

Sample Body of Evidence

Science

Grade 1 – Second Reporting Period

**FOSS California Solids and Liquids
Physical Science/Investigation & Experimentation**

This sample is intended to demonstrate the essential elements of a body of evidence. The evidence includes:

- Expected Student Responses to Grade Level Prompts (Science Notebook Sheets) identified in the Recommended Body of Evidence

This sample includes Expected Student Responses on Student Notebook Sheets identified in the Recommended Body of Evidence. This sample will be replaced with San Diego Unified School District proficient student work when it becomes available.

Important Note:

For the first two grading periods, students are evaluated based upon their progress toward end-of-year standards. Students who receive a mark of "proficient" for the first and second grading periods are making consistent and adequate progress toward achieving end-of-year expectations. In the final reporting period, the report card marks reflect a student's actual achievement of the cumulated skills, strategies, and concepts identified in the California frameworks and content standards (SBRC, 2007).

Prompt #1



FOSS

INVESTIGATION 1: SOLIDS

5. START THE SORTING

Send students to their groups. Have the Getters get a bag of solids and a *Sorting Circle* for each student. Circulate among students as they sort.

6. EXPAND THE SORTING

After 8–10 minutes, call for attention. Ask for a volunteer to use *your set of solid objects* to show and tell one way he or she put two objects together. Have students do the same at their desks. Then ask,

- *Are there any other solids that have that same property and can also be put in the circle with the first two?*

Let students do this, and then repeat the process with another student selecting the starting pair of solids.

7. ASSESS PROGRESS: NOTEBOOK SHEET

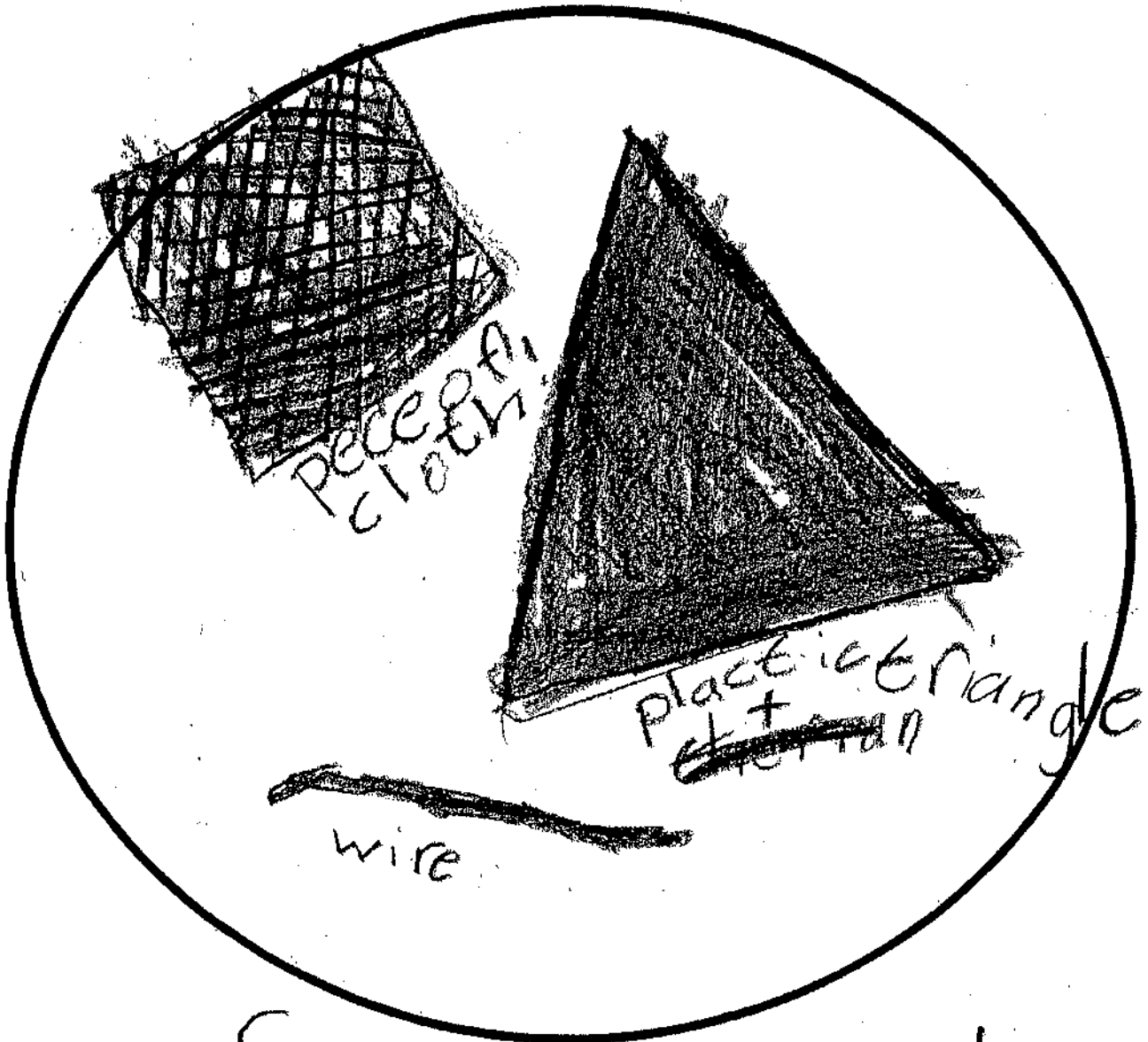
Ask students to find all the objects that have a property of their choosing. Ask them to draw or trace the objects in the *Sorting Circle*. Under the circle, have them finish the sentence with a word that describes the property they selected.

