Biosphere Nesting Boxes

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You will need: Biosphere Nesting Boxes
or cardboard nesting boxes with pictures glued on front

Purpose: To understand the concept of a biome within the context of the galaxy, the solar system, and the life contained within it.

Close your eyes and imagine yourself in deep dark space. This space is empty of air and light and it goes on in all directions forever and ever. Imagine that you are moving through this space and ahead you see light. As you get closer, you see that the light is coming from a cluster of millions of stars. The stars are clustered together in the shape of a spiral. This is the Milky Way Galaxy. Open your eyes now. There is one particular star in this galaxy and if you move closer to it, you will see that it is our sun with planets in orbit around it. This is our solar system. (Lift the largest box to reveal the box within. Place the largest box to the side) *One of those planets is just the right distance away so that it does not get too hot or too cold to support life. That planet is our Earth.* (Lift the solar system box to reveal the box within. Place the solar system box on top of the galaxy box.) *The earth has water and large areas of land. The biosphere is all life on Earth. Life can be only where there is liquid water. The biosphere has created the oxygen atmosphere with the exchange of gases and continues to maintain it.* (Lift the biosphere to reveal the biomes.) *Within the biosphere are the biomes. Biomes are large areas that have a similar climate and plant life. The animals and plants that live there have specific adaptations to that place.* (Lift that box to show the ecosystem box depicting a woodland scene.) *Inside of the biomes are the ecosystems. The ecosystems are smaller and they include all the lifeforms in that space along with the soil, the air, the water, and the energy from the sun.* (Lift that box to reveal the poplulation box showing two plants and two animals of the same species.) *Within the ecosystem, there are different species of plants and animals along with other living things. Each kind of life form has a population or a certain number of its kind.* (Lift that box from the individual box within showing one of the plant and one of the animal.) *The population is made of different individuals with characteristics that help them to survive. Those individuals will be the ones who reproduce and carry that trait to the next generation.* (Lift that box to show the box depicting the organs and tissues of both plant and animal.) *Within each individual, are the tissues and organs that have different functions within the plant or animal. For example, plants have roots and animals have organs to digest food.* (Lift the organ box to reveal the cell, placing the organ box on top of the individual box.) *Within those organs and tissues are the cells that are the smallest unit of life. Cells can reproduce themselves.* (Lift that box and reveal the atom box within.) *Within the cells are the atoms. Four different atoms: carbon, nitrogen, oxygen, and hydrogen are the ones central to life on earth.*