

Lesson #7

Grades

1 and 2

Suggested Pacing

20+ min

Group Size

Teacher Led



Small Group



Lesson Slides

<https://tinyurl.com/28tassxj>

What You Need

From Lysol® Minilabs Module #1:

- **30 Student Journals**

From Lysol® Minilabs Module #3:

- **5 paper trays, 20 pairs of velcro dots, 5 paper science tools, 5 hourglasses, and 5 sand pouches**

Sourced Materials:

- **Scissors, glue or tape, writing tools**

Digital Only Option

If you don't have the physical Lysol® Minilabs Science Kit, check out the "Digital Kit Implementation Guide" at the end of this lesson plan with links to free printables and list of materials you need to source.

Defeat the BAD Germs: A Science Experiment

Overview

This lesson has **3 essential parts**. **(1)** Review Together: **go over True & False questions with your students to review key terms from previous lesson.** **(2)** Watch Together a **short video called "Science of Sand Timer"** and read over **Chapter 7 of the Minilabs Journal.** **(3)** A Hands-On Activity **for students to experiment and find a strategy to make their own 30-second hourglass to track time while washing their hands!** In addition, you may implement optional extensions and the optional "Check Understanding."

Session Planning

- Lesson Difficulty: **If you are teaching younger students, you may skip the measurement part of the science experiment.**
- Time Management: **If you have 20-30min, we recommend creating the paper science tools and the science experiment trays for your students ahead of the class time. If you have 30min+, you can have your students to make their own science experiment tools before conducting the science experiment.**

Learning Goals

- **Connect the importance of time with the duration of hand-washing practices.**
- **Analyze data obtained from testing trials and learn how to represent data sets using a bar graph (optional for advanced students).**

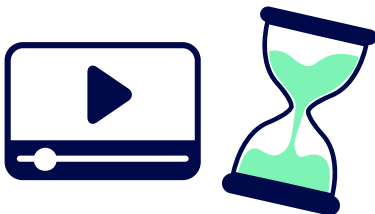
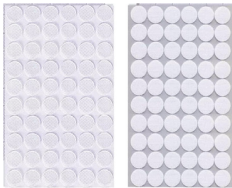
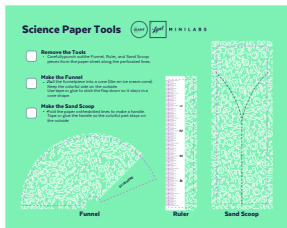
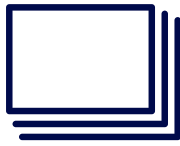
Key Vocabulary

- Science Concepts: **Test, Analyze, Data, Bar Graph**
- Science Practices: **Data Analysis**

Standards

- **NGSS** 2-PS1-2, 1-PS4-1, 1-PS4-3, 1-PS4-4, 2-PS1-1, 2-PS1-2.
CCSS.ELA-Literacy 2.MD.D.10. **TEKS.** S.1.1.A., S.1.1.B., S.1.1.D., S.1.1.E., S.1.1.F., S.1.2.A., S.1.2.B., S.1.2.D., S.1.3.A., S.1.5.B., S.1.5.C., S.2.1.A., S.2.1.B., S.2.1.D., S.2.1.E., S.2.1.F., S.2.2.A., S.2.2.B., S.2.2.D., S.2.3.A., S.1.5.B., S.1.5.C.,





Getting Ready

- Have lesson slides ready to project on your classroom projector board, you'll find the lesson video in the slides. Please watch the lesson video before the start of the class.
- Have copies of the student Minilabs Journals ready to pass along to students. Thirty (30) copies have been provided in your Lysol® Minilabs Science Module #1.
- Have the five (5) hourglasses and five (5) sand pouches ready to hand out to students.
- OPTIONAL: You can make the trays for your students by attaching the velcro dots to the paper and then connecting the hook side (rough/scratchy) with the loop side (soft/fuzzy). Or, students may do this themselves at the beginning of the lesson. We are provided paper science tools that you may make ahead of class time or ask students to make them during the class. The paper science tools include a funnel, a ruler, and a sand scoop.
- IMPORTANT: Please remember to collect all student Minilabs Journals at the end of the session. They will need the journals for all lessons in Modules 1, 2, and 3.

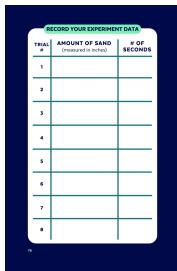
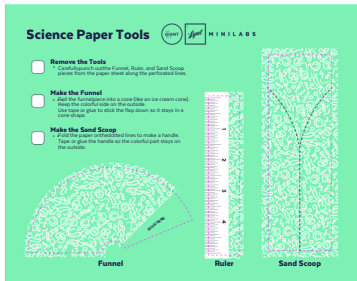
Start Your Lesson

Suggested Time: 5-10min

- REVIEW TOGETHER: Go through lesson slides 8-14, to review key terms from the previous lesson.
- WATCH TOGETHER: Watch "Science of Sand Timers" video found on slide 24 which introduces students to the history of sand timers, while also explaining the science behind hand-washing and how important it is to wash your hands for at least 30 seconds.

