

Unit 1 (Materials): Our Material World

Concept

There are many different materials around us.

Content Objective

Explore school to collect, observe and analyze materials.

Language Objectives

Students will learn new vocabulary regarding materials (e.g., wood, glass, plastic) and their characteristics (e.g., rough, smooth, cold, hard).

Students will use materials vocabulary to name and describe the materials in their school surroundings to their partners.

Students will orally share ideas using sensory vocabulary specific to materials and their characteristics.

Students will use invented spelling to cooperatively sound out and use at least one characteristic for each sensory category, describing one or more materials.

Standards

- **NGSS:**

- **K-2-ETS1-1.** Ask questions, make observations, and gather information about a situation people want to change to define problem that can be solved with a new or improved object or tool.

- **TEKS:**

- **2C** collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools (collect data with tools)
- **2D** record and organize data and observations using pictures, numbers, and words (organize data)
- **4A** collect information using tools, including computers, hand lenses, primary balances, cups, bowls, magnets, collecting nets, and notebooks; timing devices, including clocks and timers; non-standard measuring items such as paper clips and clothespins; weather instruments such as demonstration thermometers and wind socks; and materials to support observations of habitats of organisms such as terrariums and aquariums (use tools)
- **5A** observe and record properties of objects, including relative size and mass, such as bigger or smaller and heavier or lighter, shape, color, and texture (prop of objects)

- **ELPS:**

- **Listening 2C:** Learn new language structures, expressions, and basic and academic vocabulary heard during classroom instruction and interactions [auditory syntax & lexicon]

- **Speaking 3B:** Expand and internalize initial English vocabulary [Oral Lexical Development]
- **Writing 5B:** Write using newly acquired basic vocabulary and content-based grade-level vocabulary

Suggested Literature Connections:

“Beautiful Oops!” by Barney Saltzberg

Materials:

To show: wooden, glass, china, plastic, aluminum, and paper plates or spoons

To dissect: (Collect as many as possible) Brick, cinder block, T-shirt, grass, steel nail, old sneaker shoe, pencil, paper clip, cookie, old glue stick, cereal box, foil, etc.

To use: Wooden popsicle sticks, hand lenses

Suggested Activity Centers

- **Sorting:** Students sort and organize materials into categories
- **Collage:** Students identify and cut pictures from magazines and catalogs of items made of wood, plastic, glass and metal.
- **Reading/Listening:** Provide books and tapes about what things are made of.
- **Art:** Paint a picture of a wooden car, or a glass house.
- **Cooking:** Sort kitchen tools and equipment into materials; sort other housekeeping equipment into materials.

Day 1: Engage/Explore Materials: Our Material World

Teacher Says/Does	Student Says/Does	Language requirements
<ol style="list-style-type: none"> 1. <i>Preparation:</i> Make sure that students can name and have experience with different materials like wood, paper, plastic, etc. 2. <i>Whole Group:</i> Hold one set of different objects such as those on the list and ask the students what they think the things are made of and where they came from. 3. Explain that we use the word, "MATERIALS" to mean the stuff of which objects are made. 4. Share different materials, identifying their characteristics with students. <ul style="list-style-type: none"> • E.g. Hold up a plate, asking the children to tell how they use materials like that at home. E.g. for cooking or eating. Ask children about the characteristics of the material and have them share orally with a partner. <i>What color is it? What is the texture? How does it feel? Is it bendable/breakable?</i> Let the students feel each object, and talk about things children see around them that look like the materials in each object. • E.g. Hold up a piece of cloth, such as from your clothing. Ask the children if they see plates or spoons made of that material. <i>Why don't we make plates of cloth?</i> Hold up a rubber band or ball. <i>Do we make plates of rubber? Why or why not?</i> Key concept: Plates or objects you have shown them are made of materials we see everyday. Brainstorm a list of other materials on chart paper that can be added to throughout the module. 	<p>Students talk with partners about the characteristics of the materials. After 30 seconds-1 minute, some students share their ideas in the whole group.</p>	<p>Vocabulary: materials</p>

Teacher Says/Does	Student Says/Does	Language requirements
<p>5. Give each student a popsicle stick and go on a walk around the inside and outside of the school. Ask students to find out how materials sound when tapped by the popsicle stick, and how materials feel and smell. Model the use of the sentence frame. Collect some pieces of interesting material to analyze.</p> <p>6. While exploring, collect students' words, ideas to add at end.</p> <p>7. Complete Graphic Organizer Web (handout (K.1.1)) as a class brainstorming the materials students observed on the walk.</p>	<p>Students touch and talk about the surfaces and materials they see during the walk.</p>	<p>Sentence frame: I'm going to tap, tap, tap, feel, feel, feel, hear, hear, hear _____.</p>

