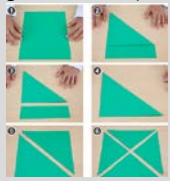



2<sup>nd</sup> Grade TCI: Bring Science Alive! Investigations

BV Second Grade Unit 1 Structures and Properties	TCI UNIT INVESTIGATION	KIT MATERIALS	TEACHER MATERIALS	OPTIONAL MATERIALS	ADDITIONAL	Parent Volunteer
	<p align="center"><b>Bring Science Alive! Unit 2: Materials and Their Uses</b></p> <p align="center">Lesson 1 – <b>What Is Everything Made Of?</b></p> <p><u>Investigation:</u> <b>Small Group Investigation</b>                      Students will describe and classify materials by their properties.</p>	<ul style="list-style-type: none"> <li>• Aluminum foil (2" wide per class)</li> <li>• Plastic bin (1 per group)</li> <li>• Cardboard (2" X 2" piece per group)</li> <li>• Modeling Clay (1/3 yellow stick per group)</li> <li>• Construction Paper (2"X 2" piece per group)</li> <li>• Pipe Cleaners (1/3 stick per group)</li> <li>• Sandpaper ( 1 sheet per group)</li> <li>• Sponge ( 1/3 per group)</li> <li>• Wood Blocks (1 per group)</li> <li>• Wax Paper ( 2" wide strip per class)</li> </ul>	<ul style="list-style-type: none"> <li>• Construction Paper (1 half sheet per student)</li> <li>• Glue Stick ( 1 per student)</li> <li>• 11" X 17" sheet of paper folded in half (one per group)</li> </ul>			Cut construction paper in half ( 1 per student)  Divide modeling clay (1/3 yellow stick per group)  Cut pipe cleaners in thirds (1/3 per group)  Cut sponge (1/3 per group)  Put materials in plastic bins: Clay, sponge, pipe cleaner, wood block and sand paper
<p align="center"><b>Bring Science Alive! Unit 2: Materials and Their Uses</b></p> <p align="center">Lesson 2 – <b>How Are Liquids and Solids Different?</b></p> <p><u>Investigation:</u> <b>Small Group Investigation</b>                      Students will compare the sizes of three different containers in different ways and make a picture graph to show how much water each container holds.</p>	<ul style="list-style-type: none"> <li>• 2 oz paper cups (3 per class)</li> <li>• Plastic bin (1 per group)</li> <li>• Plastic Deli Container (1 per group)</li> <li>• 16 oz plastic jar (1 per group)</li> <li>• 12 oz plastic jar (1 per group)</li> </ul>	<ul style="list-style-type: none"> <li>• Water</li> </ul>				

2<sup>nd</sup> Grade TCI: Bring Science Alive! Investigations

	<p align="center"><b>Bring Science Alive! Unit 2: Materials and Their Uses</b></p> <p align="center">Lesson 3- <b>How Are Materials Used for Different Purposes?</b></p> <p><u>Investigation: Small Group Investigation</u> Students will test the strength and absorbency of different materials, collect and analyze data and build a bridge from the best suited materials.</p>	<ul style="list-style-type: none"> <li>Aluminum foil ( 7 – 30 cm X 5 cm strips per group)</li> <li>Cotton cloth ( 7 – 30 cm X 5 cm strips per group)</li> <li>Construction paper ( 7 – 30 cm X 5 cm strips per group)</li> <li>Wax paper ( 7 – 30 cm X 5 cm strips per group)</li> <li>Cardboard ( 7 – 30 cm X 5 cm strips per group)</li> <li>Clay (1 stick per group)</li> <li>Craft Sticks (10 per group)</li> <li>Pipe Cleaners (10 per group)</li> <li>Spray bottle with water (1 per class)</li> <li>Cardboard tubes (2 per group)</li> <li>Wood Cubes (6 per group)</li> </ul>	<ul style="list-style-type: none"> <li>Newspaper</li> <li>Glue (1 per group)</li> <li>Scissors (1 per group)</li> <li>Tape</li> </ul>			<p>Cut the in 30cm X 5cm strips following and put in the bins for each group: 7 – aluminum foil 7 – cotton cloth 7 – construction paper 7 – wax paper 7 – cardboard</p> <p>Add the following to the bin: 1 clay stick 10 craft sticks 10 pipe cleaners 2 cardboard tubes</p>
	<p align="center"><b>Bring Science Alive! Unit 2: Materials and Their Uses</b></p> <p align="center">Lesson 4 – <b>How Can Materials Be Reused?</b></p> <p><u>Investigation: Small Group Investigation</u> Students will create different structures with the same small sets of materials and compare structures.</p>	<ul style="list-style-type: none"> <li>Clay ( 2 red sticks and ½ yellow stick per class)</li> <li>Construction paper (2 red, 2 green, 2 yellow and 2 blue per class)</li> <li>Craft sticks (20 per class)</li> <li>Pipe Cleaners (12 blue and 12 back per class)</li> <li>Stir Sticks (16 per class)</li> <li>Wood Cubes (48 per class)</li> </ul>	<ul style="list-style-type: none"> <li>Markers</li> <li>Drawing paper (6 per student)</li> <li>Scissors</li> <li>Glue Sticks</li> </ul>	<ul style="list-style-type: none"> <li>Camera</li> </ul>	<ul style="list-style-type: none"> <li>Handout: Tangram Puzzle Pieces (1 per pair printed on colored card stock)</li> <li>Placards A-F</li> </ul>	<p>Cut out triangles from the colored construction paper. So you will get 8 triangles of each color (red, yellow, green and blue)</p> 

