

Natural or Not?



Learning Objective

There are two basic types of objects – objects that occur naturally in the environment and objects that are manufactured or human-made. Objects can be described and classified by their properties and uses. Students will learn to distinguish between the two types and be reminded that all objects that we use in our everyday lives come from natural resources.

SUCCESS CRITERIA

Student will be able to say “I can identify objects by their properties, uses and whether they occur naturally or are human-made.

BACKGROUND

Ultimately, everything we use comes from our natural resources – materials that occur naturally in the world. It is important that we learn to recognize the difference between these objects. Human-made objects are made of natural objects that through some human manufacturing process or chemical process have been changed into another object. This is the first step in recognizing the importance of our natural resources.

PREPARING TO TEACH

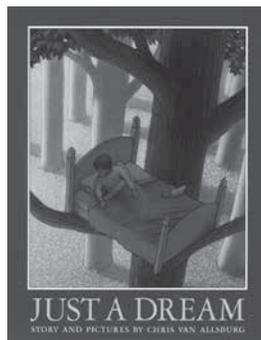
- i. **Gather a variety of objects produced by nature and objects made by humans.** These items will be used by students to classify into two categories – natural or human-made.
- ii. **Create signs for each category: NATURAL and HUMAN-MADE.**
- iii. **Use graphic organizer to classify objects into appropriate category.**



Present the Lesson

ENGAGE

Read aloud *Just a Dream* by Chris Van Allsburg. It is a story about a boy who litters, doesn't recycle and makes fun of his neighbor that cares for the environment. He longs to live in the future where life is easier and full of helpful robots. One night, he dreams of the future, but it's not filled with the robots and machines to make life better. Instead it's filled with the results of his careless choices.



FOR EXAMPLE



A steel can is considered a human-made item. It is made from the natural iron ore pictured above. Other examples of human-made items include pencils, paper and aluminum cans.

Likewise, a glass container is considered to be human-made, while sand is its natural component.



A newspaper – a human-made object – is made from the fiber of a tree – a natural resource.





FOR EXAMPLE



Bees wax is the natural resource commonly used to make candles.

Place a variety of items from the story on a table in front of the students. Ask students to group items into two piles – one that contains natural items and the other that has human-made items. This can be done as a group demonstration.

- 1. Hold up items one at a time and ask students to explain why the item was placed in the natural or human-made group.** Have students discuss what it means to be human-made or natural. Take time to discuss the different objects. Have students justify their reasoning for why an item was placed in a certain category. Place all items in the correct category. Have students give reason for any changes that needed to be made.



- 2. Create a class definition of natural and human made based on the characteristics and properties that were discussed.** Use the Frayer Model graphic organizer to list definition, examples, non-examples and illustrations. This is done together as a group.
- 3. Have students complete a Frayer Model for Natural and for Human-made.** (See below.) Students will put this into their science journal or create an anchor chart.

Frayer Model

The **Frayer Model** is a strategy that uses a graphic organizer for vocabulary building. This technique requires students to 1) define the target vocabulary words or concepts and 2) apply this information by generating examples and non-examples. A simple way to may your own Frayer Model is to fold a piece of paper in half twice, then fold the center-most corner. Unfold the piece of paper and follow the folds for your model.

Definition in Your Own Words	Facts/Characteristics
Examples	Non-examples

Word

GUIDED PRACTICE

- i. **Remove all the items off of the table and place them in a box.** Ask a student to remove an item from the box and place it in the correct group – natural or human-made. Have students give an explanation why they are classifying that item. Continue until all items have been categorized. Teachers could use a Venn Diagram (provided) to sort items.
- ii. **Arrange students in groups with several items that were not used during the class discussion.** Circulate through each group discussing with students their thinking regarding how they sorted the materials. One suggestion might be to have students use their senses of touch and smell only to identify natural from human-made items. Students could construct explanations about the classification. Use a Venn Diagram or two-column T-chart to classify items.

CLOSURE

All objects that we use come from natural resources. Natural resources are materials that naturally occur in the world. Objects are either natural or human-made. Objects that are human-made went through some type of human manufacturing process and have been changed into another object other than the natural one. Have students say, “I can describe objects and classify them as natural or human-made.”

Students can write in their journals or science notebooks “construct an argument that proves these items: _____, _____ and _____ are either natural or human-made.”



