

A Science Curriculum

RABBIT
trails...[®]
through
SCIENCE

CHEMISTRY



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YouTube: [Rabbit Trails Homeschool](https://www.youtube.com/RabbitTrailsHomeschool)

HOW TO USE THIS CURRICULUM

I'm so excited that you've chosen Rabbit Trails through Science to use in your homeschool! This curriculum is a Unit Study inspired, relaxed curriculum for middle grades. What this means is that it's not designed to have lots of busy work. It's designed to provide quality literature to your children, hands on science experiments and activities, opportunities for copywork, journaling and observation, and other means to learn fun and enriching science material.

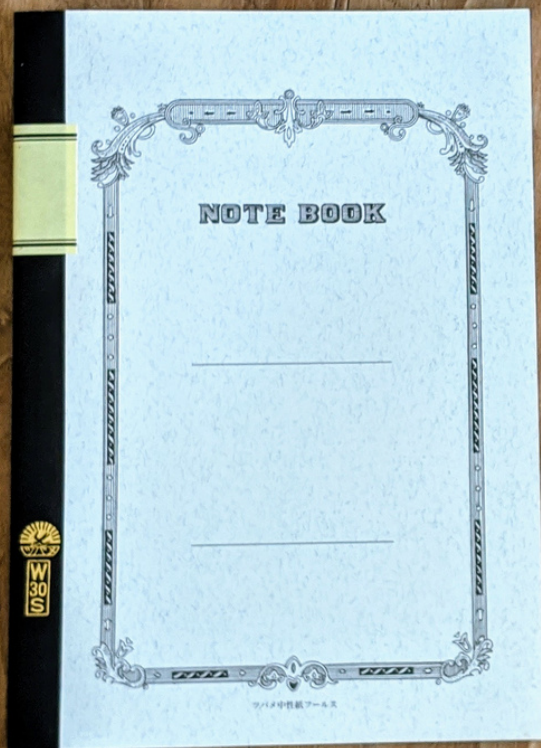
Rabbit Trails through Science was created with homeschooling adventures in mind. Not only will you be learning science, but your children will go on a journey through amazing books while gaining scientific knowledge about the world around them. This curriculum is meant to be used on *your* child's level. It's not meant to have boxes checked off each day, but to do what works for your unique family. When it comes to copywork and vocabulary, there are suggestions given, but take what you need and leave the rest. If your child isn't at the level of the suggestions, then create what works for them. Same thing if they're capable of beyond what is recommended. Make this curriculum your own!

Rabbit Trails through Science is a faith-based curriculum with Bible verses included in each lesson. However, finding quality books that do not discuss evolution can be difficult. Feel free to skip these sections in any books that discuss this, or use it as an amazing learning opportunity and discussion point to talk about your family's beliefs regarding creation.

I encourage you to enjoy reading as many of the books listed in this curriculum as you can! Quality literature is the framework of this curriculum. There is one spine book to this curriculum, with many other picture books recommended. However, don't become overwhelmed with purchasing these books if you don't have the means. Many can be found at libraries, on used book websites, etc. The books listed in the Rabbit Trails and Library Lists are just suggestions. Use what books you have on hand or find at your own library on the topic! If you do choose to buy all of the books, you can access many in my shop. **You can also access all of the links, YouTube videos, and more in the Resource Page in the back of this curriculum.**

NOTEBOOK STYLE CURRICULUM

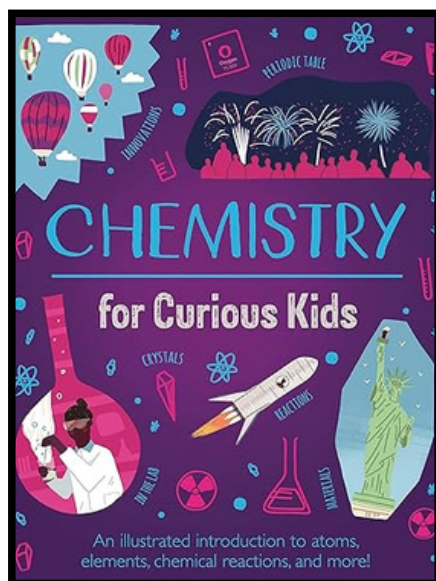
As you may have noticed, this curriculum does not include any kind of workbook for your children to work in. This was designed to all be done in a notebook. You may choose a standard, wide ruled notebook, or you can choose to use our pre-made Companion Journals. Feel free to use whatever method works best for you and your child.