Day 2: Explain/Elaborate *Materials: Our Material World*

Teacher Says/Does	Student Says/Does	Language requirements
<p>1. <i>Review the Web:</i> Hand out extra cutouts from the Collage Center (one of the Activity Centers). Model the process of adding them to the web handout (K.1.1).</p> <p><i>Treasure Hunt:</i> Explain that the students will go on a treasure hunt for different materials around the classroom (or school/playground). Review your expectations for safe and respectful conduct. In pairs, students either draw or record their observed materials (e.g. pebble, railing, door, doorstep) using “Materials Graphic Organizer” handout (K.1.2).</p> <p>2. <i>(Guided) Partner Presentations:</i> When the students have returned from the treasure hunt, explain that they will present a material. Model the process using a sentence frame with specific vocabulary words.</p> <p>3. While the student pairs present, pose questions like: <i>What is the material called? Where did you find it? What is it made of?</i> Teachers will also want to think with students about how to categorize objects made of multiple materials.</p>	<p>Individual students match their cutouts to words/images on web.</p> <p>Students in pairs will hunt for different materials around the classroom: [find: plastic, wood, metal, paper, glass, fabric, rubber].</p> <p>Each student pair presents one found or identified material.</p> <p>Students in the audience can ask also questions of the presenting group.</p>	<p>Vocabulary: <i>plastic, wood, metal, paper, glass, fabric, rubber.</i></p> <p>We found a _____, and it is made of the material _____.</p>

Day 3: Evaluate *Materials: Our Material World*

Teacher Says/Does	Student Says/Does	Language requirements
<ol style="list-style-type: none"> 1. Read aloud the book, <u><i>My Senses: how do things feel, look, smell, sound.</i></u> 2. Present tools for exploration: “Scientists use tools (e.g. hand lenses and popsicle sticks) to gather data describing the characteristics of materials.” 3. Model exploration of one material: (See Senses Graphic Organizer handout (K.1.3)—talk through each sense and the characteristics you observe using each sense—less taste) <ul style="list-style-type: none"> • Incorporate one pair share after each sense—e.g. turn to your neighbor and “feel” a material around you (touch the cloth on your pants). <i>How does it feel/smell/look/sound?</i> 4. <i>Table Groups:</i> Divide the class into groups and give each group a basket of 3-5 materials. How can we describe the material? Teacher may facilitate group discussion by asking prompting questions, e.g., How does ____ sound when you tap it with the stick? How does it feel under your finger? 5. Explain that each group will present one material. Ask questions like: How does it feel/look/sound/smell? Record the students’ observations on the class anchor chart (Figure 1 below). 	<p>Students talk about an example of the sense in question.</p> <p>Students explore different materials, paying attention to the material properties using their various senses.</p> <p>Student groups analyze the material using their senses and tools.</p> <p>Each group presents one material they studied. They highlight the material properties according to their senses.</p>	

Figure 1 *Materials: Our Material World*

Type of Material	Characteristics of Material			
	Looks like	Sounds like	Smells like	Feels like
				

Name: _____ Date: _____

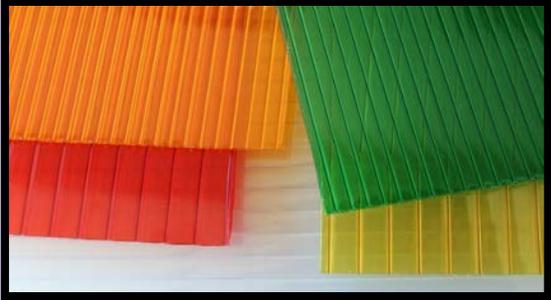
Graphic Organizer Walk Web:

Write down the materials you saw on the walk.



Names: _____ Date: _____

Materials Graphic Organizer:

Type of Material	Properties
Glass Wood Plastic Metal Concrete Paper	Breaks Strong Pings Bends Flexible Elastic (Stretches)
	
	
	
	

Type of Material	Properties
Glass Wood Plastic Metal Concrete Paper	Breaks Strong Pings Bends Flexible Elastic (Stretches)
	
	

Name: _____ Date: _____

My Senses Graphic Organizer

