

Big Idea: Man Made vs. Natural Materials – Grading Period 3

Inquiry Questions

Science:

- How can we make tools to solve a problem?
- How can we make a model to who the tool that will solve our problem?
- How can we compare more than one model to decide which one is the best to solve our problem?

Technology:

-

Engineering:

-

Mathematics:

-

Social Studies:

-

Content Area	Grade Level Standards
Science	K-2.E.1 Pose questions, make observations, and obtain information about a situation people want to change. Use this data to define a simple problem that can be solved through the construction of a new or improved object or tool. K-2.E.2 Develop a simple sketch, drawing, or physical model to illustrate and investigate how the shape of an object helps its function as needed to solve an identified problem. K-2.E.3 Analyze data from the investigation from two items constructed to solve the same problem to compare the strengths and weaknesses of how each perform.
Technology	SLT 1.A The natural world and human-made world are different. SLT 2.A Some systems are found in nature, and some are made by humans. SLT 2.D Different materials are used in making things. SLT 6.A Products are made to meet individual needs and wants.
Engineering	SLT 9.A The engineering design process includes identifying a problem, looking for ideas, developing solutions, and sharing solutions with others. SLT 9.B Expressing ideas to others verbally and through sketches and models is an important part of the design process. SLT 11.A Brainstorm people’s needs and wants and pick some problems that can be solved through the design process. SLT 11.B Build or construct an object using the design process. SLT 11.C Investigate how things are made and how they can be improved. SLT 10.A Asking questions and making observations helps a person to figure out how things work. SLT 10.B All products and systems are subject to failure. Many products and systems, however, can be fixed.

Big Idea: Man Made vs. Natural Materials – Grading Period 3

SLT 14.C There are many products designed specifically to help people take care of themselves.

SLT 19.A Manufacturing systems produce products in quantity.

SLT 19.B Manufactured products are designed.

SLT 20.B The type of structure determines how the parts are put together.

Mathematics

1.G.2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. (Students do not need to learn formal names such as “right rectangular prism.”)

1.OA.2. Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

1.MD.2. Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. *Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.*

1.MD.1. Order three objects by length; compare the lengths of two objects indirectly by using a third object.

1.OA.1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. (See Table 1.)

1.NBT.1. Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.

1.NBT.4. Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

1.NBT.6. Subtract multiples of 10 in the range 10–90 from multiples of 10 in the range 10–90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

1.OA.8. Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. *For example, determine the unknown number that makes the equation true in each of the equations: $8 + ? = 11$,*

$5 = \square - 3$, $6 + 6 = \square$.

Social Studies

1.3.9 Give examples of natural resources found locally and describe how people in the school and community use these resources.

1.4.1 Identify goods* that people use.

1.4.2 Identify services* that people do for each other.

1.4.3 Compare and contrast different jobs people do to earn income*.

1.4.4 Describe how people in the school and community are both producers* and consumers*.

1.4.5 Explain that people have to make choices about goods and services because of scarcity*.

Big Idea: Man Made vs. Natural Materials – Grading Period 3

- 1.3.6 Explain the effect of seasonal change on plants, animals, and people.
1.4.6 Explain that people exchange goods and services to get the things they want.

ELA**Reading: Informational Text**

- CCSS.ELA-Literacy.RI.1.1 Ask and answer questions about key details in a text.
CCSS.ELA-Literacy.RI.1.2 Identify the main topic and retell key details of a text.
CCSS.ELA-Literacy.RI.1.3 Describe the connection between two individuals, events, ideas, or pieces of information in a text.
CCSS.ELA-Literacy.RI.1.4 Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
CCSS.ELA-Literacy.RI.1.5 Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.
CCSS.ELA-Literacy.RI.1.6 Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.
CCSS.ELA-Literacy.RI.1.7 Use the illustrations and details in a text to describe its key ideas.
CCSS.ELA-Literacy.RI.1.8 Identify the reasons an author gives to support points in a text.
CCSS.ELA-Literacy.RI.1.9 Identify basic similarities in and differences between two texts on the same topic (e.g., in illustrations, descriptions, or procedures).
CCSS.ELA-Literacy.RI.1.10 With prompting and support, read informational texts appropriately complex for grade 1.

Writing

- CCSS.ELA-Literacy.W.1.2 Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.
CCSS.ELA-Literacy.W.1.5 With guidance and support from adults, focus on a topic, respond to questions and suggestions from peers, and add details to strengthen writing as needed.
CCSS.ELA-Literacy.W.1.6 With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.
CCSS.ELA-Literacy.W.1.7 Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions).
CCSS.ELA-Literacy.W.1.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

Speaking and Listening

- CCSS.ELA-Literacy.SL.1.1 Participate in collaborative conversations with diverse partners about *grade 1 topics and texts* with peers and adults in

Big Idea: Man Made vs. Natural Materials – Grading Period 3

small and larger groups.