CORE CURRICULUM BOOKS

This book is recommended to be purchased to go along with the curriculum as it will be a part of each lesson in Rabbit Trails through Science: Chemistry. All other suggested books are listed inside of the individual lessons.

Chemistry for Curious Kids
by Lynn Huggins-Cooper



SUPPLY LIST

Chemistry requires a lot of experiments, which means a lot of materials are required.

We have included a list of all of the required materials for the main experiments inside of the Some Fun sections. While the More Ideas does also include some experiment ideas, these are all optional to add into your learning and we have only added hard to find products for those here.

Supplies from Home Science Tools:

(Link in Resource Page)

Safety goggles/lab coat

50ml graduated cylinder

Pipettes

Test tubes

Well plate

Tweezers

Copper II Nitrate

Hydrochloric acid (concentrated) 30ml?

Magnesium ribbon, 0.2 grams

Zinc Mossy

Carbon lumps

Gem/mineral kit with scratch kit

Boric acid powder

Red and blue litmus paper

Supplies from Amazon:

(Link in Resource Page)

Conductivity tester

Chalk Pastels

Ion game

All other supplies:

Magnifying glass

Lighter

Paper towels

Clear, plastic cups

Hot glue gun

Paint

Empty plastic bottles

Measuring cups and spoons

Tissues

Powdered sugar

Baking tray

Large tray or tubs for catching messes

Colander

Cookie cutters

Plastic zipper bags

Thermometer

Balloons

Vinegar

Disposable stirrer/coffee stirrer

Baking soda

Matches

Rubbing alcohol

Dish soap

Shampoo

Toothpaste

Red cabbage

Strawberries (opt. onion)

