluted? Or if we have food, but it's not nutritious? Or if we have shelter, but it makes us unhealthy? Do we still live?

Explain

Humans can adapt a lot and we can survive in the short term in environments that aren't healthy for us in the long term. We will spend the next couple of months learning how we can make our environment healthier. And we'll be focusing on the four big things you determined that we need to live today: air, water, food, and shelter. Let's start with the one we're standing in now—shelter!

4. The Big Four Search Activity

(10–15 minutes)

Do

[Take the students on a search to answer the following questions: Where do we see the four things that we need to live right here in our building? Where do we see examples in our area?]

[Keep a running list of all of the items that the class identifies. Start in the space that you're in and tell the students to start big: bricks, linoleum tiles, glass windows, metal supports, etc. Then go smaller: paint (How many layers? How do you know?), plastic molding, glass bulbs, wires, cables, etc. Smaller still: Open some cabinets; go into other rooms. Remind the students to think about the toddler—what would he or she put in his or her mouth? Encourage the students to get on their hands and knees so that they can see the world as a toddler might. Where does the water come from? Does this building store any food? Where? And how? How does air come into the building and go out?]

Explain

All of these things that you identified are part of our environment—we are in contact with them every day. This shelter helps us survive and thrive, but we usually don't stop to think about it and the things inside of it that we use every day. Just like the air we breathe, the water we drink, and the food we eat, we need to stop and ask if the places where we live and play and learn are healthy for us and, if not, we need to ask how we can change that.

Optional Activity: The Big Four Poster Creation *(10–15 minutes)*

Explain

Now that we know the four things that all living beings need, let's spread the word! Each of you (or in pairs) will make a poster that explains the four things we need to stay alive. Think about including drawings of different examples of these four things.

Do

[Pass out large sheets of paper and markers or crayons.]

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5. Close and Take-Home Talk

(10 minutes)

Explain Do

Close your eyes and take a nice deep breath. We've covered a lot today and I want to review it, but first let's talk about food!

Ask

If we want to make brownies, what things do we need?

Prompts: What ingredients do we need? Do we need to heat them? What would happen if we didn't include chocolate? Or if we didn't heat the ingredients?

Explain

All of the different ingredients come together to create delicious brownies. We can think about our environment in the same way—we need certain ingredients in order to live in a healthy way. Open your eyes. Can someone raise your their and tell me one of the four ingredients that we need to live?

Ask

Making sure that our environment is healthy—and has all of the ingredients that we need—is important to everyone, but it's especially important that the environment is healthy for babies and kids. Why?

Explain Do

Think about how big a baby is and how big an adult is. If a baby drinks a bottle of water and an adult drinks the same amount of water, the water takes up a much greater percentage of the baby's total weight than in the adult. *[Show **Poster #3** (Graphic of Baby and Adult).]* This is true for all of the things that we eat and the air that we breathe as well. And let's think about those babies; they are growing so fast and their bodies—all of their organs and muscles and their brains—are developing. If they don't get the healthy ingredients that they need, their growth and development can suffer.

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5. Close and Take-Home Talk *(continued – page 2)*

The coolest part about learning something new is sharing the knowledge. Tonight, when you get home, I want you to talk with your family about the things that we learned today. What will you tell them? Will you talk about the four big things that we all need in order to live? What are they again? *[Wait for the students to name them.]* Conduct a search of your shelter, your home—what materials can you see by looking closely? Where did those materials come from? How did they get there?

*[Pass out **Take-Home Talk**.]* This Take-Home Talk Sheet has some things that you can share with your family, and some activities that you can do at home. See what you can accomplish and we'll talk about it the next time we meet. We'll be talking more about shelter next time!