



San Diego Unified School District
Science Department

Grade 1 – Solids and Liquids
Physical Science
Unit of Study



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**Science Vision for
San Diego Unified School District**
Science is an integral part of the intellectual development of a child. Interest in science begins with attitudes and values established in the earliest years through daily experiences. Students graduating from high school must have a foundation in scientific knowledge and evidence based reasoning.

Updated versions of this unit of study can be found online at www.sandi.net/science.



Grade 1 – Solids and Liquids
Module Overview



Overview of the Unit

The Solids and Liquids Module provides experiences that heighten students' awareness of the physical world. Matter with which we interact exists in three fundamental states: solid, liquid, and gas. In this module first graders have introductory experiences with two of these states, solid and liquid.

Note: Experiences with the properties of gas as matter occur in the FOSS Air and Weather module.

Grade 1 Physical Science Conceptual Flow

Concept #1 Materials come in different forms (states), including solids, liquids, and gases.			
Subconcepts Investigation #1: Solids	Subconcepts Investigation #2: Liquids	Subconcepts Investigation #3: Bits and Pieces	Subconcepts Investigation #4: Solids and Liquids with Water
Solids are one state of matter	Liquids are one state of matter.	Solid materials come in all sizes and shapes.	Some solids change when mixed with water; others do not.
Solid materials have properties that separate them from other states of matter.	Liquids have many properties.	Particles of solid materials can pour like liquids, but maintain their shape.	Some solids dissolve in water; evaporation leaves the solid behind.
Solids can be sorted by their properties.	Liquids pour and flow.	Solid materials can support denser materials on their surface.	Some liquids mix with water; other liquids form a layer above or below water.
Solid materials have distinct uses, based on their properties.	Liquids take the shape of their container.	Mixtures of solid particles can be separated with a screen.	Heating and cooling solids and liquids can change them from one state to another.
	The surface of liquid is level with respect to the ground.		

1st Grade Physical Science Content Standards Addressed in this Module

Physical Science

PS1 Materials come in different forms (states), including solids, liquids, and gases. As a basis for understanding this concept:

PS1a Students know solids, liquids, and gases have different properties.

PS1b Students know the properties of substances can change when the substances are mixed, cooled, or heated.

Note: Experiences with the properties of gas as matter occur in the FOSS Air and Weather module.

Investigation and Experimentation

I&E4 Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:

I&E4a Draw pictures that portray some features of the thing being described.

I&E4b Record observations and data with pictures, numbers, or written statements.

I&E4c Record observations on a bar graph

I&E4e Make new observations when discrepancies exist between two descriptions of the same object or phenomenon.

Pacing the Unit as a Whole

Day 1 Start Inv. 1 Part 1 A/I	Day 2 W	Day 3 Start Inv. 1 Part 2 A/I	Day 4 W	Day 5 Start Inv. 1 Part 3 A/I
Day 6 W	Day 7 R	Day 8 Review/ Interdisciplinary Extensions	Day 9 Start Inv. 2 Part 1 A/I	Day 10 W
Day 11 Start Inv. 2 Part 2 A/I /W	Day 12 Start Inv. 2 Part 3 A/I	Day 13 A/I	Day 14 W	Day 15 R
Day 16 R	Day 17 Review/ Interdisciplinary Extensions	Day 18 Start Inv. 3 Part 1 A/I/W	Day 19 Start Inv. 3 Part 2 A/I/W	Day 20 Start Inv. 3 Part 3 A/I/W
Day 21 Start Inv. 3 Part 4 A/I	Day 22 W	Day 23 Review/ Interdisciplinary Extensions	Day 24 Start Inv. 4 Part 1 A/I	Day 25 A/I
Day 26 W	Day 27 Start Inv. 4 Part 2 A/I/W	Day 28 R	Day 29 Start Inv. 4 Part 3 A/I	Day 30 W
Day 31 Start Inv. 4 Part 4 A/I	Day 32 W	Day 33 R	Day 34 Review/ Interdisciplinary Extensions	Day 35 End-Of-Module Assessment (Performance Task)
Day 36 End-Of-Module Assessment (Written Assessment)				