Have students turn their sheet over and draw two large circles. Ask them to find all the objects that share a different property from the one they selected in the first example. Have them write the property below the circle and write the names of the objects inside the circle. They should select a new property for the remaining circle and write the names of the objects inside the circle.

8. INVENTORY AND RETURN MATERIALS

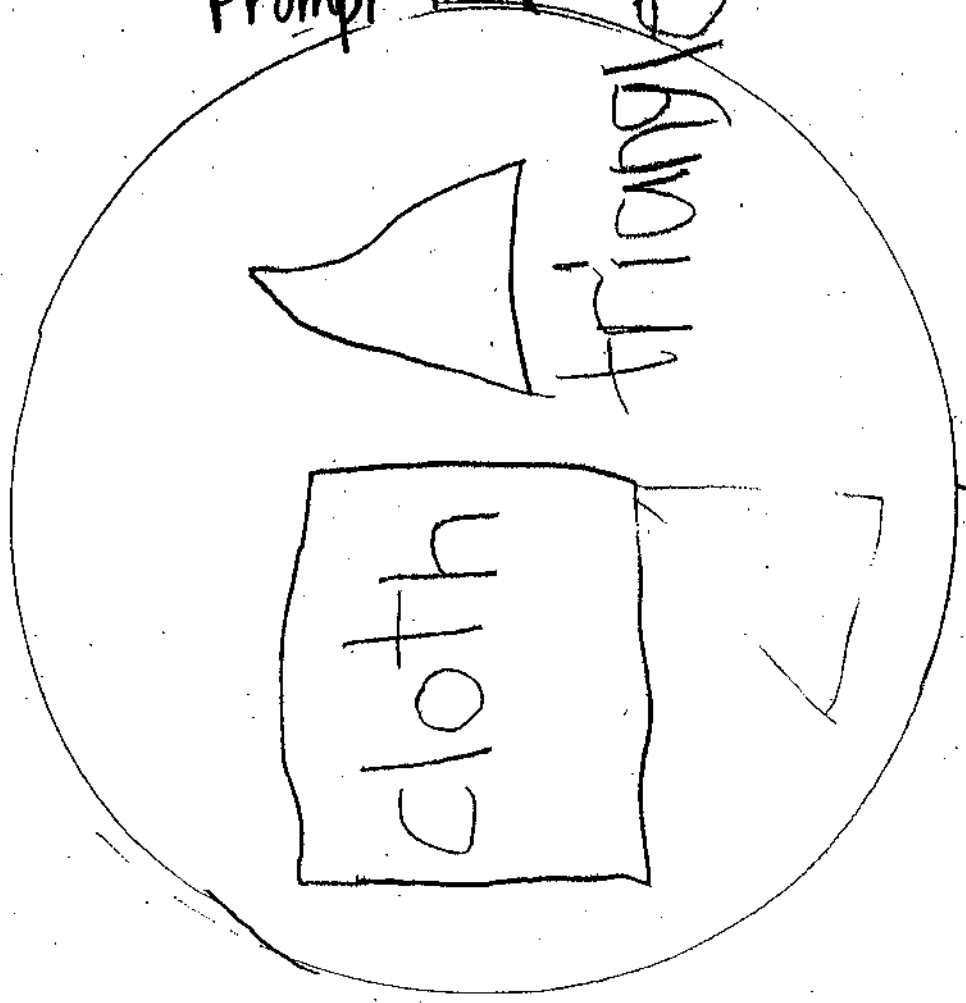
Conduct a verbal inventory, have students bag the materials, and have the Getters return them to the materials station.

SORTING CIRCLE

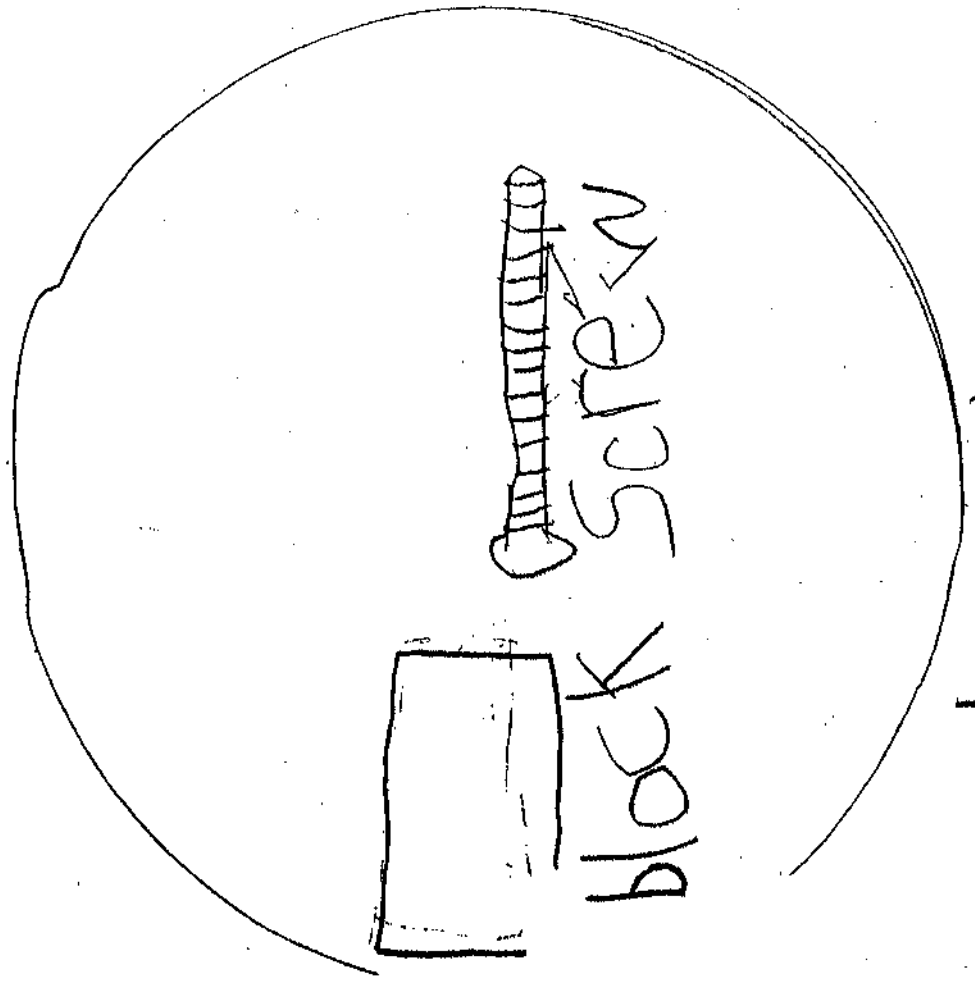


are some solids
flexible.

