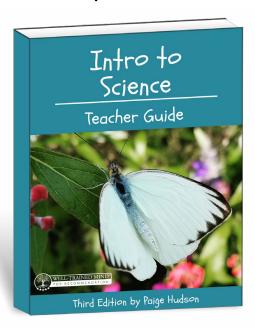
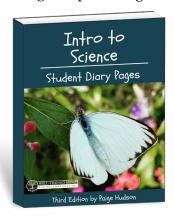
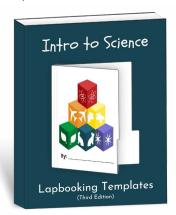
Intro to Science Sample Packet



The following sample packet includes the first two weeks of the *Intro to Science* (beginning on p. 6), plus the two student options:

- ✓ The Student Diary (beginning on p. 33)
- ✓ The Lapbooking Templates (beginning on p. 47)





You do not need all of these to successfully complete this program. You can get more information and make your purchase here:

https://elementalscience.com/collections/intro-to-science



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A Peek Inside the Teacher Guide

The teacher guide is your buffet of options for creating memorable science lessons!

1. & 2. Two Scheduling Options

See what you could do and when with the two grid-style scheduling options. There are a 2-day-a-week (1) and a 5-day-a-week (2) schedules. These schedules break down the buffet of options into manageable chunks so that you can proceed with confidence.

Read

3. Weekly Topic

Focus on a main idea for each week. This will be explored through the introduction, hands-on projects, and activities.

4. Scripted Introduction

Know how to share the weekly topic with your students in a meaningful way. These scripted talks and suggested demonstrations will help you introduce what your students need to know.

S. Read-Alouds

Gather more information with suggested pages in a popular children's encyclopedias and a list of library books you can look for.

1)0

6. Scientific Demonstrations

Show science with a weekly hands-on science activity that coordinates with the topic. This section includes the supplies you will need, along with scripted introductions.

Solids and Liquids ~ Week 1

You do not need to complete all of this in a week. Instead, choose from the following options.

	2-Days-a-Week Schedule			
	Day 1	Day 2		
Read	☐ Read the introduction with the students ☐ Read the selected pages in The Usborne Children's Encyclopedia	Choose one or more of the books to read from this w		
Do	☐ Complete the Scientific Demonstration "Crayon Cookies" ☐ Eat "Solid Popsicles" for snack	☐ Complete the Nature Study "Finding Waxy Coatings" ☐ Do the "Coloring with Cookies" activity		
Write	☐ Color the main idea page ☐ Fill out the demonstration sheet	☐ Fill out the nature journal sheet☐ Complete the art page		

		S-Days-a-Week Schedule			
	Day 1	Day 2	Day 3	Day 4	Day 5
Read	Read the introduction with the students	☐ Read the selected pages in The Usborne Children's Encyclopedia	Choose one or more of the additional books to read from this week	☐ Choose one or more of the additional books to read from this week	
Do	□ Eat "Solid Popsicles" for snack	Complete the Scientific Demonstration "Crayon Cookies"	□ Play a game of "Will it melt?"	□ Do the "Coloring with Cookies" activity	Complete the Nature Study "Finding Wax Coatings"
Write	□ Color the main idea page	☐ Fill out the demonstration sheet	□ Complete the Solid and Liquids Mini- book	☐ Complete the art page	☐ Fill out the nature journal sheet

Intro to Science Unit | Intro to Chemistry ~ Week | Solids and Liquid

Read - Information Gathering

Weekly Topic

A solid melts into a liquid

Scripted Introduction

Have a piece of ice and a crayon on a plate in front of each student. Say to the students:

This week, we are going to look closer at solids and liquids. The ice and the crayon in front of us are both solids. Ice is solid water, where as the crayon is made from solid wax. When ice gets warm, it melts and turns into liquid water. See how that's happening right in front of us? This process is called

Let them play with the ice and see firsthand how it is turning into a liquid. Then, ask the

? Is the crayon in front of us melting? Then, say:

That's right! The crayon remains a solid. This is because it needs a lot more heat before it will melt and become a liquid.

Read-Alouds

Encyclopedia Pages

The Usborne Children's Encyclopedia pp. 188-189 Solids, liquids, and gases

□ The Ulborne Children's Encyclopedia pp.188-189 Solids, liquids, and gases

Library Books to Look For

■ What is the world made of ? A.

Science) by Kathleen Weichner Zoemeld and Paul Meisel

□ Change III: Solids, Liquids, Gases and You (Primary Physical Science) by Adrienne Mason and

Classic Docks

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— The Change III: Solids, Liquids, Gases and You (Primary Physical Science)

— The Change III: Solids, Ch

Solids, Liquids and Gases (Starting with Science) by Ray Boudreau

Do - Hands-on Projects

Scientific Demonstration: Crayon Muffins

Materials Needed

✓ Crayons ✓ Foil muffin-cup liners

Intro to Science Unit | Intro to Chemistry ~ Week | Solids and Liquids

Steps to Complete

- 1. Read the following introduction to your students: Remember earlier we saw how solids melt into turn our solid wax crayon into liquid wax by he going to let our crayon muffins cool to see what ha e are going to
- 2. Place the foil muffin-cup liners into a muffin tin. Let the students break the crayons into pieces and place them in the cups.
- 3. $\{Parents\ Only\}\ Preheat$ the oven to $300^{\circ}F$. Once the students have finished place the muffin tin in the oven for about 15 minutes, just enough time for the crayons to melt. Then, using a hot mitt, remove the tin and let the students observe, asking them:
 - ? What happened to the crayons in our muffin-cup?
- 4. Let the tray cool for about 30 minutes. Then, come back and observe the crayon muffins gain, asking the students:
 - ? Have the crayon muffins changed?

Then, read the following explaination to them:

We saw our crayons melt into a liquid crayon muffin with the heat from the oven. Then, as they cooled off, the liquid turned into a solid crayon muffin! (Note-Keep your crayon muffins for use later in the week.)

Nature Study: Finding Wax Coatings

This year, your nature study time will mainly focus on developing the students' awareness of the vorld around them. For your own personal knowledge about guiding nature study, I recommend that you read pp. 1-23 in the Handbook of Nature Study.

Preparation

Waxy coati nd in nature on most pine trees, so that is the focus of your nature 670-674 in the *Handbook of Nature Study* to learn more about pine study this w

Outdoor Time

O Go on a walk with the students to see if you can find any pine trees to observe. Allow the students to observe the tree and ask any questions they may have. You can use the information you have learned from reading the Handbook of Nature Study to answer their

Intro to Science Unit | Intro to Chemistry ~ Week | Solids and Liquids

questions or to share information about what they are observing.

Coordinating Activities

These following activities will help y force the week's topic and main idea

These following activities will help you to inforce the week's topic and main idea.

*Art - (Coloring with Cookies) inforce the week's topic and main idea.

*Interpretation of their crayon cookies they made during their experiment. Let them coloring in their choice using their crayon cookies.

