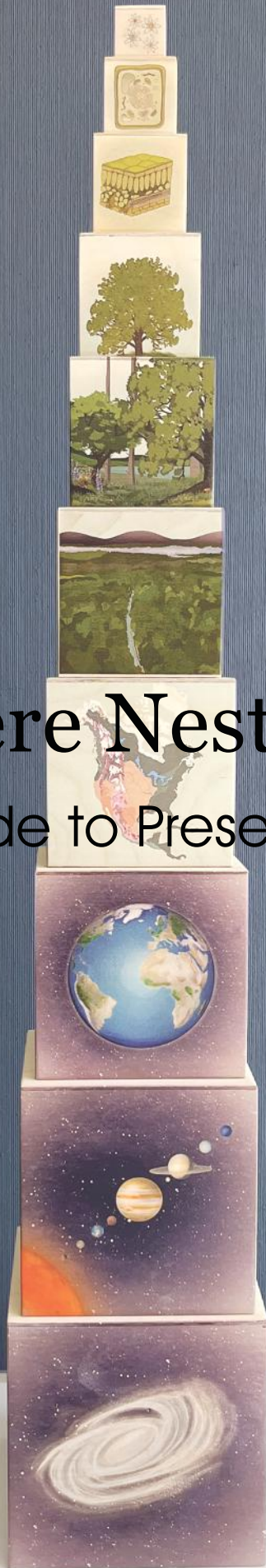


Biosphere Nesting Boxes

Guide to Presentation



Biosphere Nesting Boxes

(suitable for children 6 to 12 years of age)

Contents of Biosphere Nesting Boxes:

- 10 nesting boxes with wooden labels
- Command cards on three levels with wooden command card box

Additional Related Products:

(sold separately)

- Introduction to the Biomes with Curriculum - Elementary

Guide to Presentation

Table of Contents:

Initial Presentation	1
Command Cards	2

Initial Presentation

You will need: Biosphere Nesting Boxes and wooden labels

Purpose: To introduce the concept of how a biome connects with the whole from the Universe to the atom.

Gather the children and bring out the Biosphere Nesting Boxes.

Guide: Close your eyes and imagine yourself in deep dark space. The space is blacker than the blackest night 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.

Show them the Milky Way Galaxy box and label it.

Guide: 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.

Lift the Milky Way Galaxy box to reveal the Solar System box within and label it.

Guide: One of those planets is just the right distance away from the Sun 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 Earth (biosphere) box within and label it.

Guide: The Earth has water and large areas of land called continents. 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 Earth (biosphere) to reveal the biome box and label it.

Guide: 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 and label it.

Guide: 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 population box (showing two plants of the same species and two animals of the same species) and label it.

Guide: 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 to show the box with individuals (one of the plant and one of the animal) and label it.

Guide: The population is made of different individuals with characteristics that help them 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 and label it.

Guide: Tissues and organs that serve different functions for the plant or animal are within each individual. 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 and labeling it.

Guide: Within those organs and tissues are the cells. Cells are the smallest unit of life. Cells can reproduce themselves.

Lift that box to reveal the atom box within and label it.

Guide: Within the cells are the atoms. Four different atoms: carbon, nitrogen, oxygen, and hydrogen are the ones central to life on Earth.

After the initial presentation, this work can be done individually. The tower can be built horizontally or vertically with the appropriate labels placed beside the boxes. They may be placed on the shelf for two students to begin work on the Command Cards together.

Command Cards

You will need: Biosphere Nesting Boxes and wooden labels, Command Cards on three levels for the Biosphere Nesting Boxes, access to research materials such as atlases, books, and the internet, pens and paper/notebooks to record the research

Purpose: To further explore the concept of a biome, and the life contained within it, in the context of the Solar System and the galaxy. To investigate the systems within our Universe, the subsystems they may contain, and the connections between them.

The Command Cards are designed with three levels of difficulty. Students should begin with the first level and work their way through the cards' increasingly complex and research-oriented tasks. These Command Cards are great to have children work in pairs to take turns reading a card and answering the questions. You will find many extensions for exploring beyond the structure given by the Biosphere Nesting Boxes. Remember that it is important to stress the relationships between the systems they are exploring through the Command Cards.

1. Have a pair of children build the Biosphere Nesting Boxes tower (it can be built horizontally or vertically) and label each box.
2. Have the child pick a command card and ask the other child the question. They can work cooperatively to find the answer.
3. Have the pair work through all of the Level One Cards alternating who is asking the questions before moving on to Level Two.
4. Once familiar with the Level Two cards, have the child work independently, or with the partner, through the rest of the Level Two cards.
5. The Level Three cards present the most creative and challenging research prompts. The child can work independently through those cards or with a partner.