A – Active Investigation sessions include firsthand observations about the weather, active thinking about the experiences, small group discussion, simulations, writing in science notebooks, learning new vocabulary in context, and completing written embedded individual assessments to inform instruction. (approximately 45 minutes)

W – Wrap-up sessions are teacher-directed vocabulary reinforcement and science content review. (Approximately 15 minutes)

I – Individual Assessment: The goal of the FOSS assessment system fall into three categories called assessment variables: (1) content knowledge, (2) conducting investigations, and (3) building explanations. **Content knowledge** reflects the “facts” of science that students learn throughout the module. **Conducting Investigations** focuses on skills needed for a successful scientific investigation. **Building Explanation** refers to students’ discourse – how they communicate observation and how they organize their observation and interpretations of them.

R – Reading sessions (Science Resources student book) include interactive reading, answering review questions, and discussing the reading to ensure that students integrate the information. (30 minutes)



Grade 1 – Solids and Liquids
Pacing Guide – Investigation 1: Solids



Investigation Overview

Investigation 1: Solids

Concept: Materials come in different forms (states), including solids, liquids, and gases.

Students will recognize solids as different from other states of matter by identifying their properties. Students will describe how the properties of solid materials can have specific uses in construction. Students will record their observations in pictures, numbers, and writing.

Part 1: Introduce Solids	Part 2: Sort Solid Objects	Part 3: Construct With Solids
<p><u>Summary</u> Students are introduced to a variety of solid materials—cloth, wood, metal, plastic paper, and rubber. After a period of free exploration, students describe the properties of the objects and develop vocabulary in order to communicate those properties.</p>	<p><u>Summary</u> Students sort a set of solid objects in a variety of ways to discover similarities among the solids.</p>	<p><u>Summary</u> Students use solid materials to build structures—towers, bridges, and tunnels—using the best materials for each application. Students are introduced to the Science resources book and explore the table of contents and the glossary. They read and discuss “Everything Matters” to learn more about the properties of solids, liquids, and gases. They respond to questions in their science notebooks.</p>
<p><u>Subconcepts</u></p> <ul style="list-style-type: none"> ▪ Solids are one state of matter. ▪ Solid materials have properties that separate them from other states of matter. ▪ We use our senses to observe the properties of solids. 	<p><u>Subconcepts</u></p> <ul style="list-style-type: none"> ▪ Solids can be sorted by their properties. ▪ We use our senses to observe the properties of solids. ▪ Solid materials have properties that separate them from other states of matter. 	<p><u>Subconcepts</u></p> <ul style="list-style-type: none"> ▪ Solid materials have distinct uses, based on their properties/ ▪ Engineers are scientists who use their knowledge of materials to design useful objects and structures. ▪ Matter is anything that takes up space.
<p><u>Time Allocation</u> Active Investigation: 2 days</p>	<p><u>Time Allocation</u> Active Investigation: 2 days</p>	<p><u>Time Allocation</u> Active Investigation: 2 days Reading: 1 day</p>
<p><u>CA Science Standards</u> PS1a, I&E4b</p>	<p><u>CA Science Standards</u> PS1a, I&E4b</p>	<p><u>CA Science Standards</u> PS1a, I&E4b</p>