2<sup>nd</sup> Grade TCI: Bring Science Alive! Investigations

<b>BV Second Grade Unit 2 Heating and Cooling</b>	<b>Bring Science Alive! Unit 2: Materials and Their Uses</b>	<ul style="list-style-type: none"> <li>• Beads (2 pkg per class)</li> <li>• Plastic Bin (1 per group)</li> <li>• Plastic Bowls (3 per group)</li> <li>• Paper Bowls (8 per class)</li> <li>• Marbles (1 pkg per class)</li> <li>• Flour (1 bag per class)</li> <li>• Pepper (1 pkg per class)</li> <li>• Spoons (3 per group)</li> <li>• Plastic spoons (5 per class)</li> <li>• Vegetable Oil (1 container per class)</li> <li>• Wood cubes (18 per class)</li> </ul>	<ul style="list-style-type: none"> <li>• Small paper cups (6 per group)</li> <li>• Newspaper (2 sheets per group)</li> <li>• Sticky Notes ( 8 per class)</li> <li>• Water</li> </ul>			 <p>Organize the 8 Paper Bowls</p> <ol style="list-style-type: none"> <li>1. Pour beads in and label BEADS 10</li> <li>2. Pour marbles in and label MARBLES 3</li> <li>3. Put 18 wood cubes in bowl and label WOOD CUBES 3</li> <li>4. Pour flour (1/2 full) in and label FLOUR 1 spoon (put a spoon in the bowl)</li> <li>5. Pour vegetable oil (1/2 full) in and label VEGETABLEOIL 1 spoon (put a spoon in the bowl)</li> <li>6. Pour pepper (1/2 full) in and label PEPPER 1 spoon (put a spoon in the bowl)</li> <li>7. Pour water (1/2 full) in and label WATER 1 spoon (put a spoon in the bowl)</li> <li>8. Pour salt (1/2 full) in and label SALT 1 spoon (put a spoon in the bowl)</li> </ol>
	<p>Lesson 5- <b>What Happens When Materials Are Heated or Cooled?</b></p> <p><u>Investigation:</u> Small Group Investigation Students will mix different materials and observe how the properties change and share with the class.</p>					

<b>BV Second Grade Unit 2 Heating and Cooling</b>	TCI UNIT INVESTIGATION	KIT MATERIALS	TEACHER MATERIALS	OPTIONAL MATERIALS	ADDITIONAL	Parent Volunteer
<b>BV Second Grade Unit 2 Heating and Cooling</b>	<p><b>Bring Science Alive! Unit 2: Materials and Their Uses</b></p> <p>Lesson 6 – <b>What Happens When Materials Are Mixed?</b></p> <p><u>Investigation:</u> <b>Visual Discovery</b> Students will observe changes to materials as they are heated or cooled and discuss whether the change can be reversed.</p>		<ul style="list-style-type: none"> <li>• Plastic freezer bag (2 per group)</li> <li>• Bananas (2 slices per group)</li> <li>• Lettuce (2 leaves per group)</li> <li>• Milk (4 oz per group)</li> </ul>			

