

Lesson plan for: Science-Unit: Earth and Me

Lesson 6: Uses of Materials Taken from the Earth (Day 2)

Date: February 4, 2014

Benchmark/Core Standards:

E.ES.03.41 Identify natural resources (metals, fuels, fresh water, fertile soil, and forests).

E.ES.03.42 Classify renewable (fresh water, fertile soil, forests) and non-renewable (fuels, metals) resources.

E.ES.03.51 Describe ways humans are dependent on the natural environment (forests, water, clean air, Earth materials) and constructed environments (homes, neighborhoods, shopping malls, factories, and industry).

E.ES.03.52 Describe helpful or harmful effects of humans on the environment (garbage, habitat destruction, land management, renewable, and non-renewable resources).

Objective for this lesson:

Identify natural resources (materials taken from Earth) and their uses as manufactured products.

Key Questions:

How do we use natural resources?

What natural resources are used in manufactured materials?

Anticipatory Set:

In previous activities students have explored the properties of the earth materials: rock, mineral, gravel, sand, silt, clay, and soil. In this activity students will explore **how we use materials** (natural resources) that are taken from the Earth.

Engage: Review the book, Weslandia that we read together on Friday. Allow the students to recall how Wesley used the plant from his garden as a natural resource (uses of the plant for food, clothing, shelter, transportation, etc.).

Make a connection with Wesley's story. Briefly discuss natural resources and other materials/items that students use every day.

Direct Instruction:

Explore- Tell the students that today they are going to be investigators. With their science team members (6 groups with 4 students in each) they have a mission to separate the cards they have been given into TWO categories (look at the pictures, how are they alike, how are they different).

Note: I will not hint to what the two categories should be for this particular lesson (natural resources and manufactured materials). I will walk around to monitor what students are talking about and to ask them questions (e.g. "Why did you put these cards together? How are they different from the cards you put over here?").

Explain- Have one student from each group post a photo of their cards onto Padlet once they have separated them into two categories (the link to the Padlet wall will be emailed to the students). Discuss with the students the differences and similarities in the ways each group categorized the cards.

On the promethean board, display the chart created separating the cards they were given into the two categories of **Natural Resources** and **Manufactured Materials**. Explain and discuss the definitions of natural resources and manufactured materials. (Natural Resources are any material from the Earth that humans use./ Manufactured Materials are things that humans make using natural resources). As a whole group, match each manufactured material to its corresponding natural resource (the natural resources that was used to manufacture/create it).

Guided Practice:

Elaborate- Introduce the idea that natural resources can be either a renewable resource or a non-renewable resources based on the understanding that renewable resources come from living things because they have the ability to grow again or reproduce. Non-renewable resources do not reproduce and we cannot get more or replenish because these resources take a very, very long time or are impossible to remake.

Set up a display of natural resources and their manufactured objects by having the following materials for the students to view: cup of sand, glass baby food jar/ cup of wood pulp chips, piece of paper.

Ask the class if sand is a renewable or nonrenewable resource? (non-renewable because it is not living and takes hundreds to thousands of years for rocks to weather down into sand particles). If we know that sand is the nonrenewable natural resources used to make glass, should we recycle glass? (yes because we can't grow sand to make glass whenever we need it).

Ask the class if the wood chips came from a renewable or nonrenewable resource? (renewable because they came from the bark of a once living tree). We know that wood chips are the renewable resource used to make paper, but just because we can plant trees at any time, they still take time to grow and we must be careful of how many we cut down. This is a great reason why we recycle paper.

Closure: Have the students gather all materials and place them back into science bin.

What was our BIG Idea today? (natural resources and how we use them daily)

Independent Practice: Exit Slip

Write two different things you used today. Identify each item as a natural resource, manufactured material, or both. * Do not forget your name.

Materials required:

-book: Weslandia

-6 science bins (1 per group of 4 students) containing: a set of the Natural Resource/ Manufactured Materials cards and a placemat divided into 2 columns to set them on
*created by me

-Natural Resources/Manufactured Materials Matching Worksheet (only for teacher to display on promethean board) *created by me

-1/2 cup sand

-1/2 cup wood pulp chips

-1 glass baby food jar

-1 piece paper

Self-Reflection/evaluation: