

SQUISHY SCIENCE

TEACHER GUIDE



PLANNING

Here's a suggested schedule for this kit! The activities should be completed in order, but you can choose when the lessons take place over time. Required times are estimated.

ACTIVITY INFORMATION	SECTION(S)	TIME REQUIRED	DAY/ LESSON
ACTIVITY 1: OH, IT'S OOBLECK! Make your own oobleck. Total time: 1 h	· Make Oobleck	30 minutes	Day 1
	· Just a Little Research	30 minutes	Day 2
ACTIVITY 2: WHAT'S GOING ON HERE? Experiment to discover the states of matter. Total time: 1 h	· Solids, Liquids, and Gases	30 minutes	Day 3
	· States of Matter	30 minutes	Day 4
ACTIVITY 3: OOBLECK AND THE FIVE SENSES Discover how the five senses observe objects. Total time: 45 min	· Physical Properties of Matter	30 minutes	Day 5
	· Choosing the Material with the Right Properties	30 minutes	Day 6
ACTIVITY 4: CORNSTARCH CAN DO WHAT? Create and compare slimes. Total time: 1 h	· More Squishy Science	30 minutes	Day 7
	· Comparing Slimes	30 minutes	Day 8
ACTIVITY 5: STRESSED OUT? STARCH CAN HELP! Test out stress balls to see which one you like the best. Total time: 1 h	· Design Challenge (through Step 5)	30 minutes	Day 9
	· Design Challenge (Reflect) · Claim, Evidence, Reasoning	30 minutes	Day 10
ACTIVITY 6: CHECK YOURSELF Find out how much you have learned. Total time: 30 min	· Quiz	30 minutes	Day 11
ACTIVITY 7: WHAT'S NEXT? Use any or all of these fun extensions to keep the learning going. Total time: 1+ h	· Shear-Thickening Fluids	30 minutes	Day 12
	· Mixed-Media Matter	30 minutes	Day 13
	· Special Slime	30 minutes	Day 14
	· Mood Sand	30 minutes	Day 15
	· Slinky Soft "Dough"	30 minutes	Day 16
	· Your Own Material	30 minutes	Day 17

6+ hours

1

activity

OH, IT'S OOBLECK!

Oobleck is a type of semi-solid known as a shear-thickening fluid, which is a type of non-Newtonian fluid. When shear forces (stressors) are applied to it, friction between the long, polymer-like starch particles prevents them from sliding past each other, decreasing the material's ability to flow. The more force is applied, the harder oobleck becomes.

In this activity, your student will make oobleck.

MAKE OOBLECK



WARNING! DO NOT EAT OR DRINK anything in this kit.



PREPARATION AND SUPERVISION

- In the Student Workbook, review the steps for this section in advance and discuss the directions with your student. Allow them to complete the steps with as much independence as possible, only asking for your help when needed.
- To clean up, wipe surfaces with warm, soapy water. It can also be gently scraped off of surfaces when dry. Oobleck may clog your pipes if you pour it down the drain, so throw away the cup with the oobleck inside.
- You can save the oobleck for about one day by placing it into a resealable baggie or plastic container.
- Make sure to save the measuring scoop, stirring rod, and cornstarch.

JUST A LITTLE RESEARCH

2

CONTENT

- There are many videos available online if you search for "oobleck."
- If you are visiting a local library, there may not be a book specifically on oobleck or shear-thickening fluids. Instead, you can have them look for books on the properties of matter that are discussed in Activity 2.



REFLECT



Question 1: Write down 3 things you discovered about oobleck.

Answer: This could be anything about its appearance, texture, behavior, smell, sound, etc.

How to Help:

- *If they are struggling, provide prompts, such as "What did you see when you stretched the oobleck?" or "What did you notice when you tried forming it into a ball?"*
- *Your student should notice that oobleck flows easily unless some force or stress is put on it, such as poking, quickly stirring, tearing, etc.*



Question 2: Write down 3 questions you have about oobleck.

Answer: There are no wrong questions, but you can lead them toward writing good scientific questions, which are 1) about the natural world, 2) testable, and 3) repeatable.

13

POSTER PRESENTATION

MIXED-MEDIA MATTER

- Encourage students to use their knowledge from this kit to assist in creating their poster. You can also visit a local library to check out books on the various types of matter.

14

HANDS-ON ACTIVITY

SPECIAL SLIME

- You can assist your student in making their slime to ensure they don't add any dangerous, household chemicals. If you have any extra balloons, you can use those to create another stress ball.

15

HANDS-ON ACTIVITY

MOOD SAND

- This is a fantastic tactile-sensory activity that broadens your students' knowledge and understanding of matter.

16

HANDS-ON ACTIVITY

SILKY SOFT "DOUGH"

- You can assist your student in making their slime to ensure they don't add any dangerous, household chemicals. If you have any extra balloons, you can use those to create another stress ball.

17

HANDS-ON ACTIVITY

YOUR OWN MATERIAL

- You can assist your student in making their slime to ensure they don't add any dangerous, household chemicals. If you have any extra balloons, you can use those to create another stress ball.

GLOSSARY

Gas – a state of matter that can change its size and its shape.

Liquid – a state of matter that keeps its size, but can change its shape.

Matter – all the stuff of the universe.

Physical property – can be observed using the five senses.

Property – a description of matter.

Shear-thickening fluid – a material that can act as a liquid when under stress and as a solid when under stress.

Solid - a state of matter that keeps its size and shape.

State of matter - if the matter is a solid, liquid, or gas.

SAMPLE

WONDER



SCIENCE UNLOCKED®

© Home Science Tools. All rights reserved.
Reproduction for personal or classroom use only.

Contact us at: www.homesciencetools.com/customer-service/

A product of

HOME SCIENCE TOOLS®

Kit	SU-SQSHCI
Instructions	IN-SQSHTG
Revision Date	5/2023