CCSS.ELA-Literacy.SL.1.1a Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).

CCSS.ELA-Literacy.SL.1.1b Build on others' talk in conversations by responding to the comments of others through multiple exchanges.

CCSS.ELA-Literacy.SL.1.1c Ask questions to clear up any confusion about the topics and texts under discussion.

CCSS.ELA-Literacy.SL.1.2 Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

CCSS.ELA-Literacy.SL.1.3 Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.

CCSS.ELA-Literacy.SL.1.4 Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.

CCSS.ELA-Literacy.SL.1.5 Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.

CCSS.ELA-Literacy.SL.1.6 Produce complete sentences when appropriate to task and situation. (See grade 1 Language standards 1 and 3 [here](#) for specific expectations.)

Science Process Standards

Standards for Mathematical Practice

Science Process Standards**The Nature of Science**

- Use a scientific notebook to record predictions, questions and observations about data with pictures, numbers or in words.
- Conduct investigations that may happen over time as a class, in small groups, or independently.
- Generate questions and make observations about natural processes.
- Make predictions based on observations.
- Discuss observations with peers and be able to support your conclusion with evidence.
- Make and use simple equipment and tools to gather data and extend the senses.
- Recognize a fair test.

The Design Process

- Identify a need or problem to be solved.
- Document the design throughout the entire design process.
- Brainstorm potential solutions.
- Select a solution to the need or problem.
- Select the materials to develop a solution.
- Create the solution.
- Evaluate and test how well the solution meets the goal.
- Communicate the solution with drawings or prototypes.
- Communicate how to improve the solution.

Mathematical Practices

- MP.1. Make sense of problems and persevere in solving them.
- MP.2. Reason abstractly and quantitatively.
- MP. 3 Construct viable arguments and critique the reasoning of others.
- MP.4. Model with mathematics.
- MP.5. Use appropriate tools strategically.
- MP.6. Attend to precision.
- MP.7 Look for and make use of structure.
- MP. 8 Look for and express regularity in repeated reasoning.

STEM Integrated Concepts: STEM | 1st Grade

<u>Plan of Work</u>	
Common Misconceptions	
<p>What misconceptions might students have with these ideas?</p> <p>People's wants and needs are the same. Everything is man-made. Everything comes from a natural resource. There isn't a difference between goods and services.</p>	
Suggested Activities	
<ul style="list-style-type: none"> • Students will determine a good or service they would like to provide and sell school wide. They will work as a team to create the good or service to people within the school. Students will determine the worth of the product and sell accordingly based in peoples needs and wants. • Students will create their own class town. Each student or group of students will pick their good or service they will provide for the town. Students then create their business and present to the class what good or service they chose and explain why the class town needs that particular good or service. 	
Suggested Vocabulary	Producers, consumers, man-made, natural resources, goods, services, shelter, wants, needs
Resources	http://www.teacherspayteachers.com/Product/I-Am-A-Consumer-Fold-Up-Freebie-Excerpt-from-Economy-101-Lapbook-201629 http://www.fun4thebrain.com/nickelsburg.html http://financeintheclassroom.org/passport/first/social_studies.shtml http://www.pnwbooces.org/ssela/Sample_Lessons/FirstGrade/Unit4/Unit4_Lesson6.htm http://www.columbia.k12.mo.us/showmeeconomics/1st_Grade/Teacher_Lesson_Plans_1_/Goods%20and%20Services.html http://www.humanesociety.org/parents_educators/lesson_plans_for_teachers.html http://www.gobookee.net/search.php?q=animal+shelter+project+first+grade
Assessment	
Type of Assessment	Example
<input checked="" type="checkbox"/> Observation	The differences between man made and natural resources?
<input type="checkbox"/> Oral Questioning	
<input checked="" type="checkbox"/> Exit Slip	Name one good and one service What is a producer? What is a consumer?
<input type="checkbox"/> Journal	
<input checked="" type="checkbox"/> Graphic Organizers	T-graph where students will divide pictures of good and services.
<input type="checkbox"/> Self-Assessment	
<input checked="" type="checkbox"/> Writing Prompt	How to book on how to make or complete their good or service.
<input checked="" type="checkbox"/> Presentation	What shelter student created and was it man made or created with natural resources?

STEM Integrated Concepts: STEM | 1st Grade

<input type="checkbox"/> Electronic media	
<input type="checkbox"/> Think Pair Share	
<input type="checkbox"/> Whiteboards	
<input checked="" type="checkbox"/> Experiment/projects	Class town and Class store
<input type="checkbox"/> Quiz	
<input type="checkbox"/>	
<input type="checkbox"/>	
<input type="checkbox"/>	