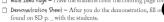
Snock ~ (Solid Popsicles) Point out to the students that popsicles are solid, ask what happens when they take a bit of their popsicle and let it sit in their mouth for minute

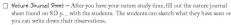
such as chocolate or crackers). Place them in a muffin tin and heat them in the oven for five minutes, watching carefully. Observe what happens

Write - Simple Notebooking

Student Diary

Main Idea Page - Have the students color the coloring page for





Art Page - Have the students use SD p._ to complete the art activity.

Lapbooking Templates

Weekly Mini-book - Have the students cut out and color the Solids and Liquids Mini-book on LT p. 7. You can have them cut out the main idea graphic included and glue it in the interior of the week for them week for them what the mini-book. Once the students are done, have them glue the booklet int.

Overeal Lopbook – Tave the students cut out the "My Chemistry Projects" pocket on LT p.

13. Have them glue the pocket into the lapbook and add the coloring project they just did to

Coverall Lapbook

The easy-to-follow steps and scripted explanations make it a snap to complete the scientific demonstration.

7. Nature Study

Find science in nature with these related nature study ideas. Each of these activities will help you prepare and execute an outdoor nature study that relates to the weekly topic.

8. Coordinating Activities

Get ideas for additional art projects, snacks, games, and science activities that relate to the week's topic.

Write

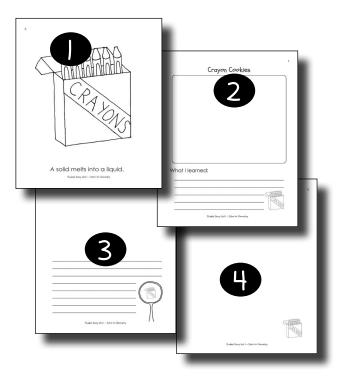
9. Student Diary Assignments

Record what your students have learned with the student diary. The directions for these pages are included for your convenience in the guide.

10. Lapbook Assignments

Create a scrapbook of what your students have learned with the lapbooking templates. (Note—We typically recommend choosing this option or the student diary option, not both at the same time.)

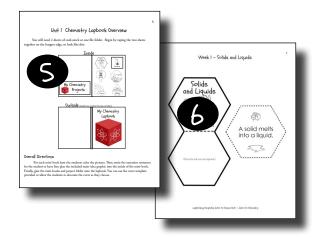
Student Options At-a-Glance



Pick one of these options so that your students can document their introduction to science!

The Student Diary

The *Intro to Science Student Diary* contains main idea pages (1), demonstration sheets (2), nature journal sheets (3), and art pages (4). These pages allow your students to create a scrapbook-style workbook, or lab manual, with what they learned in this program.



The Lapbooking Templates

The *Intro to Science Lapbooking Templates* contain lapbooking over sheets (5) and a set of mini-books with preprinted narrations (6) for the students to use. The mini-books are designed to be cut out and glued into the students' lapbooks (or file folders) for a total of six lapbooks for the year. Alternatively, you can use these mini-books to create a single large lapbook.

See both of these options at:

https://elementalscience.com/collections/intro-to-science

Intro to Science

Teacher Guide



Third Edition by Paige Hudson

Classical SCIENCE Quick Start Guide

In a Nutshell

Students will get a basic introduction to science by:

- ✓ Listening to **scientific information** from weekly introductions and extra books.
- ✓ Playing with **hands-on science** through demonstrations and hands-on projects.
- ✓ Dictating what they have learned and seen using simple **notebooking**.

See p. 8 for a list of the topics explored in this program.

What You Need

In addition to this guide, you will need the following:

- **1.** The student materials You can purchase either the *Intro to Science Student Pages* or the *Intro to Science Lapbooking Templates*. (Get a glimpse of these options on p. 14.)
- **2.** The demonstration supplies See a full list starting on p. 15 or save yourself the time and purchase the *Intro to Science Experiment Kit*.

You can also purchase the *The Usborne Children's Encyclopedia* for the encyclopedia pages and/or the *The Handbook of Nature Study* by Anne Botsford Comstock for the nature study option. Get links to these books here:

† https://elementalscience.com/blogs/resources/intro

How It Works

None of the assignments in this guide are marked "optional" because they are all optional! This is the first year of science for a student, so look at this guide as a buffet of options for each week. A week could look like the following:

- Read the scripted introduction with your students. If they would like to learn more, you can read the encyclopedia pages or one of the library books.
- **Do** the weekly demonstration or the nature study with the students. If they would like to do more, you can choose from the coordinating activities.
- Write down what the students have learned and seen in a way that is appropriate for their skills.

For a more detailed explanation of the components in each lesson, we highly recommend checking out the peek inside this program on pp. 6-7 and reading the introduction starting on p. 9. Otherwise, the first lesson begins on p. 24.

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List of Topics Covered in This Program

Chemistry Unit

- ✓ Solids
- ✓ Liquids
- ✓ Mixtures
- ✓ Dilution
- ✓ Density
- ✓ Crystals
- ✓ Colors
- ✓ Freezing

Physics Unit

- ✓ Forces
- ✓ Gravity
- ✓ Magnets
- ✓ Inclined Planes
- ✓ Sound
- ✓ Light

Geology Unit

- ✓ Fossils
- ✓ Rocks
- ✓ Metamorphic Rock
- ✓ Volcanoes (Igneous Rock)
- ✓ Sedimentary Rock
- ✓ Compass

Meteorology Unit

- ✓ Sun
- ✓ Water Cycle
- ✓ Seasons
- ✓ Wind
- ✓ Tornadoes
- ✓ Thermometer

Botany Unit

- ✓ Plants
- ✓ Flowers
- ✓ Seeds
- ✓ Leaves
- ✓ Stems
- ✓ Roots

Zoology Unit

- ✓ Mammals
- ✓ Reptiles
- ✓ Birds
- ✓ Butterflies
- ✓ Insects
- ✓ Fish

Quick Links

The following page contains quick access to the activity links suggested in this guide along with several helpful downloads:

https://elementalscience.com/blogs/resources/intro

Introduction to the 3rd Edition

It has been more than 13 years since the first edition of *Intro to Science* was released. With each edition, the format has been refined, but the method has always been based on the same three keys to teaching science:

- 1. Read about science.
- 2. Do, or rather play with, science.
- 3. Write about science.

If you want to learn more about these keys, check out this free conference session:

The 3 Keys to Teaching Science - https://elementalscience.com/blogs/news/3-keys

In this guide are the tools you need to teach science using the Classic Method found in Success in Science: A Manual for Excellence in Science Education. This method is loosely based on the ideas for classical science education that are laid out in The Well-Trained Mind: A Guide to Classical Education at Home by Jessie Wise and Susan Wise Bauer.

In Success in Science: A Manual for Excellence in Science Education, we write that the goal for preschool science is simply to introduce your students to the world around them. It is with this goal in mind that we have written Intro to Science. This year, your students will explore the wonderful world of science through a buffet of weekly topics, hands-on projects, books, and activities. All this will work together to build a basic framework, or bucket, the students can fill with information during the elementary years. If you would like to learn more about our philosophy for preschool science, check out this article:

** Should you bother with preschool science? https://elementalscience.com/blogs/news/should-you-bother-with-preschool-science-in-your-homeschool

Let's take a closer took at what you will find in this guide.

