

Chapter One

Living and non-living things



Day One:

Today, you and your child will:

1. Read the text
2. Review the text with your child
3. Complete the student worksheets
4. Collect the materials you will need for days two and three

National Science Education Standards covered this week:

Organisms have basic needs. For example, animals need air, water, and food; plants require air, water, nutrients, and light. Organisms can survive only in environments in which their needs can be met. The world has many different environments, and distinct environments support the life of different types of organisms.

Definitions

Organism	any living creature on the planet
Biotic	all living or deceased organisms are biotic objects
Environment	"everything in the world"
Reproduce	to be able to make another organism of the same kind
Abiotic	nonliving objects in the world
Nutrients	another word for "food"
Resources	the basic things an organism can use every day to survive
Population	a group of similar organisms

Sample questions to ask your child after completing the weekly reading.

What kinds of resources do plants and animals need?

All plants and animals need air, water and food/nutrients to survive.

What is the difference between living and nonliving objects?

Living objects can use food, grow, react to changes in the environment, reproduce, breathe and/or move. Nonliving objects cannot do all of these things.

What do you think is more important, living or nonliving things?

They both are equally important. The air we breathe is a nonliving object, but without it, we could not live. Not all of our resources are living things so they are both very important.

Do you live in an environment?

Yes. Since you and I both exist in the world, we are definitely living within an environment.

Answers to worksheet questions:

Page 1:

- 2 - biotic
- 6 - population
- 8 - resources
- 7 - reproduce
- 5 - organism
- 3 - environment
- 4 - nutrients
- 1 - abiotic

Page 2:

- 1. B
- 2. C
- 3. B
- 4. C
- 5. C
- 6. B

Page 3:

Biotic objects in the picture may include the fisherman, birds, fish, plants and the worm.

Abiotic objects include the fishing rod, clouds, can, hook, fishing line, rock and the water.

Day Two:

Today, you and your child will:

1. Review Day One using the following text
2. Run the first activity this week

The following text will give you the most important items to review for your activity today.

Biotic (living) objects are very different from abiotic (nonliving) objects.

Biotic objects can do the following:

- use food
- grow
- react to changes in your environment (this is a big word that means "everything in the world")
- reproduce (to reproduce, an organism must be able to make another organism of its own kind)
- breathe
- and move

Touchy feely science in a box

Objective:

The child will be able to identify living (biotic) and non-living (abiotic) objects by only using their sense of touch.

Materials:

One shoe-box, opaque bag, etc...

One handful of rocks

One handful of fruits, vegetables, flowers, etc...

One handful of metal objects (screws, bolts, etc...)

One handful of leaves

You can add anything you like. Use your imagination!

Procedure:

Place all of your objects into your box or bag and keep it closed.

Allow your child to reach in and feel one object.

Have them describe what the object feels like and write these descriptions down on the enclosed worksheet.

As each object is removed from the box/bag, write down their names on the worksheet and have the child identify whether or not the object is biotic or abiotic by checking the correct box on their worksheet.

Explanation:

The rocks and metal objects are good examples of abiotic resources; the fruits, vegetables, flowers and leaves are all examples of biotic factors. Remember, even if your object was once alive (but it is now dead.) it still would be called a biotic factor! To be an abiotic factor, you cannot have ever been alive at all. If the child is unsure about an object being biotic or abiotic, have them look at the list of questions at the bottom of their worksheet.

Touchy feely science in a box

Describe the object in your hand.	What is the name of your object?	Is your object a biotic factor?	Is your object an abiotic factor?

Does the object use food, grow, react to changes in your environment, reproduce, breathe, or move? **If your object cannot do any of these things, you probably have an abiotic object!**

Day Three: Lab Activity

Today, you and your child will:

1. Review Day One using the following text
2. Run the first activity this week

The following text will give you the most important items to review for your activity today.

All groups of similar organisms (known as a population) need air, water, and food/nutrients to survive. These needs are known as resources.

Biotic (living) objects are very different from abiotic (nonliving) objects. Biotic objects can do the following:

- use food
- grow
- react to changes in your environment (this is a big word that means "everything in the world")
- reproduce (to reproduce, an organism must be able to make another organism of its own kind)
- breathe
- and move

Graphing life

Objective:

The child will be able to identify living (biotic) and non-living (abiotic) objects from many different sources.

Materials:

Newspapers and/or magazines with lots of pictures to cut out

Scissors

Pencil/pen

Glue

Paper

Procedure:

Divide the sheet of paper in half, lengthwise, by either drawing a line or folding it in half. Label one half of the paper "biotic objects" and the other side with "abiotic objects".

Have the child search through newspapers or magazines for small pictures to cut out. For an extra challenge, take your child outside to collect small items from around your home.

Inform your child that these items will be pasted onto a sheet of paper that has been divided in half.

Before these items are pasted, however, your child must first place them on the correct side of the paper. Ask them if "their item is a biotic or abiotic object?"

Explanation:

You may need to remind them that even if an object was once alive (like the wood surrounding a pencil, or the grain that was used to make a noodle...) it is still considered to be a biotic object. Since most living things require the same resources to survive (food/nutrients, water and air) this would be an excellent time to review these basic needs.

After each of their items is correctly identified, paste them onto the correct side of your graph. If your child chooses a picture of a group of organisms, you can take this opportunity to remind them that a **population** is a group of similar organisms living in the same area (like a herd of deer, or a small patch of grass...)