Prompt #1 cont.



colored



hard

Prompt #2



FOSS

INVESTIGATION 1: SOLIDS

The following questions can be used to deepen students' understanding and may best be used after students have reread the article in small groups.

- *Why is the story called Everything Matters?* [Everything in the world is made up of matter.]
- *Are there more solids or liquids in the world?* [Students may identify more types of solids, but water covers most of Earth.]
- *The story says, "Every solid and liquid is different. So they are useful in different ways." What does that mean? Give some examples to explain your thinking.*

14. REVIEW THE READING IN NOTEBOOK

Have students respond to the review items on science notebook sheet no. 3. Read the questions aloud to the class.

- *What is matter?* [Anything that takes up space.]
- *Matter can be divided into three groups. What are they? Give an example of each.* [Solid, liquid, and gas.]

15. INTRODUCE THE GLOSSARY

Review what students can do when they come to a word they don't know while reading (use content clues, use phonic clues, ask someone for help, guess at the word, skip the word, look it up in a dictionary). Explain that in a book like *Solids and Liquids* there is another tool they can use. Have students turn to the glossary, page 28. Explain that a glossary is like a dictionary made for that particular book. If there is a word they do not know, they can check to see if it's in the glossary. The glossary lists the word and the word's meaning.

Turn to page 3 of the text. Reread the sentences "But in one way, they are all the same. They are all **matter**." Ask students if they know what **matter** is. Explain that, if they didn't know what matter was, they could look it up in the glossary. Ask students to find *matter* in the glossary. Read the definition.

NOTE: Glossary terms are in bold in the book.

Name _____

Prompt #2 (cont.)

Date _____

EVERYTHING MATTERS REVIEW

1. What is matter?

see Teacher's Manual

Page 64

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

see Teacher's Manual

Page 64



GUIDING THE INVESTIGATION PART 3: LIQUID LEVEL

1. INTRODUCE LEVEL LIQUIDS

Call students to the rug. Set the mood for this activity.

Close your eyes and think about a glass half full of water. Think what it looks like. Now imagine that someone is tipping the glass and the water is just about to spill. Think what it looks like. Now the glass is tipped over on its side. What does it look like now?

Discuss students' ideas. Encourage students to describe the shape of the water in the glass and the direction of the water surface as the glass tips. Tell students they will be observing the level of the water. The **level** is where the **surface** of the water touches the container.

2. INTRODUCE THE NOTEBOOK SHEET AND BOTTLES

Show the class the *Liquid Level in a Bottle* sheet and a sample bottle that pairs of students will use for their observations. Tell students that they will use a pencil to draw the level of the water when the bottle is held in each position.

3. ORGANIZE THE CLASS AND BREAK INTO GROUPS

Tell students they will work in pairs to observe what happens to liquid as it slowly tips in a closed bottle. Let them know that each student will record observations on his or her own sheet, but will share a bottle with a partner.

Identify six-ten students for the center and have all the other students return to their tables to start work on the *Liquid Level in a Bottle* sheets. Have Getters pick up a notebook sheet for each student and a bottle for each pair.

4. INTRODUCE THE WATER-IN-CONTAINERS CENTER

Show the first group a set of containers and the *Liquids in Containers* sheet. Describe the procedure, modeling the actions as you proceed.

- Work with a partner to line up the containers as they are on the sheet.
- Pour one full small vial of water into each container.
- Draw a line on each picture showing the level of the water.
- Color the picture if you would like to.

MATERIALS FOR CENTER

- Liquid level in a bottle sheets
- Bottles of colored water or fabric softener
- Pencils

CENTER MATERIALS

- *Liquids in Containers* sheets
- Colored pencils or crayons
- Bus trays
- Container of colored water
- Small vial or 50-ml beaker
- 1/4-liter container
- Bottle
- Large vial
- Cup
- Paper towels

Prompt #3 (cont.)