A Quick Note

Nothing in this guide is marked optional. This is done on purpose because everything in this guide is optional! Our idea is that this is the first year of science for a student. It's meant to be an introduction to peak a student's interest in science. So look at this guide as a buffet of options for each week, not as a list of things that you have to complete.

Unit Overview Sheets

Each unit will begin with an overview sheet that shows the list of topics, the supplies you will need, and the books that are scheduled by week. These are meant to give you a snapshot of the

unit. Please feel free to swap the units around, but do keep the weeks within the unit in order as you work through this program.

Schedule Options

We have included scheduling options, but these are mere suggestions, not hard-and-fast rules. Remember that *Intro to Science* is a buffet-style introduction, so pick and choose what works for you and your students. We would suggest scheduling science for two (20-minute) blocks a week or five (10-minute) blocks a week. There are two potential schedules for you to give an idea of how you could schedule each week—one that breaks the assignments over two days, and one that breaks these assignments over five days. Each of these schedules has three sections to reflect the three keys to teaching science—read, do, and write (more about these in a moment). You can choose to use these as your guide or create your own schedule using one of the blank scheduling templates in the appendix on pp. 202-203 of this guide.

Read - Information Gathering

The Weekly Topic

The main purpose of having a weekly topic is to create a focus for your studies for the week. Each week, this section will provide the main idea.

Scripted Introduction

After the weekly topic, you will find a scripted introduction. This introduction may contain simple explanations, brief demonstrations, and/or guided observations for you to use when introducing the students to the week's topic. We have provided a preplanned script for you to read, but feel free to use your own words or edit the script as you communicate the information. The main purpose of introducing the topic is to share with your students what they will be studying for the week. Your introduction should only take five to fifteen minutes because of the students' short attention spans.

After you introduce the week's topic (or during, if you have a fidgety student), you can have the students color the coordinating coloring page for their scrapbook.

Read-Alouds

During the preschool years, students usually love to be read to, and science is a good topic to explore through books at this age. For this reason, we have included options for you to read aloud to your students. The first is encyclopedia pages, which all come from the following resource:

The second is a list of library books for you to choose from each week. These books are suggestions that you can get from your local library. We have not previewed each and every book, so be sure to do so before you read them to the students.

Do - Hands-on Projects

Scientific Demonstrations

Scientific demonstrations are designed to help the students see the science of their environment in action, whereas nature studies are designed to aid the students in learning about the world around them through discovery and observation. (Note—If you want to read more about the differences between demonstrations and experiments, check out the following article: https://elementalscience.com/blogs/news/89905795-scientific-demonstrations-or-experiments)

These generally use easy-to-find materials and tie into what is being studied. You will find several sections for the scientific demonstration:

- ☐ The Materials Needed
- ☐ The Steps to Complete (*including a scripted introduction and detailed instructions*)
- ☐ The Explanation (including the expected results and a scripted explanation)

All scripted text, introductions, and explanations will be in this font.

These demonstrations are designed to provide a beginner's look at the scientific method and how scientific tests work. Even so, it is not necessary to ask the students to predict the outcome of the demonstration because they have no knowledge base to determine what the answer should be. However, if your students enjoy predicting, or they are able to tell you what will happen, please feel free to let them do so. After you finish the demonstration, you can have the students fill out a demonstration sheet.

Nature Study

The nature studies included in the hands-on project sections also coordinate with the weekly topic. If you choose to do these, you will need the following:

The Handbook of Nature Study by Anne Botsford Comstock (1986 edition)

(Note—This book is more of a teacher reference than a book to read to your students. The idea is that you as the teacher will read the material ahead of time so that you will have the knowledge to assist your students as they learn through their own observations of nature. It is NOT designed to be read to the student.)

The purpose of these nature studies is to have the students learn about the world around them

through discovery and observation. (Note—If you want to read more about the differences between demonstrations and experiments, check out the following article: https://elementalscience.com/blogs/news/nature-study)

You will find two sections for the nature study:

☐ Preparation

☐ Outdoore Time

After you finish the nature study activity, you can have the students fill out a nature journal sheet for their scrapbook. Allow them to draw what they would like, or glue a picture on the page instead. At this stage, it is best for you to write down their observations for them.

Coordinating Activities

Coordinating activities are meant to reinforce what the students are learning. In this guide, we have included additional art projects, snacks, games, and science activities that will tie into the weekly topic.

Write - Simple Notebooking

We have two options for your students to record what they have learned, both of which are seperate purchases. You can peek inside both of them on p. 14.

The Student Diary

The *Intro to Science Student Diary* is made up of simple journal sheets where the students record what they have learned and done over the year. They include coloring pages, demonstration sheets, activity pages, and nature journal sheets to use each week. The following is a description of how the individual scrapbook pages are designed to be used:

- Main Idea Page Read the main idea at the bottom of the page to the students as you have them color the picture.
- Demonstration Sheet Have the students tell you what they learned from the scientific demonstration, and write it down for them on the lines provided. Include any applicable pictures in the boxes provided.
- Nature Journal Sheet Have the students tell you what they learned from the nature study activity, and write it down for them on the lines provided. Include any applicable pictures in the boxes provided.
- Art Page Have your students draw a picture or paste in a picture of the craft project they made on the sheet provided.

The Lapbooking Templates

The *Intro to Science Lapbooking Templates* includes a set of templates for six lapbooks to go along with this program. Each lapbook has six mini-books (one for each weekly topic) a project folder template, and a color cover for the lapbook. We have included a pre-written main idea sentence to paste into each mini-book, or you can have the students copy the main idea sentence into the mini-book.

Additional Resources

The following webpage contains quick links to the activities suggested in this guide, along with several helpful downloads:

https://elementalscience.com/blogs/resources/intro

Final Thoughts

As the author and publisher of this curriculum, I encourage you to contact us with any questions or problems that you might have concerning *Intro to Science* at support@ elementalscience.com. We will be more than happy to answer them as soon as we are able. I hope that you enjoy this third edition of *Intro to Science*!