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BV Second Grade Unit 3 Water All Around	TCI UNIT INVESTIGATION	KIT MATERIALS	TEACHER MATERIALS	OPTIONAL MATERIALS	ADDITIONAL	Parent Volunteer
	<p><b>Bring Science Alive! Unit 3: Earth's Surface</b></p> <p>Lesson 1 – <b>What Is on Earth's Surface?</b></p> <p><u>Investigation:</u> <b>Whole Class Investigation</b> Students will make a model of Earth's land and water areas.</p>	<ul style="list-style-type: none"> <li>Modeling clay (1/2 blue &amp; 1.2 green stick per pair of students)</li> <li>Styrene Balls (1 for each pair of students)</li> </ul>	Colored pencils, markers (green and blue)	Classroom globe		
<p><b>Bring Science Alive! Unit 3: Earth Surface</b></p> <p>Lesson 2 – <b>What Kinds of Land and Water Are Found on Earth?</b></p> <p><u>Investigation:</u> <b>Visual Discovery</b> Students will play lotto and identify different kinds of land and water on Earth's surface and create a book of the different forms of land and water.</p>		<ul style="list-style-type: none"> <li>Counting Chips (9 per student)</li> <li>Glue Sticks</li> <li>Scissors</li> <li>Stapler</li> <li>Colored Construction Paper/Card Stock</li> </ul>		<p>Handout A: Lotto Board (1 per student)</p> <p>Handout B: Land and Water Pict. (1 set per student)</p> <p>Handout C: Land and Water Book (1 per student)</p>	<p>Make copies: Handout A, B, and C (enough for 1 per student)</p> <p>Cut construction paper to be the cover to the student book.</p>	

BV Second Grade Unit 4 Maps of Land and Water	TCI UNIT INVESTIGATION	KIT MATERIALS	TEACHER MATERIALS	OPTIONAL MATERIALS	ADDITIONAL	Parent Volunteer
	<p><b>Bring Science Alive! Unit 3: Earth's Surface</b></p> <p>Lesson 3 – <b>How Do maps Show Land and Water?</b></p> <p><u>Investigation:</u> <b>Science Skill Builder</b> Students will draw a map of the schoolyard and mark an x on the map to show a hidden "treasure", and they will use a map to find a classmate's treasure.</p>			<ul style="list-style-type: none"> <li>Paper ( 1 per group)</li> </ul>		Placard A

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BV Second Grade Unit 5 Earth Events	TCI UNIT INVESTIGATION	KIT MATERIALS	TEACHER MATERIALS	OPTIONAL MATERIALS	ADDITIONAL	Parent Volunteer
	<p align="center"><b>Bring Science Alive! Unit 3 Earth's Surface</b></p> <p align="center">Lesson 4 – How Does Earth's Surface Change?</p> <p><u>Investigation:</u> <b>Small Group Investigation</b>                      Students will study Earth materials to discover how they move and change shape. They will observe slow and fast changes.</p>	<ul style="list-style-type: none"> <li>• Plastic bin (1 per group)</li> <li>• Gravel (enough to fill 6 petri dishes)</li> <li>• Petri dishes (2 per group)</li> <li>• Rock Collection (2 per class)</li> <li>• Sand (enough to fill 6 petri dishes)</li> <li>• Soil (enough to fill 6 petri dishes)</li> <li>• Spray bottle (1 per class)</li> <li>• Straws (1 per student)</li> </ul>				
	<p align="center"><b>Bring Science Alive! Unit 3 Earth's Surface</b></p> <p align="center">Lesson 5 – How Do Earthquakes and Volcanoes Change the Land?</p> <p><u>Investigation:</u> <b>Visual Discovery Investigation</b>                      Students will see how a volcano changes the land, how it effects the people in the village and tell the story.</p>		<ul style="list-style-type: none"> <li>• Stapler</li> <li>• Construction Paper (1 per student)</li> <li>• Crayons or colored markers (1 set per student)</li> </ul>	Props suggestions <ul style="list-style-type: none"> <li>• <b>Farmer:</b> sun hat, working gloves, bandana, hoe</li> <li>• <b>Baker:</b> wooden spoon, baker's hat, apron, kitchen towel</li> <li>• <b>Carpenter:</b> yardstick, cap, hammer, level</li> <li>• <b>Shepherd:</b> sun hat, bandana, stick or staff, poncho</li> <li>• <b>Reporter:</b> microphone, ball cap, name tag</li> </ul>	Handout A: Role Cards (1 set per group printed on card stock) these could be laminated for use in the future.	Copy Handout A on cardstock, laminate and cut out (1 per group)
	<p align="center"><b>Bring Science Alive! Unit 3 Earth's Surface</b></p> <p align="center">Lesson 6 – How Do Wind and Water Change the Land?</p> <p><u>Investigation:</u> <b>Experiential Exercise</b>                      Students will go on a "trip" to the beach to see changes to the land and explain how wind and water change the land.</p>					

