



Science Chunks: Force Sample Packet

Teach your students the basics of force in bite-sized chunks. The following sample packet includes most of the first lesson of the *Science Chunks: Force* digital unit study. You will see:

- ✓ The Introduction (*beginning on p. 4*)
- ✓ The Lesson (*beginning on p. 8*)
- ✓ The Lapbooking Templates (*beginning on p. 11*)
- ✓ The Notebooking Templates (*beginning on p. 16*)

If you have questions about what you see, please let us know by emailing support@elementalscience.com. To get started, head to:

🔗 <https://elementalscience.com/products/science-chunks-force-unit>

A Peek Inside a Science Chunks Unit

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1. Lesson Topic

Focus on one main idea throughout the week. You will learn about these ideas by reading from visually appealing encyclopedias, recording what the students learned, and doing coordinating hands-on science activities.

2. Information Assignments

Find two reading options—one for younger students, one for older students, plus optional library books.

3. Notebooking Assignments

Record what your students have learned with either a lapbook or a notebook. The directions for these options are included for your convenience in this section along with the vocabulary the lesson will cover.

4. Hands-on Science Assignments

Get the directions for coordinating hands-on science activities that relate to the week's topic.

5. Lesson To-Do Lists

See what is essential for you to do each week and what is optional. You can check these off as you work through the lesson so that you will know when you are ready to move on to the next one.