~ Paige Hudson

Materials Listed By Unit

Chemistry Unit

Week	Introduction Props	Hands-on Project Materials	Coordinating Activities Supplies
1	Ice, Crayon	Crayons, Foil muffin-cup liners, Muffin tin	Paper, Popsicles, Chocolate or Crackers
2	Plate, Paintbrush, Cup	Juice, Measuring cups, 4 Cups, Dirt, Water	Pudding mix, Milk Several cups, Kool-Aid mix, Paint (one color and white), Paintbrush, Dirt
3	Glass jar, Water, Spoon, Oil	Glass jar, Water, Objects to test, Bucket of water	Chalk, Water, Paper, 9 by 13 Pan, Several types of fruit, Glass jar, Oil, Water, Food coloring
4	Pictures of various types of crystals (or several rocks with crystals)	Plastic bowl (or disposable pie pan), Sponge (cut into 1-inch cubes), Water, Salt, Liquid bluing, Ammonia, Measuring spoons	2 Bowls, Sugar, Salt, Paper, Epsom salts, warm water, a glass, food coloring (blue is best), a paintbrush
5	3 Glasses, Food coloring (blue and yellow)	4 Clear glasses, Eyedropper, Food coloring (red, yellow, blue), Water, Prism	Sugar cookies, Icing in different colors, Shallow dish, Milk, Food coloring (red, yellow, and blue), Liquid dish soap, Paint (red, yellow, and blue), Paper
6	Ice, Plate	Ice cube tray (or small plastic containers), Various household liquids	Various frozen foods, Food coloring, Water, Paper

Physics Unit

Week	Introduction Props	Hands-on Project Materials	Coordinating Activities Supplies
1	Marble	Toy car, String (2 feet long), Tape	Paint, Paintbrush, Cutting board, Different kinds of round fruits and vegetables, Several rubber bands, Measuring tape

Week	Introduction Props	Hands-on Project Materials	Coordinating Activities Supplies
2	Pencil	Several objects of varying size and weight (crayon, pompom, paper, balloon, paper clip, and more)	Apple, Balloons, Paper, Eyedropper, Paint
3	Bar magnet, Several metal paper clips	String, Magnet, Variety of metal and nonmetal objects	Sugar cookie, Red and blue M&M's, Paper, Thin cardboard, Paint, Several magnetic objects, Magnet
4	Long wooden block, Toy car	Marble, Bouncy ball, Thin wooden board or thick cardboard, Blocks, Tape (or other marker)	Graham crackers, Marshmallows, Bowl of water, Eye dropper, Wax paper, Marbles, Plate, Paint, Block, Paper, Thin cardboard
5	No supplies needed.	An empty yogurt container, Wax paper, Rubber band, Salt, Sound makers	2 Paper plates, Paint, Tape, Beans, Rice Krispies cereal, Bowl, Milk, Toilet paper tube
6	No supplies needed.	Bubble solution and wand, Plate	Flashlights, Reflective materials, Paper, Glue

Geology Unit

Week	Introduction Props	Hands-on Project Materials	Coordinating Activities Supplies
1	Several pictures of fossils (or an actual fossil)	Air dry clay, Rubber insects or shells, Rolling pin	Sugar cookie dough, Several plant or animal stamps or stencils, Gray or brown paint, Paper
2	Several rocks from your area	Rock, Hammer	Rock candy, Several rocks you have collected, Several colors of paint, Medium sized rock
3	Several metamorphic rocks	Six different colors of crayon, Old grater, Aluminum foil, Bowl, Hot water	Peanut butter (or other nut butter), jelly, bread, Crayons, Paper, Cardboard, Hair dryer, Several rocks
4	No supplies needed.	Scissors or a knife, Tube of a toothpaste, Empty plastic yogurt container, Dirt	Paint (black, gray, orange, red), Paper, Paper cup, Crackers (saltines or Ritz TM), Can of CheeseWhiz TM

Week	Introduction Props	Hands-on Project Materials	Coordinating Activities Supplies
5	Sandstone	Glass or plastic jar with a lid, Sand, Gravel, Pebbles or small rocks, Water	Graham crackers Peanut butter, Sugar, Mini chocolate chips, Sand, Glue, Pebbles, Bread loaf pan, Plastic wrap, Paint, Sand, Paper
6	Compass, Map	Compass, Small treasure or candy, Paper, Pen	Sugar cookies, Icing, Pencil, Paper, Pin, Milk jug, Knife, Magnet

Meteorology Unit

Week	Introduction Props	Hands-on Project Materials	Coordinating Activities Supplies
1	No supplies needed.	Muffin tin, Foil, Clear plastic wrap, Marshmallows, Chocolate chips, Butter	Orange, SunPrint paper, Several squares of red, yellow, and orange tissue paper, Paper
2	Water Cycle Picture from pg. 188 of the Appendix	Clear glass jar, Jar lid or bowl, Ice cubes, Hot water	Egg whites, Cream of Tartar, Vanilla, Sugar, Small spray bottle or eyedropper, Blue paint, Paper
3	No supplies needed.	Weather Stickers (appendix p. 194)	Bananas, Grapes, Strawberries, Raisins, Carrots, Skewers, Paper, Seasonal pictures from magazines
4	No supplies needed.	Bubble mixture, Bubble wand	Blue Jell-O, Cool Whip, Container of bubbles, Paper, String, 2 Sticks
5	Pictures of tornadoes	Pint-sized Mason jar, Dish soap, Vinegar, Water, Glitter	Frozen fruit, Ice cream, Milk or juice, Thick paintbrush, Paper, Black and white paint, Plate, 2 Plastic bottles, Washer, Duct tape
6	Thermometer	2 Clear cups, Food coloring, Water (hot and ice-cold), Thermometer	Variety of hot and cold foods, Pictures of things to do or wear when it is hot or cold, Modeling clay, Food coloring, Water, Clear straw, Rubbing alcohol, Small bottle

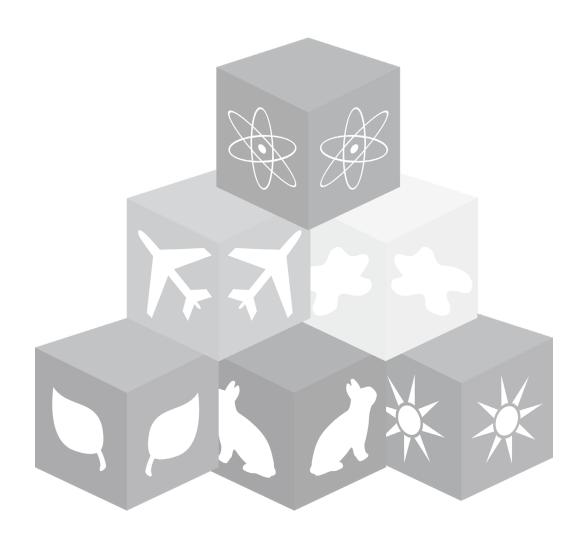
Botany Unit

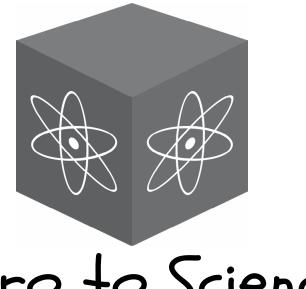
Week	Introduction Props	Hands-on Project Materials	Coordinating Activities Supplies
1	Small potted plant	Small pot, Bean seed, Potting soil, Water	Potato or carrot sticks, Celery, Lettuce, Berries, Tissue paper squares (brown, green, red, and purple), Glue, Paper
2	Plant with a flower	Tulip, Razor or knife, Magnifying glass, Q-tip	Cake with icing flowers, A large White T-shirt (100% cotton), Cardboard, Flowers and Leaves, Masking Tape, Newspaper or Towels, Hammer, Paint, Paper
3	Lima bean seed (soaked overnight)	3 Bean seeds, Paper towel, Plastic baggie, Tape, and Water	Different fruits and seeds to eat, Red paint, Apple, Plate, Paper, Paintbrush, Glue, Seeds
4	Bean plant	Bean plant, Paper, Paper clip	Edible leaves (lettuce, spinach, kale or bok choy), Ranch dressing, Sheet of cardboard, Leaves, Crayons, Paper, Leaves, Tape, Newspaper, Hammer
5	Celery, Magnifying glass	Celery (with leaves), Food coloring, Glass, Water	Celery Sticks, Cream Cheese, Brown and green paint, Straw, Water, Paper
6	Green onion with roots	Green onion, Cup, Water	Green onion with roots, Carrot sticks or shoestring potato sticks, Green onion with roots, Paint, Paper