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	<p><b>Bring Science Alive! Unit 3 Earth's Surface</b></p> <p>Lesson 7 – How Can Problems Caused by Wind and Water Be Solved?</p> <p><u>Investigation:</u> <b>Small Group Investigation</b> Students design a way to protect a road from a landslide and compare strengths and weaknesses of all the models.</p>	<ul style="list-style-type: none"> <li>• Plastic bin (1 per group)</li> <li>• Modeling Clay (12 for materials center)</li> <li>• Craft Sticks (30 for materials center)</li> <li>• Gravel (1 cup per group)</li> <li>• Pipe Cleaners (30 for materials center)</li> <li>• Soil (2 cups per group)</li> <li>• Sponges (2 – cut into thirds for materials center)</li> <li>• Spray Bottle (1 per class)</li> <li>• Steel Wool (6 for materials center)</li> <li>• Stir Sticks (50 for materials center)</li> </ul>	<ul style="list-style-type: none"> <li>• Bucket or Large Bowl (1 per class)</li> <li>• Black Construction Paper (1 per class)</li> <li>• Newspaper (2 sheets per group)</li> <li>• Paper Towels (1 roll per class)</li> <li>• Large Spoon (1 per class)</li> <li>• Sticky Notes (1 pkg per class)</li> <li>• Tape (1 per class)</li> <li>• Water</li> </ul>	Assorted building materials (straws, toothpicks, plastic, foam , cardboard)		

BV Second Grade Unit 6 Plant Needs	TCI UNIT INVESTIGATION	KIT MATERIALS	TEACHER MATERIALS	OPTIONAL MATERIALS	ADDITIONAL	Parent Volunteer	
	<p><b>Bring Science Alive! Unit 1: Plant and Animal Survival</b></p> <p>Lesson 1 – <b>What Kinds of Living things Are There?</b></p> <p><u>Investigation:</u> <b>Science Skill Builder</b> Students will observe and categorize the living things in an area, graph their observations and share their results.</p>				<ul style="list-style-type: none"> <li>• Clipboard (1 per student)</li> <li>• Magnifying Glass (1 per pair)</li> </ul>		
	<p><b>Bring Science Alive! Unit 1: Plant and Animal Survival</b></p> <p>Lesson 2 – <b>What Do Plants and Animals Need to Survive?</b></p> <p><u>Investigation:</u> <b>Small Group Investigation</b> Students will grow plants with and without water or light to determine whether plants need water and light to grown. They will use their findings to plan another investigation</p>	<ul style="list-style-type: none"> <li>• Marigold sees (1 pkg per class)</li> <li>• Spray Bottle (1 per class)</li> <li>• Plastic Cup (2 per group)</li> <li>• Paper Bags (3 per group)</li> <li>• Soil (2 cups per group)</li> </ul>	<ul style="list-style-type: none"> <li>• Water</li> <li>• Crayons or colored markers (1 set per group)</li> </ul>		<ul style="list-style-type: none"> <li>• Handout: Our Marigold Experiment (1 per group)</li> </ul>		