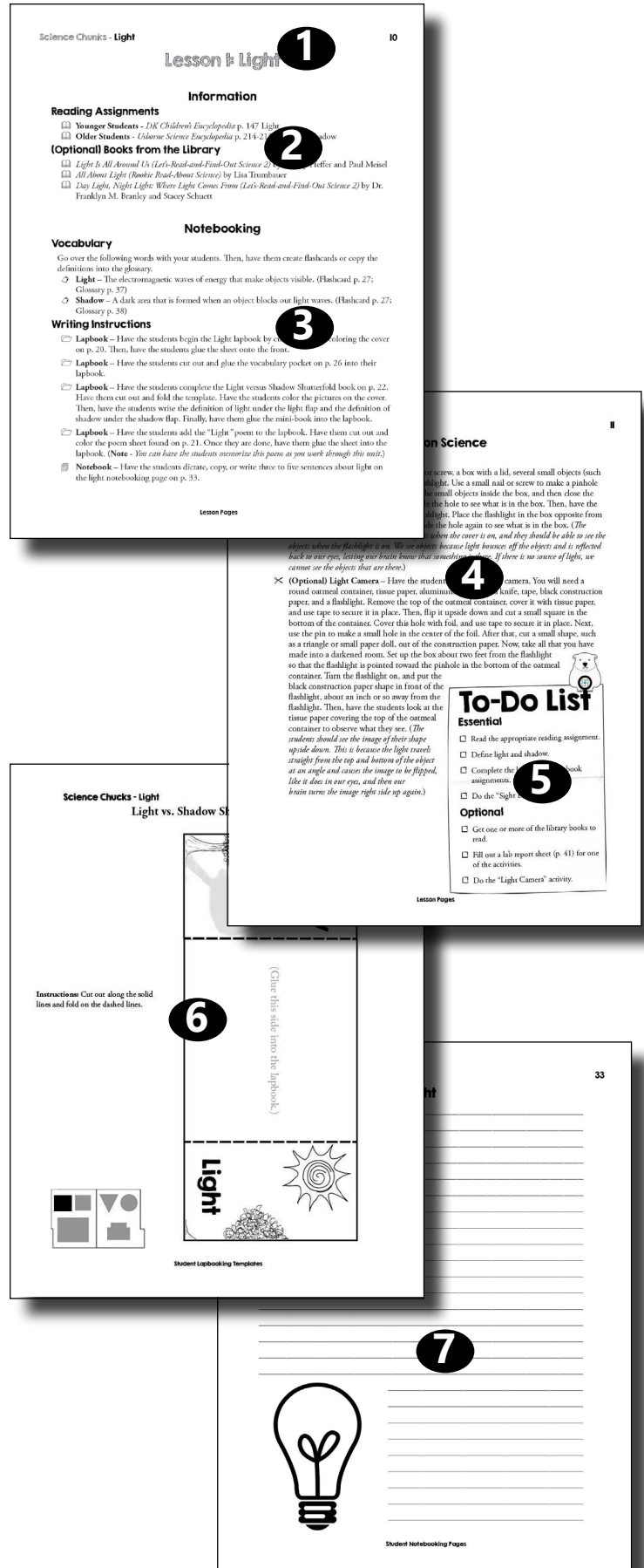
6. Lapbook Templates

Get all the information you need to create a lapbook on the subject.

7. Notebook Templates

Have all the sheets you need to create a notebook on the subject, including a glossary for the vocabulary terms.

In the appendix you will find a blank activity sheet, a blank lab report sheet, and a review sheet (or quiz).



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Unit Introduction

Science Chunks - Force is a unique and versatile unit study that leads you through a survey of forces. It is designed to be a gentle approach to homeschool science based on the Unit Study method suggested in *Success in Science: A Manual for Excellence in Science Education* by Bradley and Paige Hudson. This study can be used as a stand-alone unit for elementary science.

What Is Included in This Unit

Science Chunks - Force includes the three keys to teaching science. With each lesson you will be doing the following:

- ✓ Listening to (or reading) **scientific information** from visually appealing encyclopedias
- ✓ Dictating (or writing down) what the students have learned and seen using **lapbooking or notebooking**
- ✓ Watching (and doing) **hands-on science** through a variety of science activities

Here is how this works for a lesson.

Section 1 - Information

The elementary student is an empty bucket waiting to be filled with information, and science-oriented books are a wonderful way to do that. These books can include age-appropriate children's science encyclopedias, living books for science, and/or children's nonfiction science books.

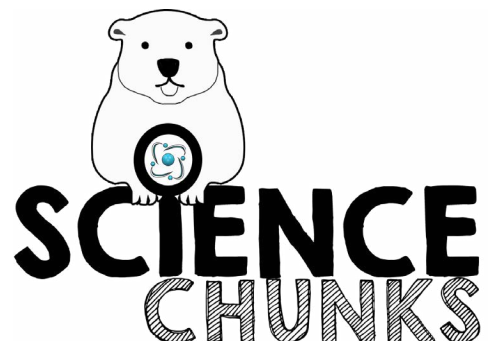
In this program, the reading assignments and additional books scheduled in the lesson fulfill this component. The reading assignments are broken for you into two levels: younger students (1st to 3rd grade) and older students (4th to 6th grade).

Our idea is that you will read these selections with your students, pausing to ask questions or discussing the information once you are done reading.

Section 2 - Notebooking

The purpose of the notebooking component for elementary science education is to verify that the students have placed at least one piece of information into their knowledge bucket. You can use notebooking sheets, lapbooks, and/or vocabulary words to fulfill this requirement.

In this program, we have included two writing options, a lapbook and a notebook, for you to use with your students. In the lapbook section, you will find all of the templates and pictures you will need to complete a lapbook on force. In the notebook section, you will find all the pages you need to create a simple



notebook on force, including notebooking sheets and a glossary.

Section 3 - Hands-on Science


Scientific demonstrations and observations are meant to spark students' enthusiasm for learning science, to work on their observation skills, and to demonstrate the principles of science for them. This component of elementary science education can contain scientific demonstrations, hands-on projects, and/or nature studies.

In this program, the coordinating activities at the end of each lesson fulfill this section of elementary science instruction. If you would like to record what you have done, you can use one of the templates in the appendix pp. 45-46.