Salt

Coffee filters

Milk

Dry yeast

HEET Gas Line Antifreeze and Water Remover

3% hydrogen peroxide

Food coloring

11 egg cartons

45"x35" cardboard

Lemon juice

Carbonated soda

Distilled water

2 wide mouth mason jars

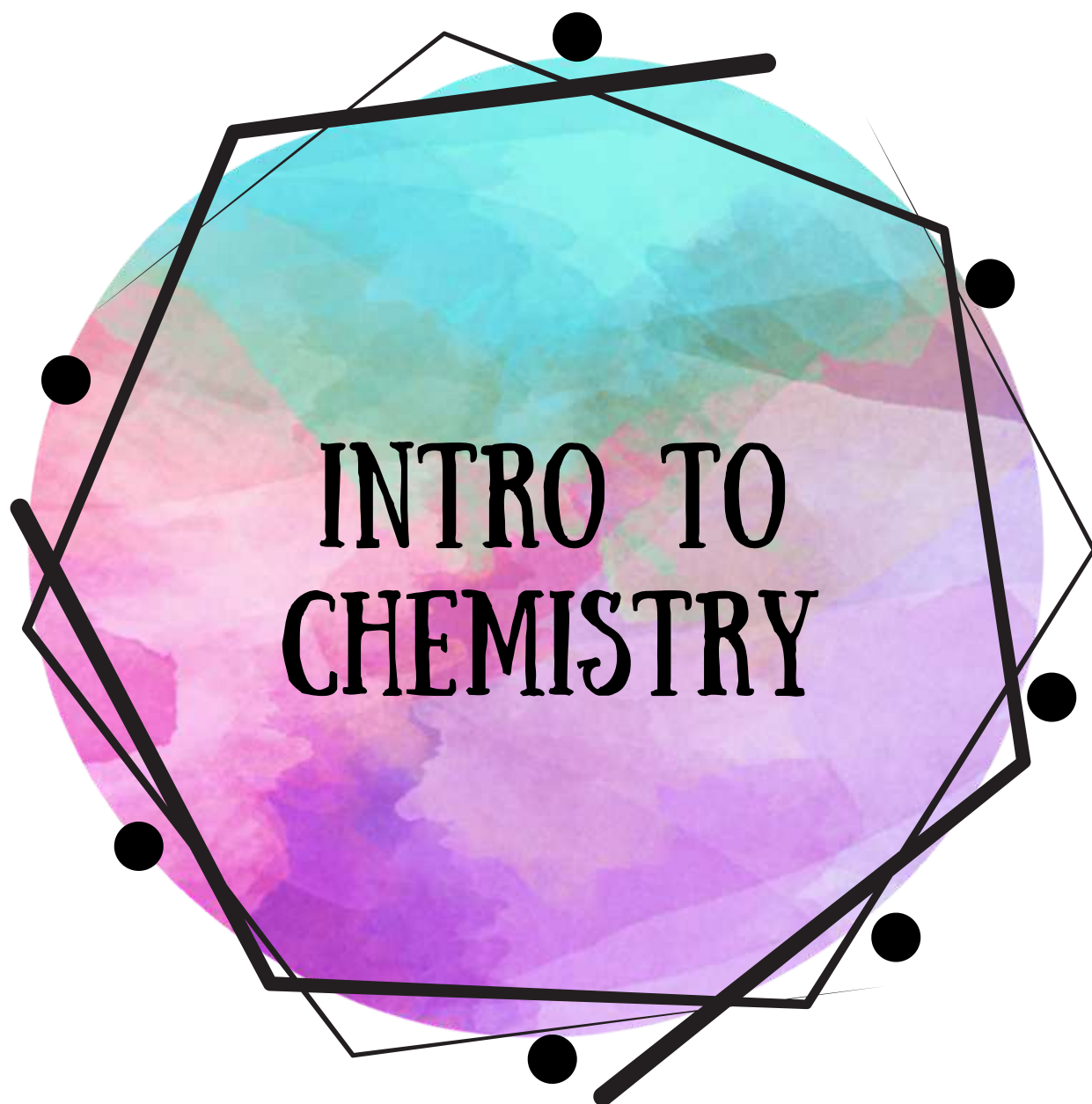
Activated charcoal

Tin pie pan

Sand

Lighter fluid

Microscope (optional)



INTRO TO CHEMISTRY



Begin by reading pages 4-5, then pages 87-93 in Chemistry for Curious Kids. Simply put, chemistry is the study of all matter and the changes it undergoes, while matter is anything that takes up space. Chemists work in labs and use a variety of equipment to conduct their experiments.

Observation and Journaling: In your journal, copy the diagram of the Bunsen burner from page 89. Make sure to label the parts of the burner and make note of who it is named after. For younger students, work where they are. For older students, have them also make a list of the rest of the lab equipment from pages 90-93 (thermometers, test tubes, beakers, etc.).



Copy the “Out of Curiosity” box from page 88. Choose part or all of it to use as copywork. For all copywork, work where your child is.

Exactly as I show you concerning the pattern of the tabernacle, and all of its furniture, so you shall make it. -Exodus 25:9

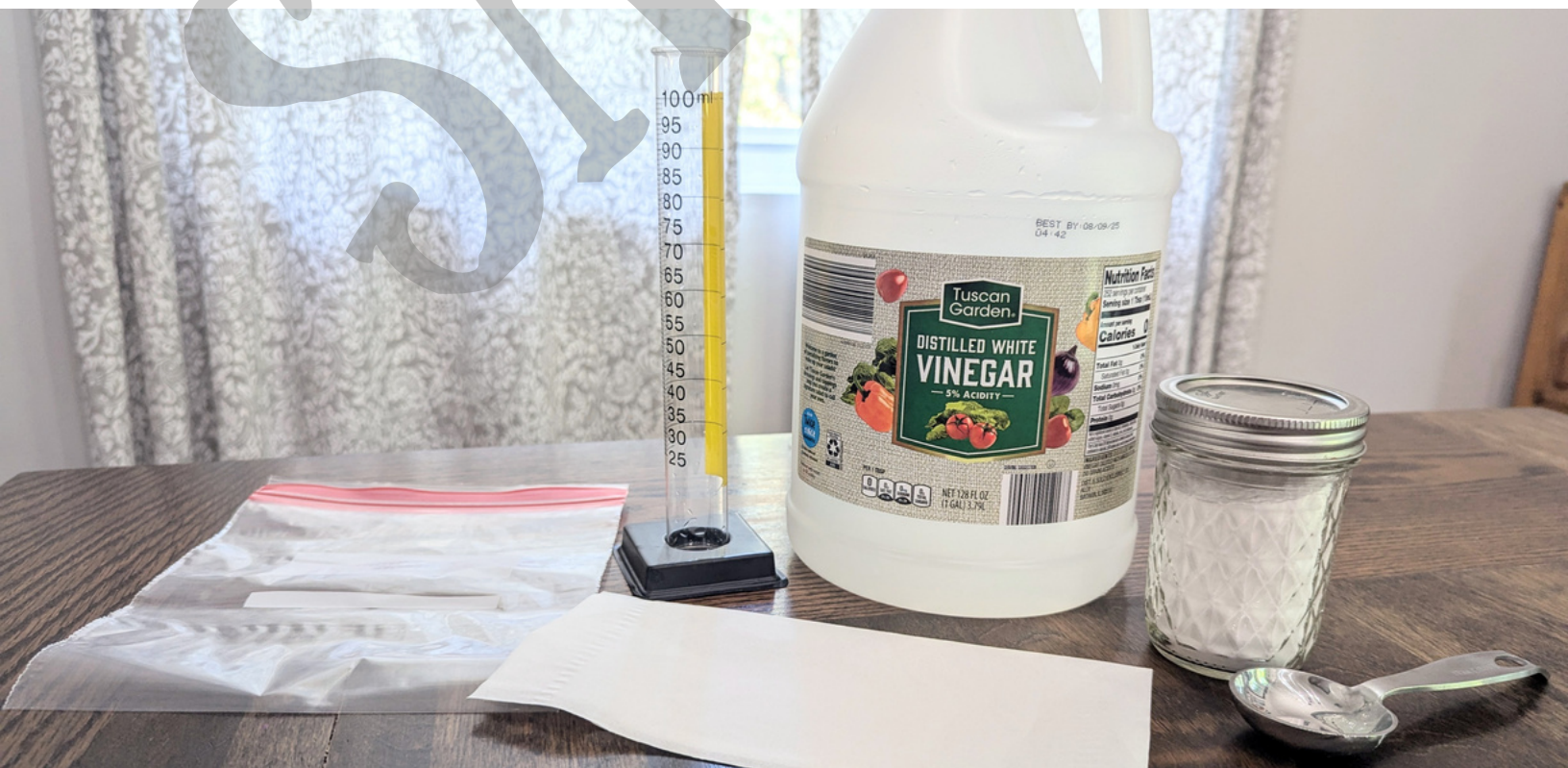
When instructions were recorded for the building of the tabernacle, they were very precise. Israel needed a formal place and center for their worship and the tabernacle would be that place. Every furnishing, design, and detail had a purpose. The same could be said about setting up a laboratory: everything has a purpose and we must follow safety rules and instructions in order to get the most out of an experiment or lesson. Each person has a certain job when it comes to conducting an experiment, and we have to follow step by step directions or we may not get the intended result, just like those that constructed the tabernacle.