5. ASSESS PROGRESS: NOTEBOOK SHEET

As students draw the water level on their sheets, ask,

- What is the shape of the water in the bottle? In the cup? In the flat container? In the large vial?
- Does each container have the same amount of water in it?
- Which container looks like it has the most water in it?
- Where do you think the water level will be if we add another vial of water to each container?

After listening to their predictions, have students put a second vial of water into each container and draw a second line on each picture to illustrate the new water level.

6. ROTATE GROUPS TO THE CENTER

As one group completes the activity, ask them to return the materials to their starting condition. Rotate new groups through the center until everyone has had an opportunity to complete a *Liquids in Containers* sheet.

7. WORK WITH THE REST OF THE CLASS

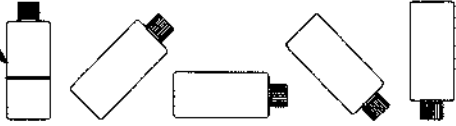
Students may need additional guidance in drawing their observations on the *Liquid Level in a Bottle* sheet. Model how to hold the bottle straight up and down and how to draw the surface level of the liquid in the first outline on the sheet.

Have the partners take turns with roles, with one partner holding the bottle while the other draws. Model how to tip the bottle slightly, leaving one edge on the table.

Direct students to draw the surface level as they see it in the bottle.

Name _____ Date _____

LIQUID LEVEL IN A BOTTLE



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

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MATERIALS FOR STEP 7:

• *Liquids in Containers* sheet

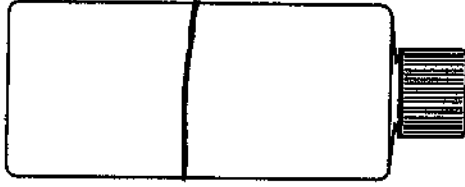
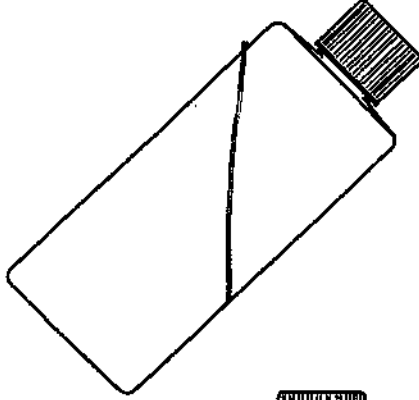
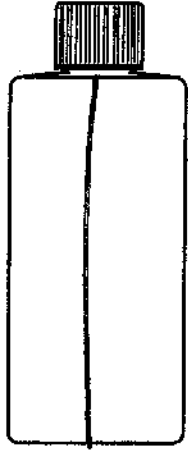
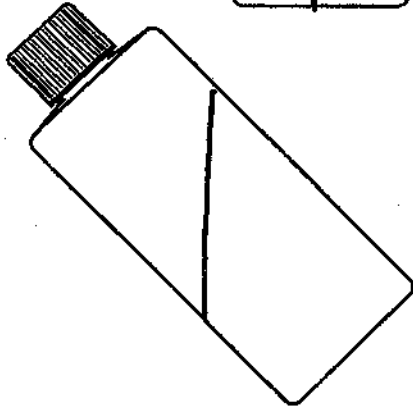
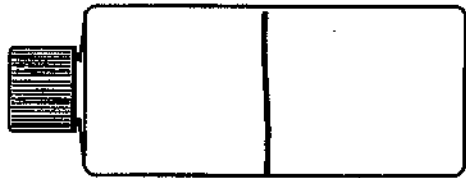
• *Liquid Level in a Bottle* sheet

• Water

Name _____

Date _____

LIQUID LEVEL IN A BOTTLE



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

Prompt #4

- *What are properties?* [Properties describe how something looks or feels.]
- *Tell about the properties of solids.* [Solids have shape and size. They can be small or big. They can be flexible or rigid. They can be broken into pieces, and you can put the pieces back together to make the shape and size the solid was before.]
- *Tell about the properties of liquids.* [Liquids don't have a shape; they take the shape of the container. Liquids can be foamy, bubbly, viscous, translucent, or transparent.]