Grade 1 – Solids and Liquids
Pacing Guide – Investigation 1: Solids



Pacing Guide – Investigation 1: Solids

Day 1		Day 2		Day 3	
Prep	Instruction	Prep	Instruction	Prep	Instruction
<input type="checkbox"/> Read “Science Background” <i>TG p. 5-6</i> <input type="checkbox"/> Read “At A Glance” <i>TG p. 38-39</i> <input type="checkbox"/> Read “Background for the Teacher” <i>TG p. 40-41</i> <input type="checkbox"/> Read “Teaching Children About Solids” <i>TG p. 42-43</i> <input type="checkbox"/> Review “Materials” and “Getting Ready” <i>TG p. 43-47</i>	Guiding the Investigation <input type="checkbox"/> “Part 1: Introduce Solids” Steps 1-12 <i>TG 48-51</i>		Guiding The Investigation <input type="checkbox"/> “Part 1: Exploring Air; Wrapping Up Part 1” Steps 13-14 <i>TG p. 52</i>	<input type="checkbox"/> Review “Materials” and “Getting Ready” <i>TG p. 53-54</i>	Guiding the Investigation <input type="checkbox"/> “Part 2: Sort Solid Objects” Steps 1-8 <i>TG p. 55-56</i> <input type="checkbox"/> Body of Evidence Prompt #1 <i>TG p.184</i>
Day 4		Day 5		Day 6	
Prep	Instruction	Prep	Instruction	Prep	Instruction
	Guiding The Investigation <input type="checkbox"/> “Part 2: Solids; Wrapping Up Part 2” Steps 9-10 <i>TG p. 57</i>	<input type="checkbox"/> Review “Materials” and “Getting Ready” <i>TG p. 58-59</i>	<input type="checkbox"/> Guiding the Investigation <input type="checkbox"/> “Part 3: Construct With Solids” Steps 1-8 <i>TG p. 60-61</i>		<input type="checkbox"/> Guiding the Investigation <input type="checkbox"/> “Part 3: Construct With Solids; Wrapping Up Pt 3” Steps 9-11 <i>TG p. 62</i>

Pacing Guide – Investigation 1: Solids (continued)

Day 7		Day 8	
Prep	Instruction	Prep	Instruction
	Reading In Science Resources <input type="checkbox"/> Steps 12-13 <i>TG p. 63</i> Student Reading: Science Resources p. 3-8 <input type="checkbox"/> Body of Evidence Prompt #2 <i>TG p.185</i>		<input type="checkbox"/> Review <input type="checkbox"/> Interdisciplinary Extensions <i>TG p. 66-69</i>



Grade 1 – Solids and Liquids
Pacing Guide – Investigation 2: Liquids



Investigation Overview

<p>Investigation 2: Liquids Concept: Materials come in different forms (states), including solids, liquids, and gases. Students will observe the properties of liquids and record their observations using pictures, numbers, and writing, and by using a bar graph. They will practice vocabulary associated with liquids by playing games. Students will investigate the level of liquid as it flows from one stable position to another.</p>		
Part 1: Liquids In Bottles	Part 2: Properties Of Liquids	Part 3: Liquid Level
<p><u>Summary</u> Students investigate different liquids to develop their concept of a liquid. They work at a center to tip, swirl, shake, roll, and otherwise investigate seven liquids in small, clear plastic bottles: plain water, corn syrup, detergent, hand soap, oil, fabric softener and colored water.</p>	<p><u>Summary</u> Students describe properties of liquids. Their descriptive language is used as a springboard to develop precise vocabulary for properties of liquids. Vocabulary is practiced with liquid vocabulary card games.</p>	<p><u>Summary</u> Students observe liquids in different containers. They explore the concept that liquids have level surfaces. Students reinforce the concept of liquid levels with a representational puzzle and observe and record the shape of liquid in a bottle as the bottle rotates. They record observations of liquids volume on a bar graph. Students read about the properties of solids and liquids and review by writing in their science notebooks. Students construct a definition of liquids and refine their original definition of solids.</p>
<p><u>Subconcepts</u></p> <ul style="list-style-type: none"> ▪ Liquids are one state of matter. ▪ Liquids have many properties. ▪ Liquids pour and flow. 	<p><u>Subconcepts</u></p> <ul style="list-style-type: none"> ▪ Liquids have many properties. 	<p><u>Subconcepts</u></p> <ul style="list-style-type: none"> ▪ Liquids pour and flow. ▪ Liquids take the shape of their container. ▪ The surface of liquid is level with respect to the ground. ▪ Solids and liquids have distinct properties that separate them as two states of matter.
<p><u>Time Allocation</u> Active Investigation: 2 days</p>	<p><u>Time Allocation</u> Active Investigation: 1 days</p>	<p><u>Time Allocation</u> Active Investigation: 3 days Reading: 2 days</p>
<p><u>CA Science Standards</u> PS1a, I&E4b</p>	<p><u>CA Science Standards</u> PS1a, I&E4b</p>	<p><u>CA Science Standards</u> PS1a, I&E4b, I&E4c</p>