Zoology Unit

Week	Introduction Props	Hands-on Project Materials	Coordinating Activities Supplies
1	Pictures of mammals	Three pictures of mammals	Animal crackers, Mammal pictures from old magazines or animal stickers

Week	Introduction Props	Hands-on Project Materials	Coordinating Activities Supplies
2	Pictures of reptiles	Thermometer	Peanut butter, Powdered milk, Honey, Cocoa, Vanilla, Chopped Nuts, Raisins, Mini M&M's, Pictures of reptiles, 2 Colors of paint, Paper, Black Marker
3	Pictures of birds	Cheerios, Pipe cleaner	Mangoes, blueberries, or strawberries, Sunflower seeds, Pipe cleaners, Feathers, Paint, Paper
4	Pictures of butterflies	Butterfly life cycle cards from appendix	Lettuce, Eyedropper, Paint, Paper, Glitter, Sequins, Glue, Butterfly outline on paper
5	Pictures of invertebrates	Plate, Several types of food (i.e., bread, cheese, crackers, honey, and fruit)	Gummy worms, 1 Large and 1 small Styrofoam balls, Black paint, Googly eyes, Black pipe cleaners, Paint, Thick string, Paper
6	Pictures of fish	No supplies needed.	Goldfish crackers, Paper, Watercolor paints, Glitter, Construction paper, Paper clips, Magnet, Dowel rod, String





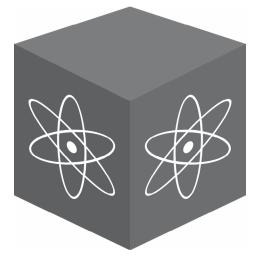
Intro to Science

Unit 1: Intro to Chemistry

Intro to Chemistry Unit Overview

Sequence for Study

- Week I: Solids and liquids
- Week 2: Mixtures
- Week 3: Density
- Week 4: Crystals
- Week 5: Colors
- Week 6: Freezing



Supplies Needed for the Unit

Week	Introduction Props	Hands-on Project Materials	Coordinating Activities Supplies	
1	Ice, Crayon	Crayons, Foil muffin-cup liners, Muffin tin	Paper, Popsicles, Chocolate or Crackers	
2	Plate, Paintbrush, Cup	Juice, Measuring cups, 4 Cups, Dirt, Water	Pudding mix, Milk Several cups, Kool-Aid mix, Paint (one color and white), Paintbrush, Dirt	
3	Glass jar, Water, Spoon, Oil	Glass jar, Water, Objects to test, Bucket of water	Chalk, Water, Paper, 9 by 13 Pan, Several types of fruit, Glass jar, Oil, Water, Food coloring	
4	Pictures of various types of crystals (or several rocks with crystals)	Plastic bowl (or disposable pie pan), Sponge (cut into 1-inch cubes), Water, Salt, Liquid bluing, Ammonia, Measuring spoons	2 Bowls, Sugar, Salt, Paper, Epsom salts, warm water, a glass, food coloring (blue is best), a paintbrush	
5	3 Glasses, Food coloring (blue and yellow)	4 Clear glasses, Eyedropper, Food coloring (red, yellow, blue), Water, Prism	Sugar cookies, Icing in different colors, Shallow dish, Milk, Foot coloring (red, yellow, and blue) Liquid dish soap, Paint (red, yellow, and blue), Paper	
6	Ice, Plate	Ice cube tray (or small plastic containers), Various household liquids	Various frozen foods, Food coloring, Water, Paper	

Books Scheduled

Hands-on Projects

⇒ Handbook of Nature Study (If you are using the nature study option.)

Scheduled Encylopedias

A The Usborne Children's Encyclopedia

Library Books to Look For

Week I

- What is the world made of? All about solids, liquids and gases (Let's Read and Find out About Science) by Kathleen Weidner Zoehfeld and Paul Meisel
- Acceptable Change It!: Solids, Liquids, Gases and You (Primary Physical Science) by Adrienne Mason and Claudia Davila
- △ Solids, Liquids and Gases (Starting with Science) by Ray Boudreau

Week 2

- △ Liquids (States of Matter) by Carol Ryback and Jim Mezzanotte
- △ Lulu's Lemonade (Math Matters) by Barbara Derubertis and Paige Billin-Frye

Week 3

- ⇒ What Is Density? (Rookie Read-About Science) by Joanne Barkan
- ⇒ Will It Float or Sink? (Rookie Read-About Science) by Melissa Stewart

Week 4

- Erystals (The Golden Science Close-up Series) by Robert A. Bell
- Rock and Minerals (Eye Wonder) by DK Publishing

Week 5

- All the Colors of the Rainbow (Rookie Read-About Science) by Allan Fowler
- The Magic School Bus Makes A Rainbow: A Book About Color by Joanna Cole

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- ⇒ I Love Colors! (Hello Reader!, Level 1) by Hans Wilhelm

Week 6

- = Freezing and Melting (First Step Nonfiction) by Robin Nelson
- 📾 Solids, Liquids, And Gases (Rookie Read-About Science) by Ginger Garrett

Week 1: Solids and Liquids

You do not need to complete all of this in a week. Instead, choose from the following options.

2-Days-a-Week Schedule				
	Day 1	Day 2		
Read	☐ Read the introduction with the students ☐ Read the selected pages in <i>The Usborne Children's Encyclopedia</i>	☐ Choose one or more of the additional books to read from this week		
Do	☐ Complete the Scientific Demonstration "Crayon Muffins" ☐ Eat "Solid Popsicles" for snack	☐ Complete the Nature Study "Finding Waxy Coatings" ☐ Do the "Coloring with Cookies" activity		
Write	☐ Color the main idea page☐ Fill out the demonstration sheet☐	☐ Fill out the nature journal sheet☐ Complete the art page		

S-Days-a-Week Schedule					
	Day 1	Day 2	Day 3	Day 4	Day 5
Read	Read the introduction with the students	Read the selected pages in <i>The Usborne Children's</i> Encyclopedia	Choose one or more of the additional books to read from this week	Choose one or more of the additional books to read from this week	
Do	☐ Eat "Solid Popsicles" for snack	☐ Complete the Scientific Demonstration "Crayon Muffins"	☐ Work on the activity "Will it melt?"	☐ Do the "Coloring with Cookies" activity	Complete the Nature Study "Finding Waxy Coatings"
Write	☐ Color the main idea page	☐ Fill out the demonstration sheet	☐ Complete the Solid and Liquids Mini- book	☐ Complete the art page	☐ Fill out the nature journal sheet

Read - Information Gathering

Weekly Topic

A solid melts into a liquid.

