

Solids and Liquids

2nd-3rd grades

Overview

In this build series, students will reflect on the properties of matter and how they transition from solids to liquids. They will discuss ways to contain these kinds of matter and talk about how they experience matter. They will also explain how solids and liquids are used in everyday life and how matter can change from one state to another.

Connect to Curriculum

This build series can be part of classroom activities that involve:

Physical Sciences:

- Understanding that matter exists as different substances that can be either solid or liquid depending on the temperature.
- Describing the observable properties of solids and liquids.
- Identifying the purpose or use of different substances and making connections to their properties.

Before You Begin

Assess and encourage prior learning by:

- Introducing and defining key vocabulary: *liquid*, *matter*, and *solid*.
- Looking at and discussing examples of each type of matter to note their observable properties. It is a good idea to watch movies and videos about solids and liquids or conduct basic experiments and investigations to gain hands-on experience with different types of matter.
- Highlighting that many substances can exist in more than one state and conduct investigations with matter as it changes states at different temperatures, such as water when frozen or sugar when heated.

Build and Share

Have students build and share their models by following the steps outlined in the Challenge Cards provided with this activity.



Tip:

Consult the Quick Start Guide of this activity pack for ideas on classroom management and organization.



Vocabulary:

- **liquid:** something that has a definite volume, but not a definite shape; not solid, nor gas
- **matter:** anything you can touch
- **solid:** of definite shape and volume; not liquid or gas



Reflect on the Experience

Encourage students to record and reflect on their models and ideas.

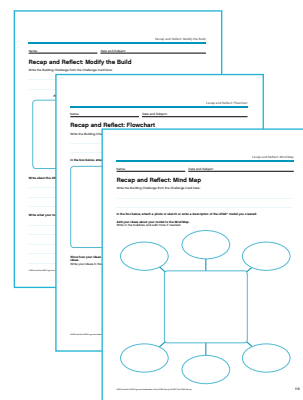
Extensions

After completing the build series, encourage further learning by:

- Classifying a collection of objects according to their shared properties by creating a collage of things that are solid or liquid. (Science, Visual Arts)
- Organizing a scavenger hunt for technological innovations that change things from one state of matter to another (e.g., stove, refrigerator, or hair dryer). (Science)
- Having students write a song or poem about a specific type of matter and its properties (e.g., "Why Ice Is Nice"). (Language Arts, Music)

Facilitating Questions:

Notes:



Tip:

Use one of the Recap and Reflect Worksheets available in the Support Materials section of this activity pack to document the build experience.



Topic: Solids and Liquids

1 Think about



These four building tasks will help you express your thoughts and ideas about solids and liquids, where you find them, and how you use them in daily life.

Build: Build a model that shows you creating or using a container that could be used to hold a certain kind of solid or liquid.

Building Time: 3-4 minutes

Share: When the building time is up, take turns telling each other about what you have built.

Keep your model on your own building plate.



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2 Remember



Now that you've thought about a specific example, it is useful to think about a time you interacted with solids or liquids.

Build: Build a model that shows how you have used your senses to find out if something is a solid or a liquid.

Building Time: 3-4 minutes

Share: When the building time is up, take turns telling each other about what you have built.

Keep your model on your own building plate.



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3 Imagine



Now you will use your imagination and creativity to think about how you use solids and liquids in daily life.

Build: Build a model that shows you using this solid or liquid.

Building Time: 3-4 minutes

Share: When the building time is up, take turns telling each other about what you have built.

Keep your model on your own building plate.



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4 Conclude



Now you will build a model that sums up what you have learned so far.

Build: Build a model that shows how you would change this solid into a liquid or this liquid into a solid and why.

Building Time: 3-4 minutes

Share: When the building time is up, take turns telling each other about what you have built.

Keep your model on your own building plate.



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