What You Need in Addition to This Guide

Books Scheduled

The following books are what we used to plan the reading assignments for this unit:

 **Younger Students** - *Basher Science Physics: Why Matter Matters! (Basher Physics)*

 **Older Students** - *Usborne Science Encyclopedia*

However, you could certainly use the encyclopedias you already have on hand or books from the library. Simply look up the topic assigned for the day, read about it, and complete the section in your lapbook.

You will need also simple craft supplies and other science materials—see a complete list of essential items on p. 8.

How This Unit Works

We have included a to-do list with each lesson to give you an idea of what is essential and what is optional. There are several ways you can schedule this unit. Here is a quick look at a few of the options.

Possible Schedules for Your Week

- **One Day** – You can set aside about an hour to an hour and a half each week to complete all the essential tasks in one day.
- **Two Days** – You can set aside about 30 to 40 minutes twice a week to complete all the essential tasks, plus a few more, in two days. On the first day, you can complete the reading assignments and either the lapbook or notebook assignments. On the second day, you can complete the coordinating activity and the vocabulary assignments as well as read any library books.
- **Three Days** – You can set aside about 30 minutes three times a week to complete all the essential tasks, plus a few more, in three days. On the first day, you can complete the reading assignments and either the lapbook or notebook assignments. On the second day, you can

complete the coordinating activity and write a lab report using one of the templates. On the third day, you can do the vocabulary assignments as well as read any library books.

- **Four Days** – You can set aside about 20 to 30 minutes four times a week to complete all the essential tasks, plus a few more, in four days. On the first day, you can complete the reading assignments and either the lapbook or notebook assignments. On the second day, you can complete the coordinating activity and write a lab report. On the third day, you can do the vocabulary assignments as well as read any library books. On the fourth day, you can do the optional coordinating activity as well as read any library books.

If you choose to complete one lesson per week, this unit will take you five weeks to complete.

Final Thoughts

Read Further

If you would like to read more about the philosophy behind the Science Chunks series, check out *Success in Science: A Manual for Excellence in Science Education* and the following articles from our website.

- **The Three Keys to Teaching Science** – This article shares the three keys to teaching science, including a free session that walks you through what each key can look like.
🔗 <https://elementalscience.com/blogs/news/3-keys>
- **The Basics of Notebooking** – This article details the basic components of notebooking along with how a few suggestions on what notebooking can look like.
🔗 <https://elementalscience.com/blogs/news/what-is-notebooking>
- **Lapbooking versus Notebooking** – This article takes a look at the differences between lapbooking and notebooking.
🔗 <https://elementalscience.com/blogs/news/lapbook-or-notebook>
- **Scientific Demonstrations versus Experiments** – This article explains the difference between scientific demonstrations and experiments along with when and how to employ these methods.
🔗 <https://elementalscience.com/blogs/news/89905795-scientific-demonstrations-or-experiments>

Last Words

As the author and publisher of this curriculum, I encourage you to contact me with any questions or problems that you might have concerning *Science Chunks - Force* by emailing us at support@elementalscience.com. I, or a member of our team, will be more than happy to answer them as soon as we can. I hope that you will enjoy creating memories using *Science Chunks - Force*!

~ Paige Hudson

Materials List

Lapbook Materials

You will need the following materials to complete the lapbook:

- ✂ 2 Sheets of 8 ½" by 11" card stock OR 1 file folder
- ✂ Colored pencils or crayons
- ✂ Markers for decorating the cover
- ✂ Glue stick
- ✂ Scissors
- ✂ Stapler