Scripted Introduction

Have a piece of ice and a crayon on a plate in front of each student. Say to the students:

This week, we are going to look closer at solids and liquids. The ice and the crayon in front of us are both solids. Ice is solid water, but the crayon is made from solid wax. When ice gets warm, it melts and turns into liquid water. See how that's happening right in front of us? This process is called melting.

Let them play with the ice and see firsthand how it is turning into a liquid. Then, ask the students:

? Is the crayon in front of us melting?

Then, say:

That's right! The crayon remains a solid. This is because it needs a lot more heat before it will melt and become a liquid.

Read-Alouds

Encyclopedia Pages

The Usborne Children's Encyclopedia pp. 188-189 "Solids, liquids, and gases"

Library Books to Look For

- What is the world made of? All about solids, liquids and gases (Let's Read and Find out About Science) by Kathleen Weidner Zoehfeld and Paul Meisel
- Acceptable Change It!: Solids, Liquids, Gases and You (Primary Physical Science) by Adrienne Mason and Claudia Davila
- Solids, Liquids and Gases (Starting with Science) by Ray Boudreau

Do - Hands-on Projects

Scientific Demonstration: Crayon Muffins

Materials Needed

- ✓ Crayons
- ✓ Foil muffin-cup liners

✓ Muffin tin

Steps to Complete

1. Read the following introduction to your students:

Remember earlier we saw how solids melt into liquids? Now, we are going to turn our solid wax crayons into liquid wax by heating them up. Then, we are going to let our crayon muffins cool to see what happens!

- 2. Place the foil muffin cup liners into a muffin tin. Let the students break the crayons into pieces and place them in the cups.
- 3. {Adults Only} Preheat the oven to 300°F. Once the students have finished, place the muffin tin in the oven for about 15 minutes, enough time for the crayons to melt. Then, using a hot mitt, remove the tin and let the students observe, asking them:
 - ? What happened to the crayons in our muffin cup?
- 4. Let the tray cool for about 30 minutes. Then, come back and observe the crayon muffins again, asking the students:
 - ? Have the crayon muffins changed?

Explanation

Read the following explaination to the students:

We saw our crayons melt into a liquid crayon muffin with the heat from the oven. Then, as they cooled off, the liquid turned into a solid crayon muffin!

(Note—Keep your crayon muffins to use with the art activity.)

Nature Study: Finding Wax Coatings

This year, your nature study time will mainly focus on developing the students' awareness of the world around them. For your own personal knowledge about guiding this nature study, I recommend that you read pp. 1-23 in the *Handbook of Nature Study*.

Preparation

Waxy coatings can be found in nature on most pine trees, so that is the focus of your nature study this week. Read pp. 670-674 in the *Handbook of Nature Study* to learn more about pine trees.

Outdoor Time

Go on a walk with the students to see if you can find any pine trees to observe. Allow the students to observe the tree and ask any questions they may have. You can use the information you have learned from reading the *Handbook of Nature Study* to answer their

questions or to share information about what they are observing.

Coordinating Activities

- X Art (Coloring with Cookies) Give the students their crayon cookies they made during their experiment. Let them color a picture of their choice using their crayon cookies.
- >< Snack (Solid Popsicles) Point out to the students that popsicles are solid. Ask what happens when they take a bite of their popsicle and let it sit in their mouth for a minute.
- Activity (Will it melt?) Let the students choose several foods that they want to see melt (such as chocolate or crackers). Place them in a muffin tin, and heat them in the oven for five minutes, watching carefully. Observe what happens.

Write - Simple Notebooking

Student Diary

pocket.

	Student Diary (SD) p. 9.
	Demonstration Sheet - After you do the demonstration, fill out the demonstration sheet found on SD p. 10 with the students.
	Nature Journal Sheet – After you have your nature study time, fill out the nature journal sheet found on SD p. 11 with the students. The students can sketch what they have seen, or you can write down their observations.
	Art Page - Have the students use SD p. 12 to complete the art activity.
Lap	booking Templates
-	Weekly Mini-book – Have the students cut out and color the Solids and Liquids Mini-book in the <i>Intro to Science Lapbooking Templates</i> (LT) p. 9. You can have them cut out the main idea graphic included and glue it in the interior of the mini-book, or you can write a sentence with what they have learned from the week for them on the inside of the mini-book. Once the students are done, have them glue the booklet into the mini-lapbook.
	Overall Lapbook – Have the students cut out the "My Chemistry Projects" pocket on LT p. 15. Have them glue the pocket into the lapbook and add the coloring project they did to the

Week 2: Mixture

2-Days-a-Week Schedule				
	Day 1	Day 2		
Read	☐ Read the introduction with the students ☐ Read the selected pages in <i>The Usborne Children's Encyclopedia</i>	☐ Choose one or more of the additional books to read from this week		
Do	☐ Complete the Scientific Demonstration "Dilution Chemistry" ☐ Eat "Make pudding" for snack	☐ Complete the Nature Study "Muddy Mixtures" ☐ Do the "Diluted Art" activity		
Write	☐ Color the main idea page☐ Fill out the demonstration sheet	☐ Fill out the nature journal sheet☐ Complete the art page		

	S-Days-a-Week Schedule					
	Day 1	Day 2	Day 3	Day 4	Day 5	
Read	Read the introduction with the students	Read the selected pages in <i>The Usborne Children's</i> Encyclopedia	Choose one or more of the additional books to read from this week	Choose one or more of the additional books to read from this week		
Do	☐ Eat "Make Pudding" for snack	Complete the Scientific Demonstration "Dilution Chemistry"	☐ Work on the activity "Strongest to Weakest"	☐ Do the "Diluted Art" activity	Complete the Nature Study "Muddy Mixtures"	
Write	□ Color the main idea page	☐ Fill out the demonstration sheet	☐ Complete the Mixtures Mini-book	☐ Complete the art page	☐ Fill out the nature journal sheet	

Read - Information Gathering

Weekly Topic

• Adding water to a mixture will make it thinner or weaker.

Scripted Introduction

Have some thick paint on a plate, a paintbrush, and a cup of water in front of each student. Say to the students:

This paint is really thick; isn't it? Why don't you try using this to paint over the gray line on the top of the paper.

Let the students paint a line on SD p. 13 with the thick paint on the paper. Then say:

Now, I am going to add a little water from this cup to our paint mixture. Let's see what happens!

Add the water and let the students use the paint brush to mix the paint and water.

Then ask the students:

? What happened to the paint?