Grade 1 – Solids and Liquids
Pacing Guide – Investigation 2: Liquids



Pacing Guide – Investigation 2: Liquids

Day 9		Day 10		Day 11	
Prep	Instruction	Prep	Instruction	Prep	Instruction
<ul style="list-style-type: none"> <input type="checkbox"/> Read “At A Glance” <i>TG p. 72-73</i> <input type="checkbox"/> Read “Background for the Teacher” <i>TG p. 74-75</i> <input type="checkbox"/> Read “Teaching Children About Liquids” <i>TG p. 76-77</i> <input type="checkbox"/> Read “Working At Learning Centers” <i>TG p. 78-79</i> <input type="checkbox"/> Review “Materials” and “Getting Ready” <i>TG p. 80-82</i> 	Guiding the Investigation <input type="checkbox"/> “Part 1: Liquids In Bottles” Steps 1-7 <i>TG p. 83-84</i>		Guiding the Investigation <input type="checkbox"/> “Part 1: Introduce Solids; Wrapping Up Part 1” Steps 8-9 <i>TG p. 84</i>	<input type="checkbox"/> Review “Materials” and “Getting Ready” <i>TG p. 85-87</i>	Guiding the Investigation <input type="checkbox"/> “Part 2: Properties of Liquids” Steps 1-15 <i>TG p. 88-91</i>
Day 12		Day 13		Day 14	
Prep	Instruction	Prep	Instruction	Prep	Instruction
<input type="checkbox"/> Review “Materials” and “Getting Ready” <i>TG p. 92-95</i>	Guiding the Investigation <input type="checkbox"/> “Part 3: Liquid Level” Steps 1-5 <i>TG p. 96-97</i>		Guiding the Investigation <input type="checkbox"/> “Part 3: Liquid Level” Steps 6-10 <i>TG p. 97-98</i> <input type="checkbox"/> Body of Evidence Prompt #3 <i>TG p.189</i>		Guiding the Investigation <input type="checkbox"/> “Part 3: Liquid Level; Wrapping Up Part 3” Steps 11-13 <i>TG p. 99</i>

Pacing Guide – Investigation 2: Liquids (continued)

Day 15		Day 16		Day 17	
Prep	Instruction	Prep	Instruction	Prep	Instruction
	Reading In Science Resources <input type="checkbox"/> Steps 14-16 <i>TG p. 100</i> Student Reading: Science Resources p. 9-15 <input type="checkbox"/> Body of Evidence Prompt #4 <i>TG p.192</i>		Reading In Science Resources <input type="checkbox"/> Steps 17-18 <i>TG p. 101</i>		<input type="checkbox"/> Review <input type="checkbox"/> Interdisciplinary Extensions <i>TG p. 102-105</i>



Grade 1 – Solids and Liquids
Pacing Guide – Investigation 3: Bits and Pieces



Investigation Overview

Investigation 3: Solids and Liquids

Concept: Materials come in different forms (states), including solids, liquids, and gases.

Students will experience solid materials and their properties using pieces, grains, and particles of different sizes. Students will compare the behavior of solids and liquids in similar settings and record their observations by writing, drawing and constructing a bar graph.

Part 1: Solids and Containers

Summary

Students work in learning centers with solid materials representing five particle sizes: cornmeal, rice, and three different beans. Students investigate the properties of the materials, one at a time, by pouring them from one container to another.

Subconcepts

- Solid materials come in all sizes and shapes.
- Particles of solid materials can pour like liquids, but each particle maintains its shape.
- Solid materials can support denser materials on their surface.

Time Allocation

Active Investigation: 1 day

CA Science Standards

PS1a, I&E4b

Part 2: Separating Soup Mix

Summary

Students use screens of three sizes to separate a mixture of five solid materials.