Notebook Materials

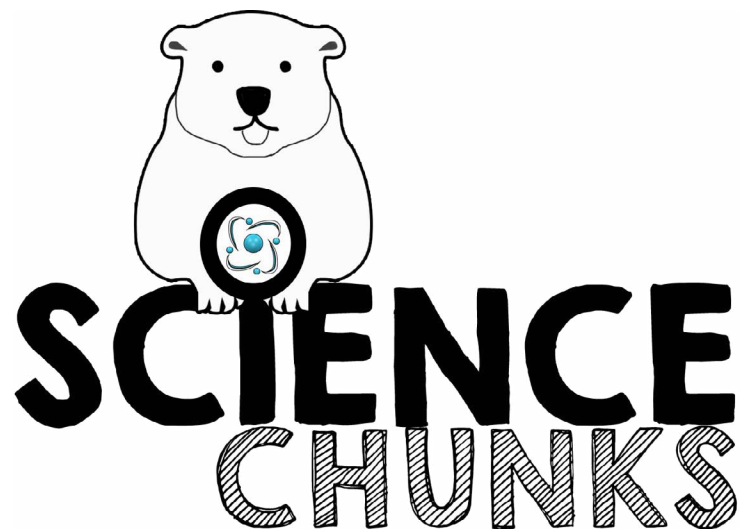
You will need the following materials to assemble the notebook:

- ✂ Hole punch and 3 brad fasteners or string OR
- ✂ Staples

Coordinating Activity Materials

You will need the following materials to complete the essential coordinating activities:

- ✂ **Lesson 1:** Toy car, string, tape, several books, cardboard sheet
- ✂ **Lesson 2:** Bag of gumdrops, toothpicks, plate
- ✂ **Lesson 3:** Pencil, cardboard sheet (or hardcover book), flat surface
- ✂ **Lesson 4:** Marble, cookie sheet (or smooth cutting board), paper, felt, book
- ✂ **Lesson 5:** Balloon, old CD, 2-L soda bottlecap, thin nail, glue





Lessons





Lesson 1: Forces

Information

Reading Assignments

-  **Younger Students** – *Basher Science Physics* p. 20 Force
-  **Older Students** – *Usborne Science Encyclopedia* pp. 118-119 Forces


(Optional) Books from the Library

-  *Forces Make Things Move (Let's-Read-and-Find-Out Science 2)* by Kimberly Bradley and Paul Meisel
-  *Forces (Science Readers)* by Debra J. Housel
-  *Push and Pull (Rookie Read-About Science)* by Patricia J. Murphy
-  *Pushes and Pulls (TIME FOR KIDS® Nonfiction Readers)* by Sharon Coan




Notebooking

Vocabulary

Go over the following words with your students. Then, have them create flashcards or copy the definitions into the glossary.


-  **Force** – A push or a pull on an object. (Flashcard p. 29; Glossary p. 44)

Writing Instructions

-  **Lapbook** – Have the students begin the Forces and Motion lapbook by cutting out and coloring the cover on p. 22. Then, have the students glue the sheet onto the front.
-  **Lapbook** – Have the students work on the Force Tab-book on p. 24. Have them cut out the force page and the cover page for the tab-book. Then, have the students color the pictures and add a sentence of two about forces on the force page. Have them put the pages in a safe place because they will be adding to this tab-book throughout the unit.
-  **Notebook** – Have the students dictate, copy, or write three to five sentences on forces on the forces notebooking page on p. 36.

Hands-on Science

Coordinating Activity

-  **Forces Lab** – Have the students do a quick forces lab. You will need a toy car, string, tape, several books, and a cardboard sheet. Have the students perform each of the three tests on the toy car:
 - **Test #1 (Push):** Set the car on a flat surface, and observe what happens. Then, have the

student gently push the back of the car and observe what happens.

- **Test #2 (Pull):** Use the tape to attach a piece of string to the front of the car. Then, have the student gently pull on the string and observe what happens.
- **Test #3 (Both):** On a smooth surface, stack several books on top of each other, and then set the cardboard up against the books and the surface, creating a ramp. Hold the car at the top of the ramp, and gently push it down the ramp, observing what happens.

The students should see that in each test, the car did not move until they either pushed or pulled the car.

- ✂ **(Optional) Force Race** – Have the students compete to see who can force a balloon over a line first. You will need an empty soda bottle and a balloon for each player. Begin by drawing two lines at either end of a room or outside. Then, give each player an empty soda bottle and a balloon. Have them line up on the first line. When you yell “go,” the players will use their empty soda bottle to push their balloon toward the second line. The player to cross the line first wins the race.