That's a great description. The paint did get thinner! The scientific word for this is "diluted." We diluted the paint with water to make it thinner. This week, we are going to look closer at mixtures and dilutions. But before we do that, why don't you use our diluted paint mixture to paint over the other gray line on the bottom of the paper?

Read-Alouds

Encyclopedia Pages

The Usborne Children's Encyclopedia – There are no new pages scheduled. If you would like, you can reread the pages (pp. 188-189) on solids, liquids, and gases.

Library Books to Look For

- △ Liquids (States of Matter) by Carol Ryback and Jim Mezzanotte
- Lulu's Lemonade (Math Matters) by Barbara Derubertis and Paige Billin-Frye

Do - Hands-on Projects

Scientific Demonstration: Dilution Chemistry

Materials Needed

✓ Juice (whatever juice the students like)

- ✓ Measuring cups
- ✓ 5 Cups
- ✓ Water

Steps to Complete

1. Read the following introduction to your students:

Remember earlier we saw what happens when we add water to paint? Now, we are going to add water to juice and taste what happens!

- 2. Lay out five cups in a row and label them 1 to 5.
- 3. Help the students pour 1 cup of juice into cup 1. Have them pour ¾ cup of juice into cup 2. Have them pour ½ cup of juice into cup 3. Have them pour ¼ cup of juice into cup 4.
- 4. Then, add ¼ cup of water to cup 2. Add ½ cup of water to cup 3. Add ¾ cup of water to cup 4. Add 1 cup of water to cup 5.
- 5. Mix all five cups well. Then, have the students drink some of the juice from each cup and rate the juice taste from 1 to 10. When they are done, ask them:
 - ? Which cup tasted the strongest?

Explanation

Read the following explaination to the students:

The juice taste got weaker and weaker with the more water we put in the cup. This is because we diluted the juice in the cups with water, like we did with the paint earlier.

Nature Study: Muddy Mixtures

This week, you are looking at mixtures, and mud is a naturally occurring mixture! You don't need a mud puddle. Instead, you will examine the dirt, a.k.a. soil, from outside and then use that soil to make a muddy mixture.

Preparation

To learn more about soil, read pp. 760-764 in the *Handbook of Nature Study* to learn more about soil.

Outdoor Time

Go on a walk with the students to collect some soil. Observe the soil and then use that soil to make your own mud mixture. You can do this by using different amounts of water to get different thicknesses of mud. Allow the students to make their own observations about the soil and the mud you made. You can use the information you have learned from reading the *Handbook of Nature Study* to answer their questions or to share information about soil and

mud.

Coordinating Activities

- ★ Art (Diluted Art) Give the students a plate with one color of paint and plenty of white paint. Have the students paint first with the original color on a piece of paper. Then, have the students dilute their color with the white paint, making sure to paint with each lighter color as they go along.
- >> Snack (Make Pudding) Point out to the students that pudding is a mixture. Make pudding together by following the directions found on your pudding package. Before you put the mixture in the fridge, remove ¼ cup of the mixture and put it in another bowl. Add an additional ½ cup of milk to that mixture to dilute it, then put both bowls in the fridge. Check the two bowls after two hours, and see how they differ.
- >< ActiVity (Strongest to Weakest) Make a batch of Kool-Aid or other powdered drink mix. Dilute the drink mix to varying strengths. Have the students do a blind taste test and classify them from strongest to weakest.

Write - Simple Notebooking

Student Diary

Projects" pocket in the lapbook.

	Main Idea Page - Have the students color the coloring page found on SD p. 13.
	Demonstration Sheet - After you do the demonstration, fill out the demonstration sheet found on SD p. 14 with the students.
	Nature Journal Sheet – After you have your nature study time, fill out the nature journal sheet found on SD p. 15 with the students. The students can sketch what they have seen, or you can write down their observations.
	Art Page - Have the students use SD p. 16 to complete the art activity.
ар	booking Templates
	Weekly Mini-book – Have the students cut out and color the Mixtures Mini-book on LT p. 10. You can have them cut out the main idea graphic included and glue it in the interior of the mini-book, or you can write a sentence with what they have learned from the week for them on the inside of the mini-book. Once the students are done, have them glue the booklet into the mini-lapbook.

Diveral Lapbook – Have the students add the page they painted to the "My Chemistry

Intro to Science

Student Diary Pages



Third Edition by Paige Hudson



A Quick Welcome from the Author

Dear Student,

Welcome to *Intro* to *Science!* This workbook will serve as a scrapbook of sorts for you to share what you learned about science. You will be learning about the basics of science this year.

Each week you and your teacher will do the following:

- Read the assigned pages together. Your teacher will then ask you a few questions as you discuss what was read. Be sure to share what you found interesting.
- of science, plus you get to exercise your observation muscles. Be sure to pay close attention and help out when your teachers ask you to do so.
- Write down what you have learned and seen. Your teacher may help you with the actual writing, but be sure to record the facts that you want to remember.

Your teacher has the tools to add in more each week, things like memory work, library books, and extra activities. Be sure to let them know if you want to dig deeper into a topic.

And, if you have a question or want to share your work with me, please have your teacher send us an email (support@elementalscience.com) or by tagging us (@elementalscience) in a photo you share online. I would love to see what you have learned this year!

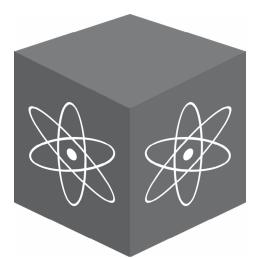
I hope that you enjoy learning about science this year!

Paige Hudson

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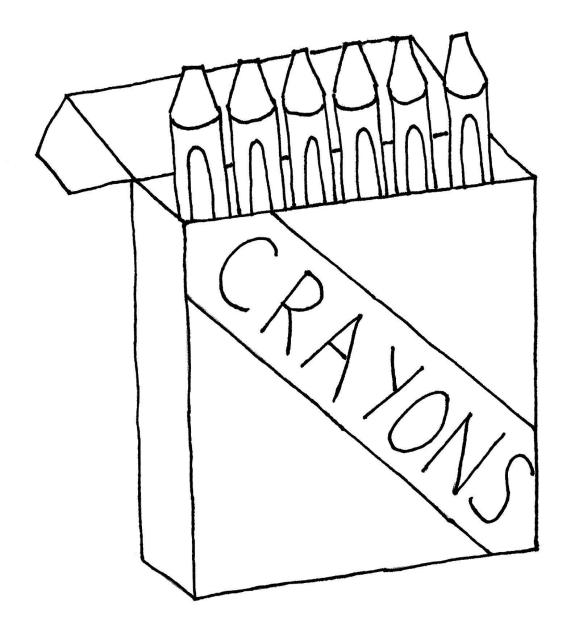
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Intro to Science

Unit 1: Chemistry Diary



A solid melts into a liquid.

Student Diary Unit 1 ~ Intro to Chemistry

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Finding Waxy Coatings

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Student Diary Unit I ~ Intro to Chemistry

Coloring with Crayon Muffins



Thick paint

Thick paint after adding water



Adding water to a mixture will make it thinner or weaker.