Subconcepts

- Mixtures of solid particles can be separated with a screen
- Solid materials come in all sizes and shapes.

Time Allocation

Active Investigation: 1 day

CA Science Standards

PS1a, I&E4b

Investigation Overview (continued)

Investigation 3: Solids and Liquids

Concept: Materials come in different forms (states), including solids, liquids, and gases.

Students will experience solid materials and their properties using pieces, grains, and particles of different sizes. Students will compare the behavior of solids and liquids in similar settings and record their observations by writing, drawing and constructing a bar graph.

Part 3: Solids In Bottles	Part 4: Separating Beads With A Screen
<u>Summary</u> Students use funnels to put the five solid materials into clear bottles with caps. They observe how the particulate materials look, sound, and move when they shake and roll the bottle.	<u>Summary</u> Students work with representational materials to demonstrate their understanding of the use of screens to separate mixtures. They look at representations of bead mixtures and select a representation of a screen that could be used to separate the mixture.
<u>Subconcepts</u> <ul style="list-style-type: none">▪ Senses of sight, hearing, and touch can be used to observe the properties of materials.▪ Particles of solid materials can pour like liquids, but unlike liquids they maintain their shape.▪ The behavior of small solids has similarities to and differences from that of liquids.	<u>Subconcepts</u> <ul style="list-style-type: none">▪ Mixtures of solid particles can be separated with a screen.
<u>Time Allocation</u> Active Investigation: 1 day	<u>Time Allocation</u> Active Investigation: 2 days
<u>CA Science Standards</u> PS1, I&E4b	<u>CA Science Standards</u> PS1a, I&E4b, I&E4c



Grade 1 – Solids and Liquids
Pacing Guide – Investigation 3: Bits and Pieces



Pacing Guide – Investigation 3: Bits and Pieces

Day 18		Day 19		Day 20	
Prep	Instruction	Prep	Instruction	Prep	Instruction
<input type="checkbox"/> Read “At A Glance” <i>TG p.108-109</i> <input type="checkbox"/> Read “Background for the Teacher” <i>TG p. 110</i> <input type="checkbox"/> Read “Teaching Children About Bits and Pieces” <i>TG p. 111</i> <input type="checkbox"/> Read “Working At Learning Centers” <i>TG p. 112</i> <input type="checkbox"/> Review “Materials” and “Getting Ready” <i>TG p. 114-116</i>	Guiding the Investigation <input type="checkbox"/> “Part 1: Solids In Containers; Wrapping Up Part 1” Steps 1-12 <i>TG p. 117-119</i>	<input type="checkbox"/> Review “Materials” and “Getting Ready” <i>TG p. 120-122</i>	Guiding the Investigation <input type="checkbox"/> “Part 2: Separating Soup Mix; Wrapping Up Part 2” Steps 1-12 <i>TG p. 123-125</i>	<input type="checkbox"/> Review “Materials” and “Getting Ready” <i>TG p. 126-128</i>	Guiding the Investigation <input type="checkbox"/> “Part 3: Solids In Bottles; Wrapping Up Part 3” Steps 1-11 <i>TG p. 129-131</i>
Day 21		Day 22		Day 23	
Prep	Instruction	Prep	Instruction	Prep	Instruction
<input type="checkbox"/> Review “Materials” and “Getting Ready” <i>TG p. 132-133</i>	Guiding the Investigation <input type="checkbox"/> “Part 4: Separating Beads With a Screen” Steps 1-5 <i>TG p. 134</i> <input type="checkbox"/> Body of Evidence Prompt #5		Guiding the Investigation <input type="checkbox"/> “Part 4: Separating Beads With a Screen; Wrapping Up Part 4” Steps 6-7 <i>TG p. 135</i>		<input type="checkbox"/> Review <input type="checkbox"/> Interdisciplinary Extensions <i>TG p. 136-140</i>



San Diego Unified School District
Science Department

Grade 1 – Solids and Liquids
Pacing Guide – Investigation 4: Solids and Liquids With Water



Investigation Overview

Investigation 4: Solids and Liquids With Water

Concept: Materials come in different forms (states), including solids, liquids, and gases.