17. USE THE GLOSSARY

Reread the story, pausing to find the following words in the glossary: *property* (p. 9), *foamy*, *bubbly*, *transparent*, *translucent*, and *viscous* (p. 13). Using a think-aloud strategy, model how you decided to look up the word, and how you make sense of the definition. For example, when you read the word *property*, say,

We've been talking a lot about properties in our class, but I'm still not sure what it means. I'd better find out. I will look in the glossary. It says, "Something you can observe. Size, color, and shape are properties." I'd better check how it's used in the sentence and see if it makes sense. "Properties describe how something looks or feels." That makes sense! Now I can go on reading.

Continue rereading the story. When you reach page 13, ask whether students know what all the words mean or whether they need to use the glossary. Have students identify which liquids in the picture show examples of each of the terms: *foamy*, *bubbly*, *transparent*, *translucent*, and *viscous*. Have students check the definitions in the glossary to see if they are correct.

18. SET UP A PROPERTIES-EXPLORATION CENTER

Collect a variety of objects for students to explore at a center and think of ways to explore them. For instance, provide a small tub of water to test for buoyancy, cups to use for pouring, and so forth. Give each student an object to explore at the center. After investigating their object's properties, students should describe the properties to a partner. Have students draw a picture of their object and write or dictate a sentence and/or labels identifying their object's properties.

Solids and Liquids

What is the difference between solids and liquids? They have different **properties**. Properties describe how something looks or feels.

Shape and size are two properties of a solid. The shape and size don't change unless you do something to them. Solids can be rigid, like a bat. When something is rigid, you can't bend it.



Solids can be flexible, like a sweater. When something is flexible, you can bend it.



NOTE: Consider management and safety issues when constructing the center.

Name _____ Date _____

SOLIDS AND LIQUIDS REVIEW

1. What are properties?

see Teacher's Manual
Page 101

2. Tell about the properties of solids.

see Teacher's Manual
Page 101

3. Tell about the properties of liquids.

see Teacher's Manual
Page 101



GUIDING THE INVESTIGATION

PART 4: SEPARATING BEADS WITH A SCREEN

1. INTRODUCE BEAD-MIX SHEETS

Give each student a copy of *Bead Mix A* or *Bead Mix B*. Point out that there are beads of different sizes in the containers drawn on the sheet—one size of bead in each of the cups in *Bead Mix A*, and two sizes of beads in the cups on *Bead Mix B*. Ask,

- *If these were real beads, how could you separate them from each other?*
- *What rule did you use to decide which screen to use to separate the soup mix?*

2. INTRODUCE THE REPRESENTATIONS OF SCREENS

Distribute a copy of the *Screens* transparency to each student. Ask which screen is large, which is medium, and which is small.

3. SEPARATE THE BEADS

If you are using *Bead Mix A*, tell students,

Look at the beads in each container. Figure out which screens the beads will pass through and write the numbers of the screens on the line by the container. Some beads may pass through more than one screen.

If you are using *Bead Mix B*, tell students,

Look at the mixture of beads in each cup. Figure out which screens could be used to separate the beads from one another. Write the numbers of the screens on the line next to the cup. There may be more than one screen that could be used.

4. ASSESS PROGRESS: NOTEBOOK SHEET

When students have completed their sheets, collect them for assessment. If students chose appropriate screens, give them a ✓ on the *Assessment Checklist*.

5. COLLECT MATERIALS

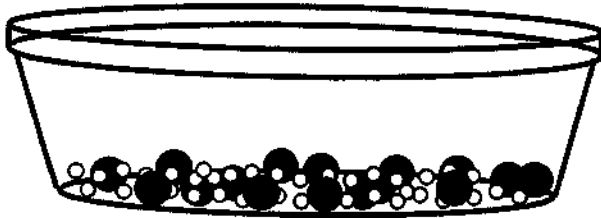
Have a Getter collect the *Screens* transparencies.



Name _____

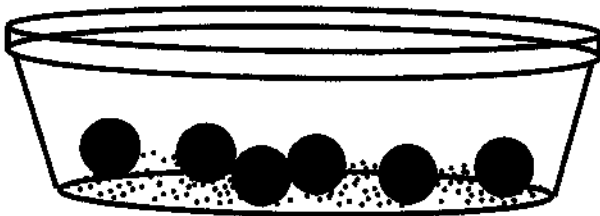
Date _____

BEAD MIX B



Which screen can separate this mixture?