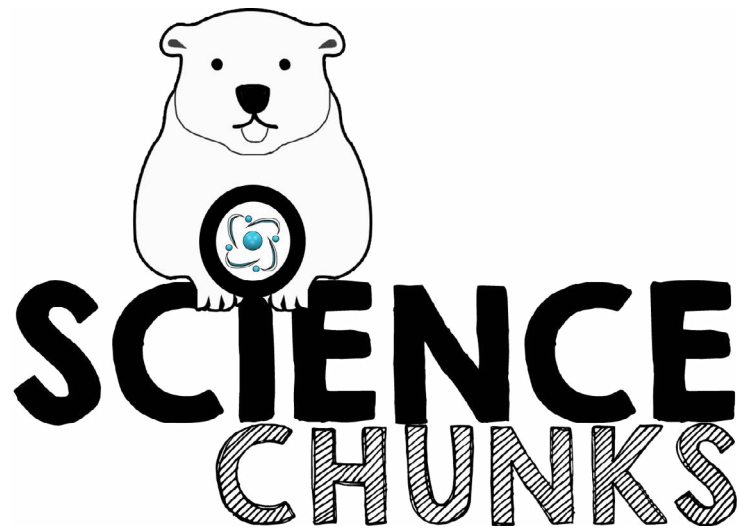
To-Do List

Essential

- ☐ Read the appropriate reading assignment.
- ☐ Define force.
- ☐ Complete the lapbook or notebook assignments.
- ☐ Do the “Forces Lab” activity.

Optional

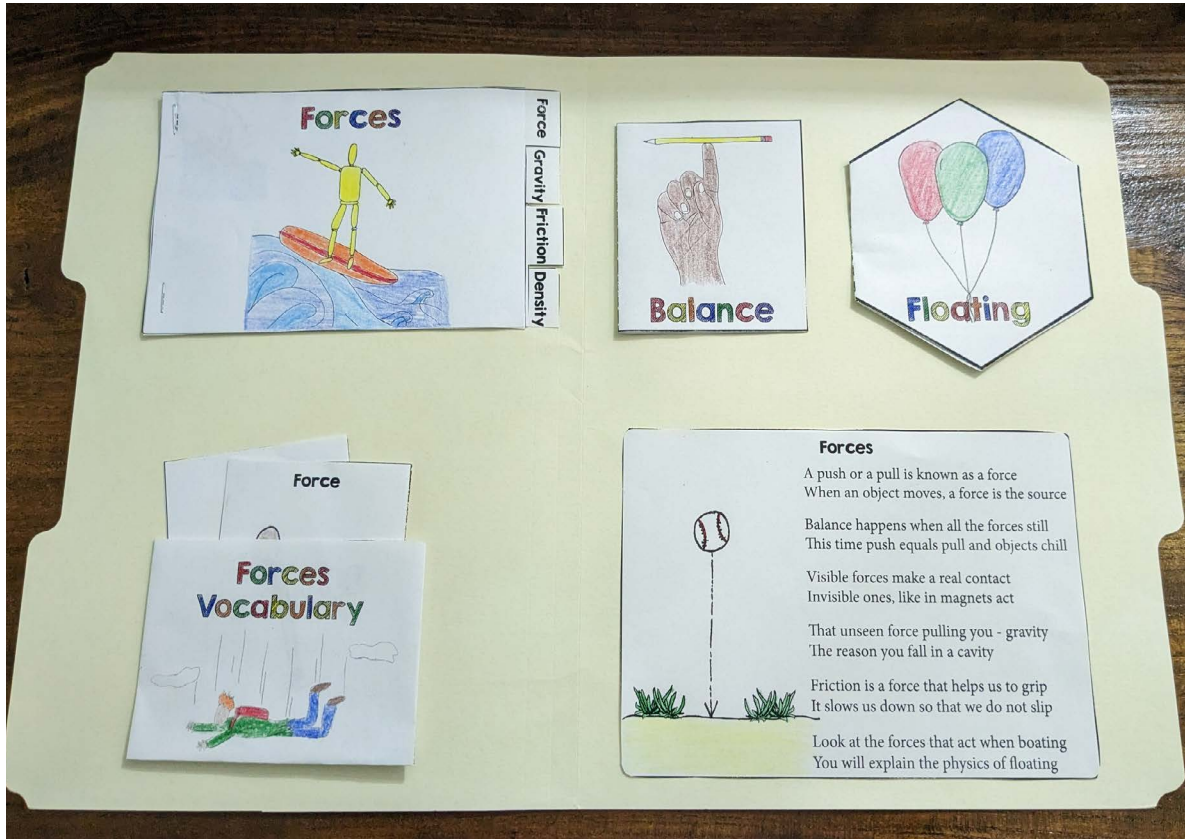
- ☐ Get one or more of the library books to read.
- ☐ Fill out a lab report sheet (p. 46) for one of the activities.
- ☐ Do the “Force Race” activity.