Students will observe and record what happens when solids and water are mixed. Students will observe and record the properties of solids and liquids when they are mixed. Students will observe what happens when common solids and liquids are heated and cooled and they will compare these observations of the same phenomenon and make new observations if discrepancies occur.

Part 1: Solids and Water

Summary

Students investigate mixtures made of water and familiar solid materials. They observe and discuss the changes that occur immediately and set the mixtures aside for a day. Students observe the mixtures, note changes, and graph the changes. They attempt to return the solids to their starting condition by drying.

Subconcepts

- Some solids change when mixed with water; others do not.
- Some solids dissolve in water; evaporation leaves the solid behind.
- Water can be removed from a mixture through evaporation.

Time Allocation

Active Investigation: 3 days

CA Science Standards

PS1a, PS1b, I&E4a, I&E4b, I&E4c

Part 2: Liquids and Water

Summary

Students add water to bottles of familiar liquids. They observe changes that occur immediately, then tip the bottles gently, and finally shake them vigorously. They observe and record the results of mixing and settling. They read about and respond to questions about properties of common mixtures.

Subconcepts

- Some liquids mix with water.
- Some liquids form a layer above or below water.

Time Allocation

Active Investigation: 2 days
Reading: 1 day

CA Science Standards

PS1a, PS1b, I&E4b, I&E4e

Investigation Overview (continued)

Investigation 4: Solids and Liquids With Water

Concept: Materials come in different forms (states), including solids, liquids, and gases.

Students will observe and record what happens when solids and water are mixed. Students will observe and record the properties of solids and liquids when they are mixed. Students will observe what happens when common solids and liquids are heated and cooled and they will compare these observations of the same phenomenon and make new observations if discrepancies occur.

Part 3: Toothpaste Investigation	Part 4: Changing Properties
<p><u>Summary</u> Students apply their knowledge of solids and liquids to determine if toothpaste is a solid or a liquid.</p>	<p><u>Summary</u> Students investigate what happens when familiar solids and liquids are cooled or heated. They observe melting and freezing as two ways to change matter. They read about ways to change properties of materials.</p>
<p><u>Subconcepts</u></p> <ul style="list-style-type: none"> ▪ Some materials have properties of both solids and liquids. ▪ Scientists test materials in many ways in order to compare them to what is known. ▪ Scientists discuss their observations to compare results and sometimes retest. 	<p><u>Subconcepts</u></p> <ul style="list-style-type: none"> ▪ Heating and cooling can change the properties of materials. ▪ Melting is a change from solid to liquid and is caused by heat. ▪ Freezing is a change from liquid to solid and is caused by cooling. Some heating changes materials permanently.
<p><u>Time Allocation</u> Active Investigation: 2 days</p>	<p><u>Time Allocation</u> Active Investigation: 2 days Reading: 1 day Assessment: 2 days</p>
<p><u>CA Science Standards</u> PS1a, PS1b, I&E4b, I&E4e</p>	<p><u>CA Science Standards</u> PS1a, PS1b, I&E4b, I&E4e</p>



Grade 1 – Solids and Liquids
Pacing Guide – Investigation 4: Solids and Liquids With Water