1 or 2



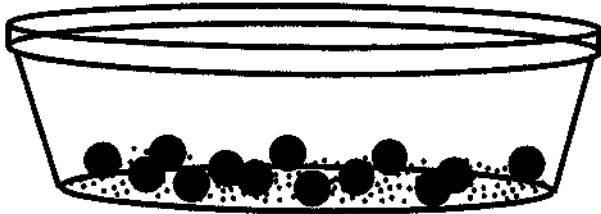
Which screen can separate this mixture?

1, 2 or 3



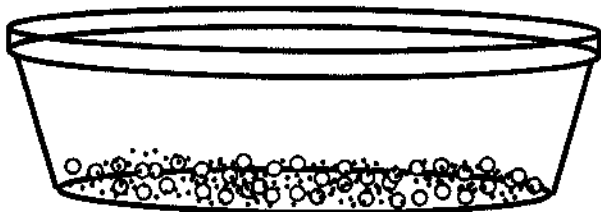
Which screen can separate this mixture?

1



Which screen can separate this mixture?

1, 2 or 3



Which screen can separate this mixture?

3



INVESTIGATION 4: SOLIDS AND LIQUIDS WITH WATER

10. ASSESS PROGRESS: NOTEBOOK SHEET

Remind students they will observe their mixtures after they have settled. Until they have recorded their observations and shared them with the class, they should not shake or mix up the liquids in their bottles. Distribute the *Liquid with Water* sheets and review the observations of the liquids after shaking. Carefully distribute the bottles for students to observe and record.

11. CLEAN UP

Collect student sheets for assessment. The diluted detergent can be saved for cleaning the oil bottles. The other liquids can be disposed of safely in a sink.

WRAPPING UP PART 2

12. REINFORCE VOCABULARY

Review key vocabulary added to the word bank earlier. Here's an example of cloze review for this part.

T: *When two liquids split apart and do not mix together, we call it*

S: Layers.

T: *Which liquid does not mix with water?*

S: Oil.

Add the names of the other liquids to the word bank. They will be used in Part 4 when the liquids in bottles are frozen.

13. MAKE CONTENT CHART ENTRIES

Add new concepts to the content chart.

- *What can happen when you make a mixture of liquid and liquid?*
- *What kinds of liquids make layers?*
- *What are some other liquid mixtures that you have seen?*

WORD BANK

layer
oil
corn syrup
dish soap
fabric softener
hand soap
plain water
water with color
fabric softener