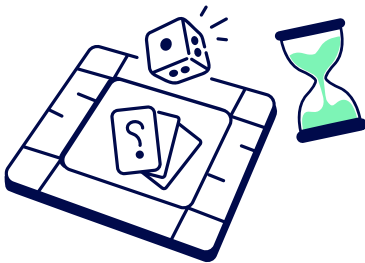
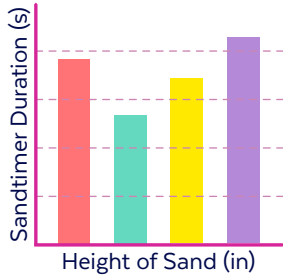
Hands-On Activity

Suggested Time: 20-30min



- **PREP:** In order to avoid getting sand all over the classroom, in your **Lysol® Minilabs Science Module #3**, you'll find materials to make a tray to catch the sand and keep it contained. You may also choose to make the tray yourself and hand it out to students with the other materials. The materials for the tray are:
 - **Tray sheet (with instructions)**
 - **Velcro dots**
- After watching the lesson video on slide 22, divide students into five (5) "Science Committee" groups. In each group, students will work together and experiment with materials in order to make a 30-seconds sand timer. They may use their paper science tools to support them to conduct their experiments:
 - Paper Funnel **helps them to fill the hourglass with the sand without spilling too much.**
 - Sand Scoop **helps them to scoop up sand from their tray and add to their hourglass in between trials.**
 - Paper Ruler **is their measurement tool to measure height of sand in their hour glass in each trial.**
- Students will need to create their own strategy in order to figure out exactly how much sand needs to go into the hourglass for it to count 30 seconds. While doing this, they'll record their findings on pages 76 of their Minilabs Journals:
 - Beginner Level: **To make the activity simpler, you may ask your students to simply record # of seconds per trial and skip measuring the sand in the hourglass.**
 - Advanced Level: **Encourage your more advanced students to measure amount of sand using their paper ruler and record the amount along with number of seconds for each trial.**
- You may have the whole class flip their hourglass together and start the stopwatch (slide 58) for them to test the time. Alternatively, each group may measure time using a physical stopwatch, a stopwatch app, or the free digital stopwatch provided on the digital resources web page.
- **Why 30 seconds?**
 - According to the CDC, evidence suggests that washing hands for about 15-30 seconds removes more germs from hands than washing for shorter periods of time.

Optional Extensions



- (15-20min activity) **BAR GRAPHS:** **Recommended for advanced students. Ask students to create a bar graph that summarizes data from their sand timer experiment. Students should use the documented data from the table on page 76 of their Minilabs Journal to create their bar graph. The # of seconds should be represented on the Y axis (which is the vertical line on the bar graph) and the height of sand represented on the X axis (which is the horizontal line on the bar graph).**
- (15-20min activity) **TEST HOURGLASS USING DIFFERENT MATERIALS:** **Dive further into the science of sand timers and have students use different materials like sugar, salt, water, etc. and find the similarities and differences between them. They can create a new table on a separate piece of paper to help them record information about their experiments. Once they've tested all materials, ask them to rate each of them from best to worst for keeping time.**
- (10-15min activity) **HEALTHY HABITS:** **In their groups, students will research other healthy habits (brushing teeth, mindfulness breathing, exercising) and find out what is the ideal amount of time to do each of these practices.**
- (15-20min activity) **GAME DESIGN:** **Students may work by themselves or in their groups to create a game that utilizes the sand timer they created. The game may be focused on healthy habits. For example: promoting exercise by encouraging people to do certain movements for 30 seconds (running in place, jumping jacks, hopping on one foot, push ups, sit ups, etc.).**
- (10-15min activity) **TIME TO REFLECT:** **Students may use this time to reflect and write about their own habits in a notebook. They can write:**
 - **Three (3) healthy habits they do well**
 - **Three (3) healthy habits they need to work on**

Check Understanding

Suggested Time: 5 - 10min



- **FILL IN THE BLANK:** Go through lesson slides with a set of fill in the blank questions. These questions are designed to highlight the importance of healthy habits.

Bonus



- **PUBLISH YOUR CLASSROOM'S WORK:** Submit photos of your students' projects, and we'll turn them into books, trading cards, and more!
www.thegiantroom.com/giant-remix-minilabs

Lesson Glossary

Below is a glossary of all keywords covered in Lesson #7. Please note that students can go to the Appendix of their Minilabs Journals to check out the glossary.

BAR GRAPH

A graph using bars to show quantities or numbers so they can be easily compared.

*Also known as a Bar Chart



Digital Kit Implementation Guide

If you don't have the physical box, you can still implement the Lysol® Minilabs Science Kit! Here are links to free printables and a list of materials you need to source.



FREE PRINTABLES

Lab Report

<https://tinyurl.com/2hbp8w9a>

Paper Tray

<https://tinyurl.com/y2c7z3d5>

Paper Tools

<https://tinyurl.com/2rufuzfv>

Chapter 7 Only

<https://tinyurl.com/an2eurv4>



MATERIALS TO SOURCE

- Velcro dots
- Empty and fillable hourglasses
- Sand pouches
- Scissors
- Glue or tape
- Writing tools

Check out page 7 for all the Online Resources for this lesson.

Online Resources



SLIDES: LESSON #7

<https://tinyurl.com/28tassxj>



SCHOOL-HOME COMMUNICATION PACK

<https://tinyurl.com/mwcmr7y6>



VIDEO: READ & WATCH CHAPTER 7

<https://tinyurl.com/yzjdkz3d>

VIDEO: SANDTIMER MISSION

<https://tinyurl.com/4j96sm8v>

STOPWATCH TIMER VIDEO

<https://tinyurl.com/vkefbz66>



E-BOOK: CHAPTER 7 ONLY

<https://tinyurl.com/3ee7rkwa>



PRINTABLE: LAB REPORT

<https://tinyurl.com/2hbp8w9a>

PRINTABLE: PAPER TRAY

<https://tinyurl.com/y2c7z3d5>

PRINTABLE: PAPER TOOLS

<https://tinyurl.com/2rufuzfv>

PRINTABLE: CHAPTER 7 ONLY

<https://tinyurl.com/an2eurv4>



FEEDBACK: MODULE 3 SURVEY

<https://tinyurl.com/ye28pvuf>