Pacing Guide – Investigation 4: Solids and Liquids in Water

Day 24		Day 25		Day 26	
Prep	Instruction	Prep	Instruction	Prep	Instruction
<ul style="list-style-type: none"> <input type="checkbox"/> Read “At A Glance” <i>TG p. 142-143</i> <input type="checkbox"/> Read “Background for the Teacher” <i>TG p. 144-145</i> <input type="checkbox"/> Read “Teaching Children About Materials In Water” <i>TG p. 146</i> <input type="checkbox"/> Review “Materials” and “Getting Ready” <i>TG p. 147-149</i> 	Guiding the Investigation <ul style="list-style-type: none"> <input type="checkbox"/> “Part 1: Solids and Water” Steps 1-12 <i>TG p. 150-152</i> 		Guiding the Investigation <ul style="list-style-type: none"> <input type="checkbox"/> “Part 1: Solids and Water” Steps 13-20 <i>TG p. 153-154</i> 		Guiding the Investigation <ul style="list-style-type: none"> <input type="checkbox"/> “Part 1: Solids and Water; Wrapping Up Part 1” Steps 21-28 <i>TG p. 155-156</i>
Day 27		Day 28		Day 29	
Prep	Instruction	Prep	Instruction	Prep	Instruction
<ul style="list-style-type: none"> <input type="checkbox"/> Review “Materials” and “Getting Ready” <i>TG p. 157-159</i> 	Guiding the Investigation <ul style="list-style-type: none"> <input type="checkbox"/> “Part 2: Liquids And Water” Steps 1-11 <i>TG p. 160-162</i> <input type="checkbox"/> Body of Evidence Prompt #6 <i>TG p.197</i> 		Assessment/Wrapping Up Part 2 <ul style="list-style-type: none"> <input type="checkbox"/> Steps 12-13 <i>TG p. 162</i> Reading in Science Stories <ul style="list-style-type: none"> <input type="checkbox"/> Steps 14-17 <i>TG p. 163-164</i> Student Reading: Science Resources	<ul style="list-style-type: none"> <input type="checkbox"/> Review “Materials” and “Getting Ready” <i>TG p. 165-166</i> 	Guiding the Investigation <ul style="list-style-type: none"> <input type="checkbox"/> “Part 3: Toothpaste Investigation” Steps 1-6 <i>TG p. 167-168</i>

Pacing Guide – Investigation 4: Solids and Liquids In Water (continued)

Day 30		Day 31		Day 32	
Prep	Instruction	Prep	Instruction	Prep	Instruction
	Guiding the Investigation <input type="checkbox"/> “Part 3: Toothpaste Investigation; Wrapping Up Part 3” Step 7-11 <i>TG p. 168-169</i>	<input type="checkbox"/> Review “Materials” and “Getting Ready” <i>TG p. 170-172</i>	Guiding the Investigation <input type="checkbox"/> “Part 4: Changing Properties” Steps 1-8 <i>TG p. 173-174</i>		Guiding the Investigation <input type="checkbox"/> “Part 4: Changing Properties; Wrapping Up Part 4” Steps 8-16 <i>TG p. 174-176</i>
Day 33		Day 34		Day 35	
Prep	Instruction	Prep	Instruction	Prep	Instruction
	Reading In Science Resources <input type="checkbox"/> Steps 17-20 <i>TG p. 177</i> Student Reading: Science Resources p. 23-27 <input type="checkbox"/> Body of Evidence Prompt #7 <i>TG p.200</i>		<input type="checkbox"/> Review Interdisciplinary Extensions <i>TG p. 178-181</i>		<input type="checkbox"/> End-Of-Module Assessment <i>TG p. 243-246</i>



Recommended Body of Evidence



Overview

This guide is intended to support the collection of a Body of Evidence. A student's Body of Evidence should, at a minimum, include work from the listed prompts and in-class investigations. Other class work and assessments that demonstrate a student's level of proficiency may be included. Download samples of proficient work at <https://eteams.sandi.net/sites/sbrc>

Note: Administer Grade 1 Physical Science End-of-Module assessment (can also be used as a pre-assessment at the beginning of the unit).

Recommended Body of Evidence – Grade 1 Physical Science

Concept #1

Materials come in different forms (states), including solids, liquids, and gases. (CA Standards PS1a, PS2b)

Prompt # 1: (I&E) FOSS: Solids and Liquids: Investigation 1: Solids Part 2: Sort Solid Objects

(TG p. 184 Sorting Circle – No. 2 – Science Notebook)

Some solids are _____.