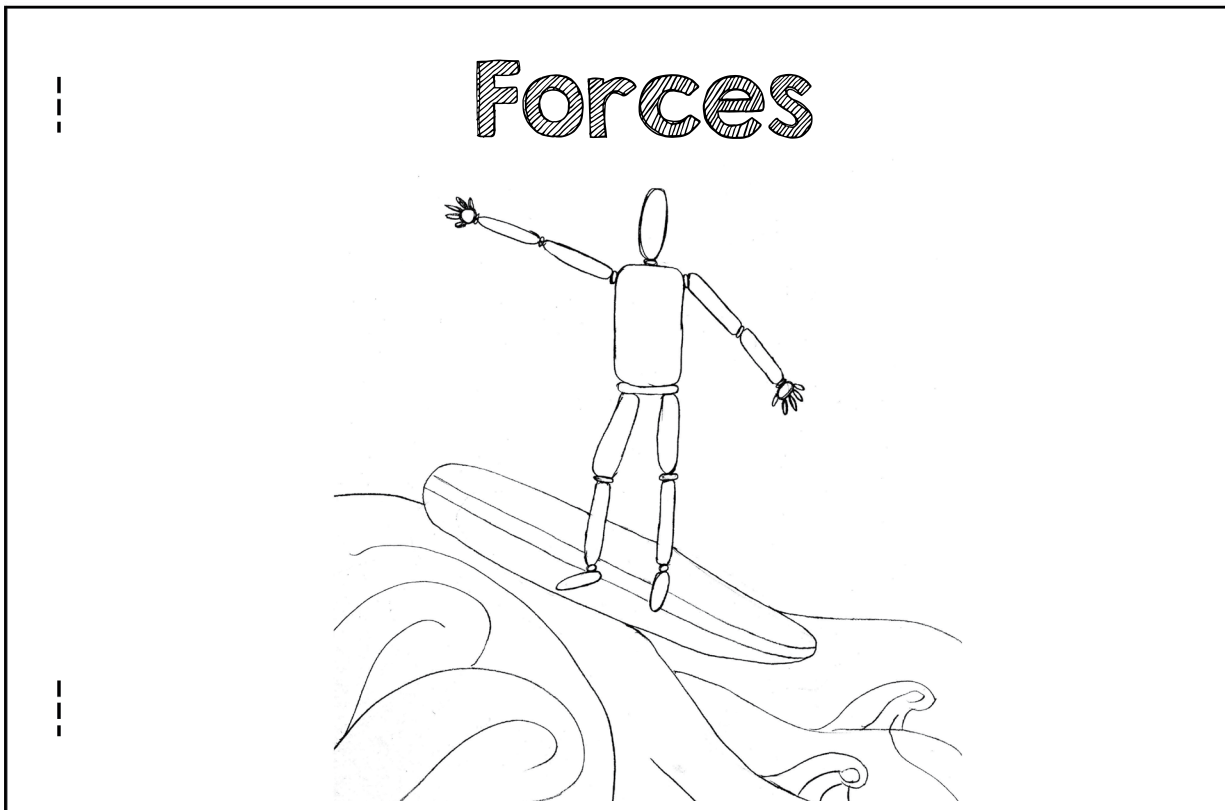
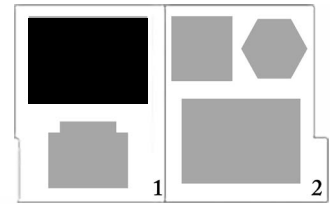