WHAT WE LEARNED

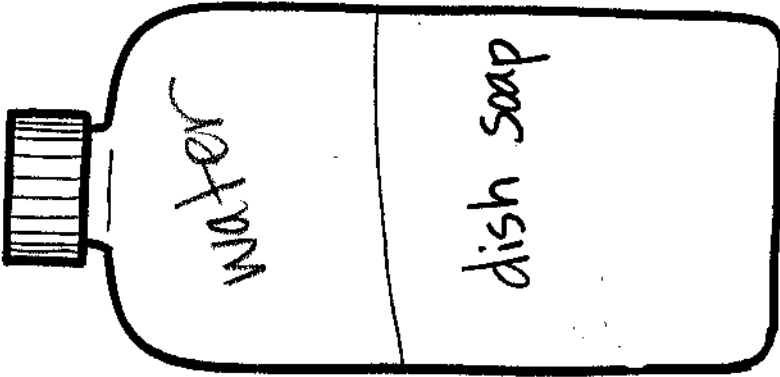
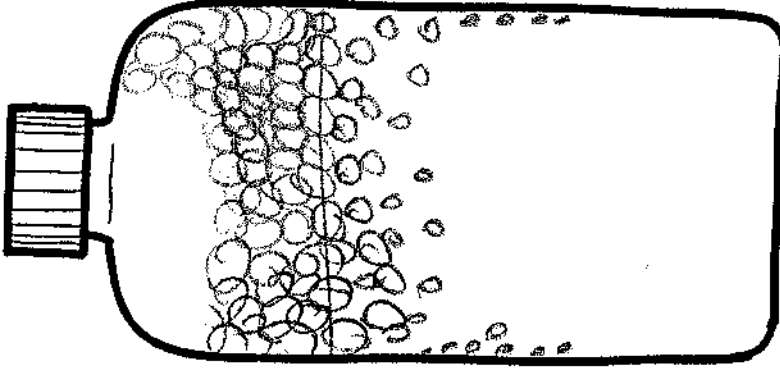
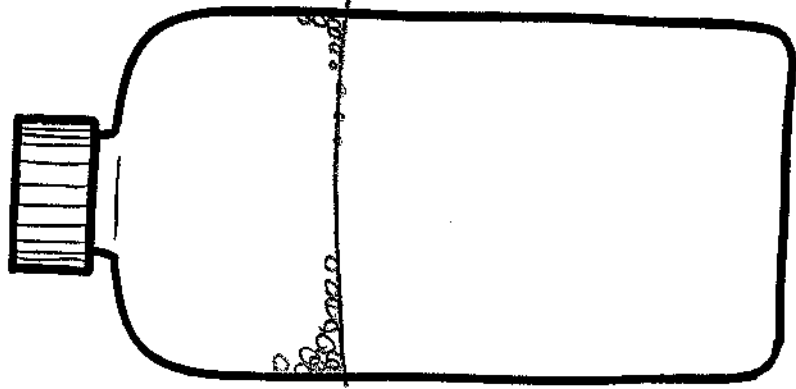
- Liquid mixtures can swirl, mix completely, or make layers.
- Oil and water always make layers. Some viscous liquids with water make layers for a while.
- Other liquid mixtures are bath oil and water, chocolate syrup and milk, and salad dressing.
- *Student questions?*

NOTE: Use the words "dish soap" rather than "liquid detergent" when recording names on the word bank.

Name _____

Date _____

LIQUID WITH WATER

		
<p>1. Add water. How does it look? <u>The water is on</u> <u>the dish soap.</u></p>	<p>2. Shake it. How does it look? <u>It looks bubbly</u> <u>and foamy.</u></p>	<p>3. Let it sit overnight. How does it look the next day? <u>It's not as</u> <u>foamy.</u></p>

READING IN SCIENCE RESOURCES

17. READ THE ARTICLE

Introduce the title of the article, "Solids to Liquids and Back Again." Read the article, using the strategy that best fits your class's ability level.

18. DISCUSS THE ARTICLE

Ask,

- *What makes solids and liquids change?* [Heating them up or cooling them down.]
- *Do heating and cooling change all solids and liquids?* [No.]

19. REVIEW IN NOTEBOOK

Have students respond to the review prompts on science notebook sheet no. 18.

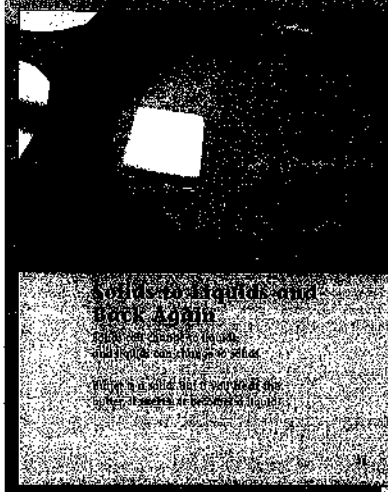
- *Tell about a solid that changes into a liquid.* [Heating some solids makes them melt.]
- *Tell about a liquid that changes into a solid.* [Cooling some liquids makes them get solid. If you really cool them, by putting them in a freezer, some liquids will freeze like ice.]

20. END-OF-MODULE ASSESSMENT

When you have completed the investigations conduct the End-of-Module Assessment. See the Assessment Chapter in this teacher guide.

CA STANDARD

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



Name _____

Date _____

SOLIDS TO LIQUIDS AND BACK AGAIN REVIEW

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

see Teacher's Manual

Page 177

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

see Teacher's Manual

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