Prompt # 2: (I&E) FOSS: Solids and Liquids: Investigation 1: Solids Part 3: Construct With Solids

(TG p. 185 Everything Matters Review – No. 3 – Science Notebook)

1. What is matter? 2. Matter can be divided into three groups. What are they? Give an example of each.

Prompt #3: (I&E) FOSS: Solids and Liquids: Investigation 2: Liquids Part 3: Liquid Level

(TG p. 189 Liquid Level in a Bottle – No. 7 – Science Notebook)

Draw what the liquid looks like in each picture as the bottle turns upside down.

Prompt #4: (I&E) FOSS: Solids and Liquids: Investigation 2: Liquids Part 3: Liquid Level

(TG p. 192 Solids and Liquids Review – No. 10 – Science Notebook)

1. What are properties? 2. Tell about the properties of solids. 3. Tell about the properties of liquids.

Prompt #5: (I&E) FOSS: Solids and Liquids: Investigation 3: Bits and Pieces Part 4: Separating Beads With A Screen

(TG p. 195 Bead Mix B – No. 13 – Science Notebook)

Which screen can separate this mixture?

Prompt #6: (I&E) FOSS: Solids and Liquids: Investigation 4: Solids and Liquids With Water Part 2: Liquids With Water

(TG p. 197 Liquid With Water – No. 15 – Science Notebook)

1. Add water. How does it look? 2. Shake it. How does it look? 3. Let it sit overnight. How does it look the next day?

Prompt #7: (I&E) FOSS: Solids and Liquids: Investigation 4: Solids and Liquids With Water Part 4: Changing Properties

(TG p. 200 Solids and Liquid and Back Again Review – No. 18 – Science Notebook)

1. Tell about a solid that changes into a liquid. 2. Tell about a liquid that changes into a solid.



**Grade 1 – Solids and Liquids
Module Materials and Equipment**



Materials Provided

The FOSS kit comes with most of the supplies that are needed to teach the unit. The kits will be delivered to the school site prior to the start of the 12-week unit of instruction. At the end of the 12-weeks, the kit will be returned to the Science Resource Center where it will be refurbished and prepared for its next use. Please review the refurbishment calendar for kit drop-off and return dates. Kits must be returned according to the refurbishment calendar to ensure that all kits are checked and restocked with consumable materials.

Materials Supplied by the Teacher or School Site

Be aware that the classroom teacher or school site must supply a few items. These are indicated in the materials list for each part of the investigation with an asterisk (*). Here is a summary of those items.

Investigation 1: Solids	Investigation 2: Liquids	Investigation 3: Bits and Pieces	Investigation 4: Solids and Liquids with Water
<ul style="list-style-type: none"> ▪ Chart Paper ▪ Drawing Paper (optional) ▪ Marking Pen ▪ Overhead Projector (optional) ▪ Paper bag or box ▪ Rock, Wood, Block or other solid object ▪ Transparencies ▪ White Paper 	<ul style="list-style-type: none"> ▪ Large Books or lapboards ▪ Chart Paper ▪ Glue ▪ Magazines (optional) ▪ Overhead Projector (optional) ▪ Paper Towels ▪ Scissors ▪ Transparency (optional) ▪ Transparent Tape 	<ul style="list-style-type: none"> ▪ Large books or lapboards ▪ Broom and dustpan ▪ Chart paper ▪ Construction paper (optional) ▪ Bag of 15-bean soup mix (optional) ▪ Glue ▪ Scissors 	<ul style="list-style-type: none"> ▪ Balances ▪ 6 small pieces of chalk ▪ 2 birthday candles ▪ 1 crayon with no paper covering ▪ Chart Paper ▪ 6-Chocolate Chips ▪ 6-Small Cookies ▪ Cooking Oil ▪ Corn Syrup ▪ Liquid Dish Soap (detergent) ▪ Gram Masses (Optional) ▪ Liquid Fabric Softener or starch ▪ Liquid Hand Soap ▪ 10 small ice cubes ▪ 1 stick of margarine ▪ 1 match ▪ Paper towels ▪ Raisins ▪ Scissors ▪ Thermos Bottles ▪ Transparent Tape ▪ Water ▪ Piece of writing paper