

Three Little Pigs with Three Little Structures	Grade 1 Structures and Mechanisms
<h2 style="color: #1a3d54; margin: 0;">Materials, Properties, and Structures</h2>	
<p><b>Big Ideas</b>          Learning about various kinds of materials and their properties, and why we use certain materials in different structures.</p>	<p><b>Specific Expectations</b>          D2.1: describe objects as things that are made of one or more materials          D2.3: identify structures that are objects designed to support a load, including those acting as supporting frameworks for objects  <b>D2.6:</b> identify properties of materials that enable the objects made from them to perform their intended function  <b>Extension:</b> A1.2: use a scientific experimentation process and associated skills to conduct investigations</p>
<p><b>Description</b>          Students will move through 3 activities with group discussion in between. The first is having students identify what materials different objects and structures are made of, with a discussion on why they might be made with those materials. The second activity will have them explore the properties of the materials of different objects and structures around them, discussing why those properties are helpful to that object/structure’s function. Finally, students will explore the function of the materials used in buildings through the lens of <i>The Three Little Pigs,</i>” as well as using a scientific experimentation process to explore other building materials and their properties.</p>	
<p><b>Materials</b></p> <ul style="list-style-type: none"> <li>- Rocks, sticks, and straw (or paper straws if you don’t have access to straw)</li> <li>- Any materials you have for students to explore: Lego blocks, paper, drinking straws, plastic sheets, and/or any other materials for students to experiment with</li> <li>- Cups of water (1 per station)</li> <li>- Trays (1 for each material you have/ each station)</li> <li>- Activity #1 printouts (enough for small groups, or however the teacher sees fit)</li> <li>- Activity #2 printouts (enough so that each student has at least a few words each)</li> <li>- Roll of tape</li> <li>- Pencil crayons</li> <li>- Slideshow provided</li> <li>- Optional: a copy of <i>The Three Little Pigs</i> (links in additional resources below)</li> </ul>	

## Introduction

**Slides 1-2:** Open by talking about the story of *The Three Little Pigs*. Ask the students what they know about the story, and if you have a copy, read it to them. Introduce the topic of structures and materials if the unit is being started.

**Slides 3-6:** Go over the vocabulary that will be used in the following lessons. Use the definitions on the slides, talk about them with the class, use examples, and use other words to define them.

- Materials
- Properties
- Structures
- Purpose or function

**Slide 7:** Have a class discussion about what kinds of materials they can see around them. Start off with some examples that can be seen easily around the room (i.e., The books are made of paper. Can you see anything else that's made of paper?).

## Action

**Slide 8:** Activity #1 What is it Made of?

Before the lesson, print out the handout document for activity #1, and cut out the objects on pages 9-13 (page 13 has blank sections for either the teacher or the students to add their own objects at the end of this activity). There are instructions on the handout as well.

Either in small groups or as a class, sort the objects into the categories on pages 1-8 of the handout. Some objects will be able to go in multiple categories, so these can be used as extra challenges for those who need them or can be done as a class to have a group discussion.

**Slide 9:** Activity #2 Describing Materials

Before the lesson, print out the handout document for activity #2, and cut out the words. Some of the adjectives may or may not apply to your students/classroom, so you can select which you would like to use.

Read the words with the students to ensure that they understand them. Use examples of everyday objects that might fit that description. Explain that these words are all properties of different materials.

Students will then (individually or in partners), use tape to tape the words to different objects in the room that fit that description. As a class, look at what properties were put

where and discuss. Have a class discussion about why those materials might have been used for that object or structure. For example, a desk needs to be made from a smooth, hard surface so that we can write on our desks easily.

**Slide 10:** Scientific Experimentation Process

Set up stations around the classroom for different materials. Each station should have a tray with one of the materials (listed in the materials list above) and a bit of water. The students will go around the room to experiment with the different materials. This activity can be adjusted to suit the needs of your students/classroom. Periodically pause the group, asking the students the questions on the slides:

- Is your material hard or soft?
- Can you build with your material or is it too tricky?
- Does water roll off your material or does it absorb water?
- Does your material feel rough or smooth?
- Is your material squishy or hard?

**Consolidation/Extension**

**Slides 11-16:** Going back to the story of *The Three Little Pigs*, go through each pig's house-building material and discuss what the properties of that material are, and then whether the students think that it would be a good material to build a house out of, based on its properties.

**Slide 17:** Any questions or further discussion from the students.

**Additional Resources**

[The Three Little Pigs book](#)

[Les trois petits cochons- livre](#)

Slide show and handouts are provided on the Science North website.

Presentation Three Little Pigs with Three Little Structures

Activity #1 What is it Made of

Activity #2 Describing Materials