



Body Earth Metaphor

What Is It? A roleplay activity that uses the human body as a metaphor for the earth and the ecological crisis.

Why Do it?

- To explain how the human body is a really good model of the Earth. Just like the earth, your body is a living system made up of interdependent living systems.
 - To show how humans are an integral part of the Earth system because it is the sum of our planet's interacting physical, chemical, and biological processes.
 - To demonstrate the extent of energy and ecological destruction from:
 - i. Deforestation
 - ii. Toxics and pollution
 - iii. Damming of rivers
 - iv. Energy extraction and consumption for electricity, fuel
 - v. War and militarism
 - vi. Land use changes (industrial agriculture)
 - vii. Biodiversity loss
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Time: 30 minutes – 45 minutes

Materials needed:

- Articles of clothing: jacket, hoodie, puffy, hat, scarf, gloves, etc.
 - Additional props to represent different impacts
 - Volunteer(s)
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Directions:

1. Call up a volunteer (or select someone ahead of time). Make sure they understand that they are going to have to do some physical activity in front of the group.
2. Read the **Script Part I**.
3. Now have the person start doing some physical activity. Check in with them:
 - How are you doing?
 - How are you feeling?



4. Keep increasing the physical activity, and each time relate it to one of the causes of ecological erosion – deforestation and habitat loss, fossil fuel consumption for cars, industry, electricity; toxics and waste production from industrial activity (like drugs in the system), industrial agriculture and soil erosion.
5. Each time increase the activity and increase the layers of clothing. Mining and mountain top removal – which is an assault on the “skeletal-muscular system.”
6. At some point, when they are getting hot, ask them if they want some water – if they say yes, you say, “sorry – you can’t have any. Because as the Earth, every drop of water you have on and in you is all the water there is.
7. After they are exhausted – let them stop. Read **Script Part II.**

SCRIPT

PART I

(Speaking to the volunteer)

You, my friend, are the Earth. And in reality – that is a pretty accurate metaphor. Your body is a really good model of the Earth. The Earth is mostly water (and salt water at that) and so is your body. Your body is a living system made up of interdependent living systems, and so is the Earth.

And these living systems are crawling with living things that you can’t really see when you look at the whole body – or the whole Earth – but none-the-less, you can’t live without. Did you know that there are 10 times more “microbial”

cells than human cells on your body? We are a world of microorganisms.

This *(point to image of the sun)* is the Sun. So, how are you feeling right now? Are you comfortable? If you were standing up here naked, besides being a bit self-conscious, you’d also be a bit cold. You, just like the earth, have a pretty good sense of what “comfortable” feels like. You figured that out. So if you are the Earth, then the clothes you are wearing can be thought of as the atmosphere –just the right mix of nitrogen, oxygen, argon, carbon dioxide and water vapor to keep life happy.

PART II

How are you feeling? How’s your breathing? How are your muscles?

(point out sweating)

I am going to start with climate change, because it is a large-scale consequence of simultaneously disrupting multiple systems. When you have a 1 degree



fever, you are bumming it, but probably might still go to work. If you have a 2-3 degree fever, you are staying home in bed. If you have a 4-5 degree fever, you are very sick and someone needs to really attend to you – you are losing precious water quickly. If you have a 6-7 degree fever you need to be rushed to the hospital, because systems failure is around the corner.” **This is exactly true for the planet. 2 degrees doesn’t sound like a lot if you think weather, but it is HUGE if you think climate.**

As your systems are working harder and harder they are trying to help each other manage the whole of the body.

- *Your circulatory system*, which is the rivers, oceans that move oxygen and nutrients through the body are trying to cool you down, which is why you sweat, and why there is more water in the atmosphere and melting of ice as

the temperature rises – to cool the planet down.

- *Your digestive system*, and kidneys are just like the nutrient cycles of the planet – cycling energy into a usable form, but toxics and waste clog it up, just like junk food.
- *Your respiratory system*, which is the forests, that help circulate oxygen and carbon.
- *Even the skeletal-muscular system*, which is like the geological structures that other systems rely on (like mountains and valleys and ridges).

We are breaking down all the systems, they are all connected. And as everything breaks down, we become an unwelcome host to the living things on the planet who are also a core part of the system.

Further Notes:

The Earth’s system is the sum of our planet’s interacting physical, chemical, and biological processes. It includes the land, the oceans, the atmosphere and the frozen poles. It takes in the grand natural cycles through which vital elements like carbon, nitrogen, phosphorus and sulfur circulate around the planet; the movement of water between sea, sky, rivers and ice; the imperceptibly slow events deep beneath our feet that create and destroy continents and oceans.

Living things are part of the system too. For example, ocean plankton absorbs carbon dioxide from the air to make their shells; after death their bodies sink to the seabed, where that carbon is locked up for millennia in layers of sediment that are slowly compressed to make limestone.

Humans are no exception. We aren’t an outside force disturbing the natural order of things – we’re an integral part of the Earth system ourselves. But as our

societies have grown, the impact of our actions has increased too; we're now among the main causes of environmental change.

The human body contains over 10 times more microbial cells than human cells, although the entire microbiome only weighs about 200 grams

Human Systems and Planetary Systems:

Respiratory – lungs, cycling O₂ and CO₂ – Biodiverse intact forests

Circulatory System – heart (oceans), veins, arteries, capillaries – Oceans/Tide – rivers – (dams, pollution, changing acidity – cells are alkaline, digestive is acid) – ocean acidification is like making cells acidic – they will die. Rivers act as the planet's circulatory system. Like our body's circulation system, the planetary one doesn't work very well when it's clogged. If a river's flow is its heartbeat, then we humans are the heart disease. We've blocked most major rivers with dams, bled them dry with water diversions, and given up all too many once-great rivers for dead once we've used them up.

Digestive (including excretory) – the cycling of nutrients through the system – production, decomposition – the production of energy from sun – “waste” is expelled to become fodder for new production. CYCLES

Nervous – bio-cultural diversity helps regulate the system – moves messages throughout the system. These tie the different systems together (may be a stretch).

Reproductive – Endocrine – bio-chemical balance – toxics, which are endocrine disruptors – get into all the other systems. The “chemistry of the planet” is like the reproductive system.

Immune – when we mess with the system – when something is wrong, the immune system kicks in – causes us to have a fever, to sweat, to rid ourselves of the problem. This is really the emergent properties of all the Earth's systems responding to change.

Skeletal-Muscular – the GEOLOGY of the planet. When we blow up mountains to get coal, we not only add CO₂ – we compromise the structural integrity of the ecosystem. The mountains and valleys are what the other systems hang on. The skeletal and muscular system is how the other systems flow and depend on.

The composition of the atmosphere creates the climate we experience on earth.



- Water Cycle – How water moves through the system.
- Carbon Cycle – How carbon moves through the system.
- Life Cycle – How living things move throughout the system, from birth through death and returning to the system as energy.

More than 50,000 large dams now choke about two-thirds of the world's largest rivers. The consequences of this massive engineering program have been devastating. Large dams have wiped out species; flooded huge areas of wetlands, forests, and farmlands; displaced tens of millions of people, and affected close to half a billion people living downstream. Large dams hold back not just water but silts and nutrients that replenish farmlands and build protective wetlands and beaches. Dams change the very riveriness of our waterways, in ways we can't always see but that the earth can certainly feel.