

GRADE 2 SCIENCE

Structure and Properties of Matter

HOW DO YOU CHOOSE?

In Unit One, your child will explore the properties of materials and matter! They will describe and classify different types of materials by properties like hardness, flexibility, and absorbency, and they investigate how those properties are useful in meeting basic human needs (such as clothing and cooking). They also investigate how heating and cooling affect the properties of materials.

We will explore how different properties of clothing materials are good for different situations. You can help your child's learning by asking them how they picked what clothes they wore today. What material is their clothing made out of? Why is that a good material for today's weather?

Explore the characteristics of materials with your child with [this simulation](#). You can test whether materials are flexible, waterproof, transparent, and strong. Then apply this knowledge in a simulated workshop where you make car tires, saucepans, and windows. You can also experiment and see what happens when you make these objects using the wrong materials!



STAY WARM!

We will also explore how different materials can conduct and insulate heat. You can help your child's learning by talking with them at breakfast about the different things your family uses to handle hot food. Maybe you use oven mitts to take hot food out of the oven? Maybe you use a plastic thermos for hot coffee? Discuss how these materials insulate and protect your hands from the heat.

Polar bears, whales, and seals stay warm in icy Arctic water because they have a layer of fat or blubber that insulates them from the cold. You can see how it works by following the New England Aquarium's instructions for making a ["blubber mitt."](#)



Some materials like crayons can be melted and cooled without turning into a new substance.

MELTING & COOLING

We will explore the idea that some solid materials can be melted into liquids then frozen back into solids again. You can help your child's learning by sitting down together to watch a fun short ["How It's Made"](#) [video](#) showing glass in its molten (liquid) state.

We'll also learn how new materials are constantly being invented, and that this makes it possible to solve new problems. Here's a [fun video](#) you and your child can watch together at home, which can help to further stir your child's curiosity. It's a behind-the-scenes look at the making of the Lexus hoverboard.



READERS' CORNER

Here are some book suggestions to learn more about the properties of materials, engineering and inventions:

[The Mitten](#) / [El mitón](#) by Jan Brett

[The Day the Crayons Came Home](#) / [El día que los crayones regresaron a casa](#) by Drew Daywalt, [From Wax to Crayons](#) by Inez Snyder

[The Most Magnificent Thing](#) / [La idea más maravillosa](#) by Ashley Spires



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