Student Lapbook Templates

Forces Lapbook

You will need two sheets of card stock or one file folder. If you are using card stock, begin by taping the two sheets together on the longest edge. The completed lapbook will look like this on the inside:





Instructions: Cut out along the solid lines, stack the pages so the tabs are visible, and staple together on the dashed lines.



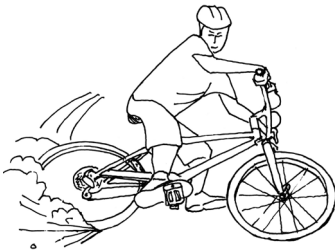
Force

Forces Tab-book

Gravity

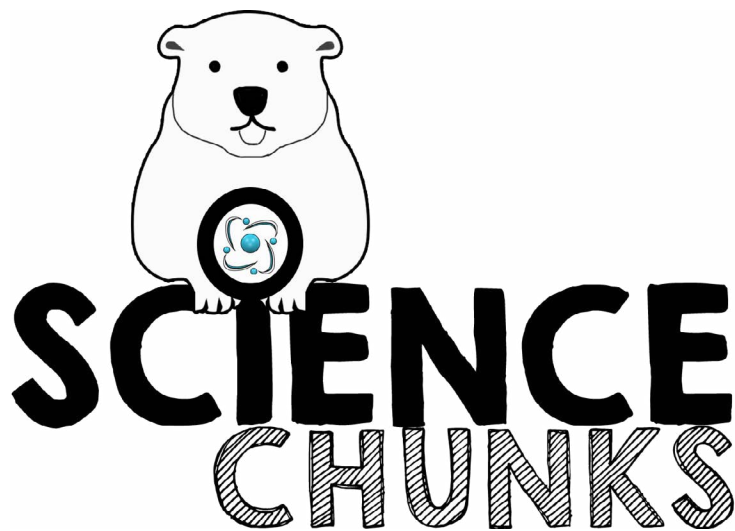


Friction



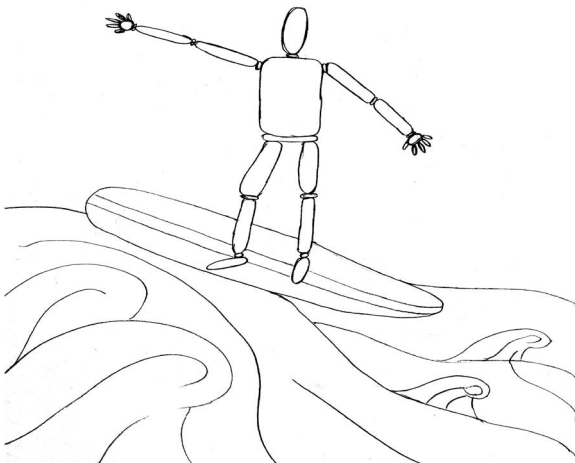
Forces Tab-book





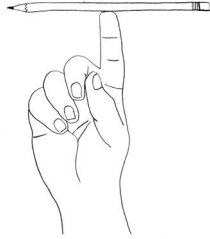
Student Notebook Pages

Force

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Force Vocabulary

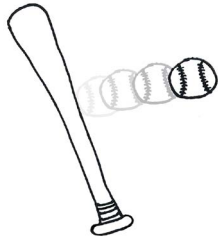
Balance -



Density -



Force -



Friction -