ON THE WEB

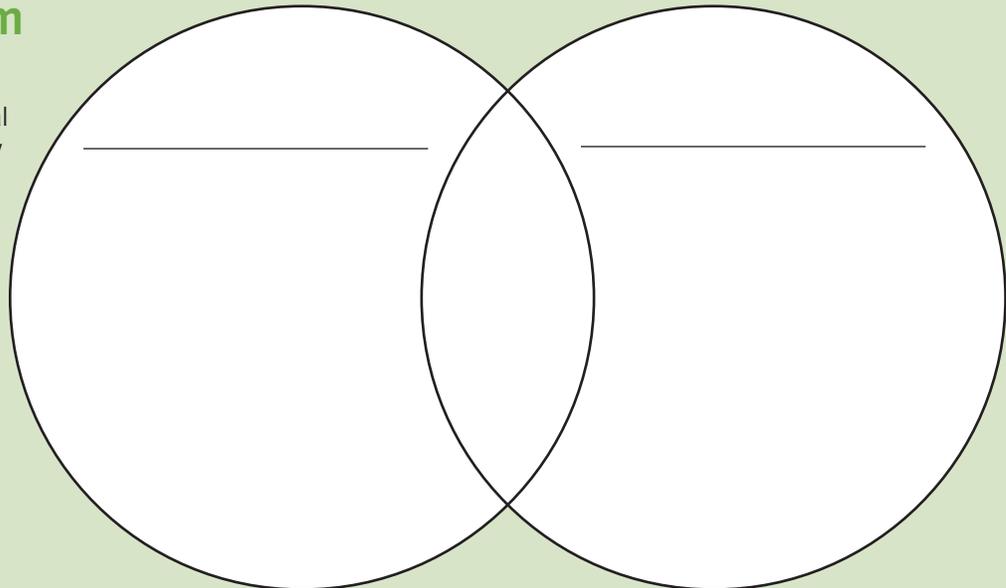


For more resources related to this lesson, visit this website – www.twinkl.co.uk/resource/t-t-7727-natural-or-man-made-materials-sorting-activity – if computer access is available.

This sorting activity will get your students thinking about the natural and man-made items we use every day.

Venn Diagram

A **Venn Diagram** represents mathematical or logical sets pictorially as circles or closed curves within an enclosing rectangle (the universal set) with common elements of the sets being represented by the areas of overlap among the circles.





FOR EXAMPLE



Cotton is a plant used to make many types of fabric and garments.



Petroleum is used to make plastics including water bottles and paraffin wax for crayons.



The sap from rubber trees is used to make products like automobile tires.



INDEPENDENT PRACTICE

- i. **Give students several picture cards with words and pictures.** They will need to classify each into the appropriate group. Natural or Human-made. Online activity to show understanding could be done. (See ON THE WEB.)
- ii. **Ask students to bring one object from home** or go on a classroom search for items and share their thoughts about why the object was natural or human-made.



Extension Activities

- i. **Take a nature hike** and have students collect samples of natural materials such as leaves, rocks, etc. Make a classroom poster of natural items.
- ii. **Make a “mystery box” by cutting a hole in a box just big enough for a child’s hand.** Put an object in the box. Instruct students to try to determine by touch alone whether the object is natural or human-made. Change the item often and keep the box in your learning center with the other display.
- iii. **For more advanced students,** you might want to discuss the concept that sometimes an object such as a pencil can be both natural and human-made.
- iv. **Make a “Natural and Human-made” display** for other classes in your school.



S.C. Science Standards for Grade K

K.P.4:	The student will demonstrate an understanding of the observable properties of matter.
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CONCEPTUAL UNDERSTANDING

K.P.4A.	Objects can be described and classified by their observable properties, by their uses, and by whether they occur naturally or are manufactured (human-made). Different properties of objects are suited for different purposes.
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INDICATOR

K.P.4A.2	Develop and use models to describe and compare the properties of different materials (including wood, plastic, metal, cloth and paper) and classify materials by their observable properties, by their uses and by whether they are natural or human-made.
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PRIMARY SCIENCE AND ENGINEERING PRACTICE (SEP)

K.S.1A.2	Develop and use models to: 1) understand or represent phenomena, processes, and relationships; 2) test devices or solutions; or 3) communicate ideas to others.
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SOURCE: South Carolina Academic Standards and Performance Indicators for Science, http://ed.sc.gov/scdoe/assets/file/agency/ccr/Standards-Learning/documents/South_Carolina_Academic_Standards_and_Performance_Indicators_for_Science_2014.pdf, pp. 5-10.