Student Diary Unit 1 ~ Intro to Chemistry

Dilution Chemistry

Juice to Water Ratio	Rating
All Juice (1 cup Juice)	
Mostly Juice, Some Water (3/4 cup Juice, 1/4 cup Water)	
Half Juice, Half Water (1/2 cup Juice, 1/2 cup Water)	
Some Juice, Mostly Water (1/4 cup Juice, 3/4 cup Water)	
All Water (1 cup Water)	

Wh	at I	learn	ed:		
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Muddy Mixtures

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Diluted Art



Intro to Science



Lapbooking Templates

(Third Edition)

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Intro to Science Lapbooking Templates

Introduction

The lapbooking templates provided in this eBook are meant to coordinate with *Intro to Science*.

What is Included

There are templates for six lapbooks contained in this eBook:

- 1. Unit 1 Chemistry (begins on p. 7)
- 2. Unit 2 Physics (begins on p. 17)
- 3. Unit 3 Geology (begins on p. 27)
- 4. Unit 4 Meteorology (begins on p. 37)
- 5. Unit 5 Botany (begins on p. 47)
- 6. Unit 6 Zoology (begins on p. 57)

The directions for assembling the overall lapbook are found on the overview page. However, the directions for completing each of the mini-books in this document are included in the *Intro to Science Teacher Guide*.

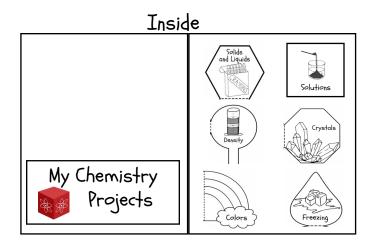
How to Use the Lapbooking Templates

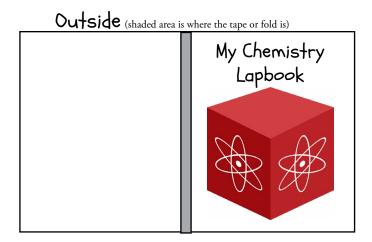
You can use these lapbooks to review the concepts learned or you can have the student create each one in lieu of completing the sheets in the *Intro to Science Student Diary*.

However you choose to use these lapbooking templates, please let us know if you have questions or would like to share feedback at by emailing support@elementalscience.com.

Unit I Chemistry Lapbook Overview

You will need 2 sheets of card-stock or one file folder. Begin by taping the two sheets together on the longest edge, to look like this:

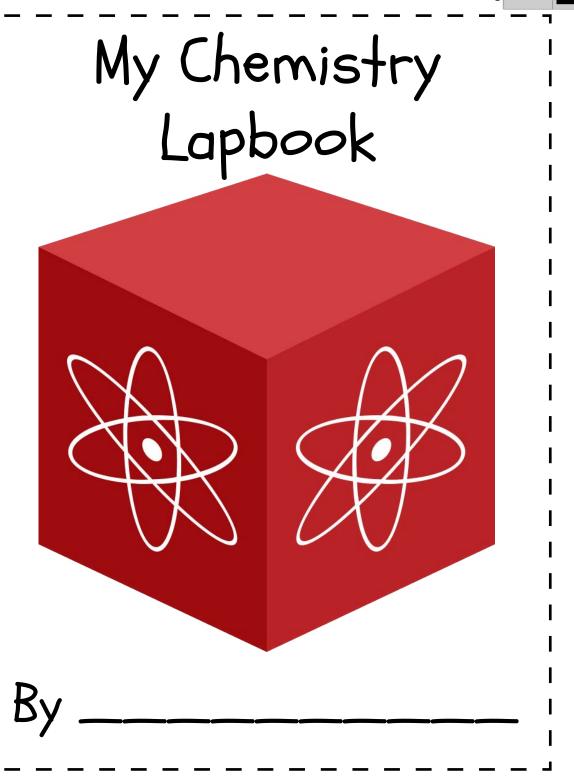




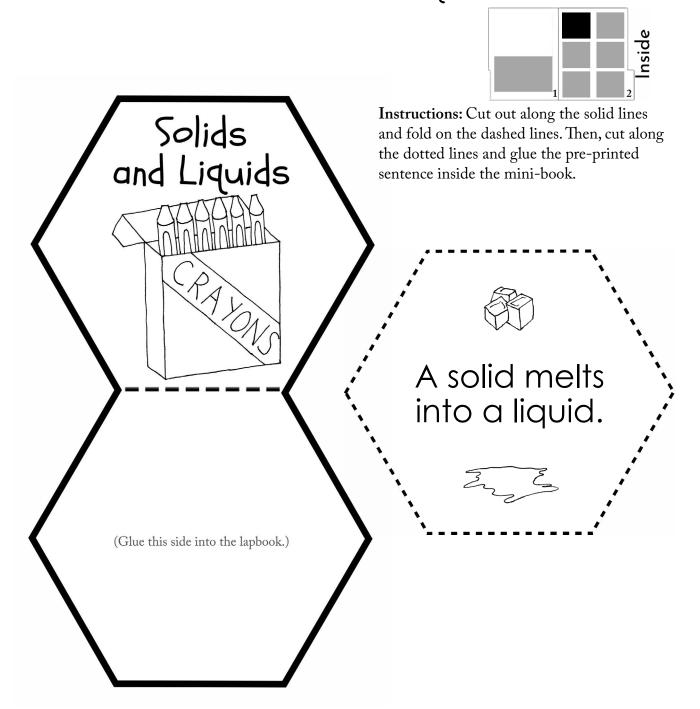
Overall Directions

For each mini-book have the students color the pictures. Then, write the narration sentences for the student or have him glue the included main-idea graphic into the inside of the mini-book. Finally, glue the mini-books and project folder onto the lapbook. You can use the cover template provided or allow the students to decorate the cover as they choose.

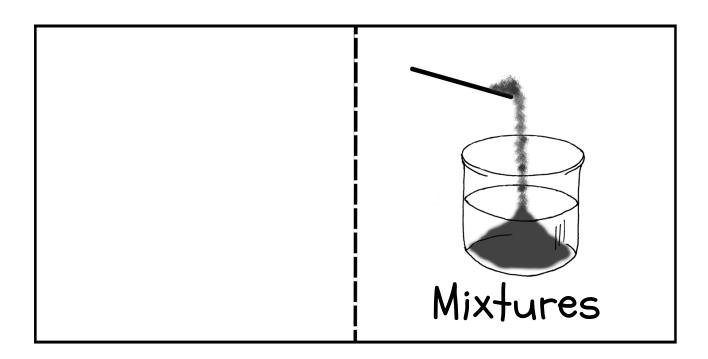
Outside



Week 1 - Solids and Liquids



Week 2 - Mixtures



Adding water to a mixture will make it thinner or weaker.

Instructions: Cut out along the solid lines and fold on the dashed lines. Then, cut along the dotted lines and glue the pre-printed sentence inside the mini-book.



Lapbooking Templates Intro to Science Unit 1 ~ Intro to Chemistry



Are you ready to start?

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