BV Second Grade Unit 7 Seeds on the Move	TCI UNIT INVESTIGATION	KIT MATERIALS	TEACHER MATERIALS	OPTIONAL	ADDITIONAL	Parent Volunteers
	<p><b>Bring Science Alive! Unit 1: Plant and Animal Survival</b></p> <p>Lesson 3 – <b>How Do Plants and Animals Depend on Each Other?</b></p> <p><u>Investigation:</u> <b>Small Group Investigation</b></p> <p>Students will act as engineers to design a tool for pollinating a flower by hand. They will build your hand pollinator and test it on a model of a flower.</p>	Sand ( 1 bag per class) Plastic bin (1 per group) Modeling Clay (1/6 <sup>th</sup> of stick per group) Cotton Balls (2 per group) Craft Sticks (2 per group) Marbles (1 per group) Large Paper Clip (3 per group) Petri Dishes (2 per group) Pipe Cleaners (2 per group) Plastic Spoons (1 per group) Stir Sticks (2 per group) Straws (2 per group) Swabs (1 per group)	Tape (1 roll( Sticky Notes (1 per group)	Student Safety Goggles (1 per student)		

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BV Second Grade Unit 8 Diversity and Habitats	TCI UNIT INVESTIGATION	KIT MATERIALS	TEACHER MATERIALS	OPTIONAL MATERIALS	ADDITIONAL	Volunteers	
	<p align="center"><b>Bring Science Alive! Unit 1: Plant and Animal Survival</b></p> <p>Lesson 4 - <b>Why Do Plants and Animals Live in Some Places and Not in Others?</b></p> <p><u>Investigation:</u> <b>Experiential Exercise</b>                      Students visit and describe three habitats, identify plants and animals that belong or do not belong in each habitat.</p>		Fan Hair Dryer Spray Bottle Rain hat Sun hat Wool hat				
	<p align="center"><b>Bring Science Alive! Unit 1: Plant and Animal Survival</b></p> <p>Lesson 5 - <b>How Do Plants and Animals Survive in a Rainforest?</b></p> <p><u>Investigation:</u> <b>Visual Discovery Investigation</b>                      Student visit a rainforest habitat, identify the plant and animals that they see and hear and write a travel blog.</p>		Glue Sticks (1 per student) Scissors (1 per student)	3 X 5 cards (2 per student) String or Yarn (1 roll per class) Tape (1 roll per class)	<ul style="list-style-type: none"> <li>• Handout: Plants of the Rainforest (1 per student)</li> <li>• Handout: Animals of the Rainforest (1 per student)</li> </ul>	Make copies of Handouts (1 per student)	
	<p align="center"><b>Bring Science Alive! Unit 1: Plant and Animal Survival</b></p> <p>Lesson 6 - <b>How Do Plants and Animals Survive in a Desert?</b></p> <p><u>Investigation:</u> <b>Response Group Investigation</b>                      Students will take a Desert Challenge to learn how plants and animals survive in the desert.</p>				<ul style="list-style-type: none"> <li>• Handout: Plants of the Desert (1 per group)</li> <li>• Handout: Animals of the Desert (1 per group)</li> <li>• Desert Challenge! Answer Key (1 for teacher)</li> </ul>	Make copies of handouts (1 per group)	
	<p align="center"><b>Bring Science Alive! Unit 1: Plant and Animal Survival</b></p> <p>Lesson 7 - <b>How Do Plants and Animals Survive in a Pond ?</b></p> <p><u>Investigation:</u> <b>Experiential Exercise</b>                      Students will determine how the needs of a pond plant or animal are met by other pond plants and animals.</p>			String or Yarn, 10 M	<ul style="list-style-type: none"> <li>• Placards A-L (Cut out)</li> </ul>	Cut out Placards A-L	
	<p align="center"><b>Bring Science Alive! Unit 1: Plant and Animal Survival</b></p> <p>Lesson 8 - <b>How Do Plants and Animals Survive in a Ocean ?</b></p> <p><u>Investigation:</u> <b>Science Skill Builder</b>                      Students will gather information at Ocean Data Centers about an ocean animal, put together the data and present a report to the class.</p>				<ul style="list-style-type: none"> <li>• Placards A-H</li> <li>• Placards I – J (cut out)</li> </ul>	Cut out Placards I -J	