Let's kick off this unit with a well known experiment-with a twist! We are going to create chemistry in a bag. Grab your supplies and let's get started. Look up the scientific names for vinegar and baking soda. Write them in your journal. We all know what happens when these two ingredients are mixed together, but what if they're SHAKEN together? First, put about 50 milliliters of vinegar into a quart-size bag. Seal the bag so it doesn't spill. Then, add a tablespoon of baking soda folded into the tissue. Wrap it up like a package. Now, holding it carefully, open the bag of vinegar and place the tissue inside at the top so that it's not touching the vinegar just yet. Reseal the bag and when you're ready, drop the tissue into the mixture and SHAKE the bag. Your bag should inflate as gases are released inside. For extra fun, measure the circumference of your bag once it is inflated by the gases.

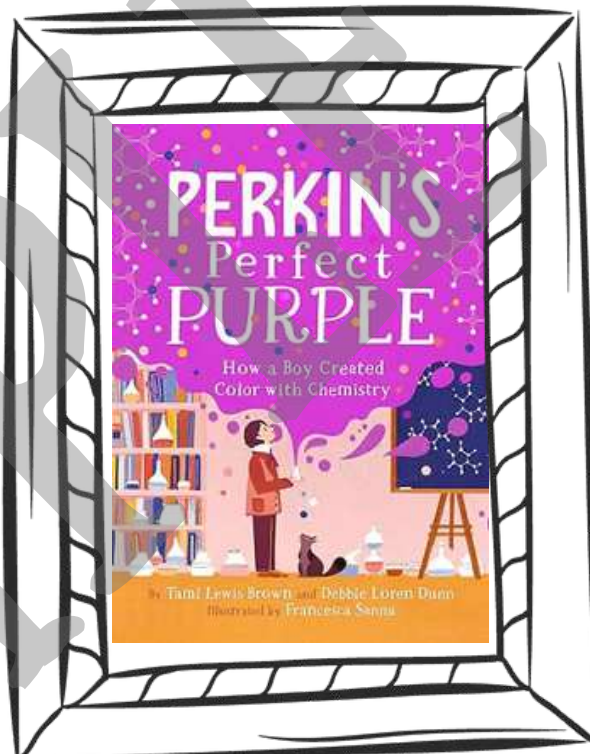
Supplies needed:

- Safety goggles
- Vinegar
- Baking soda
- Quart zipper bag
- 1 tissue
- Graduated cylinder



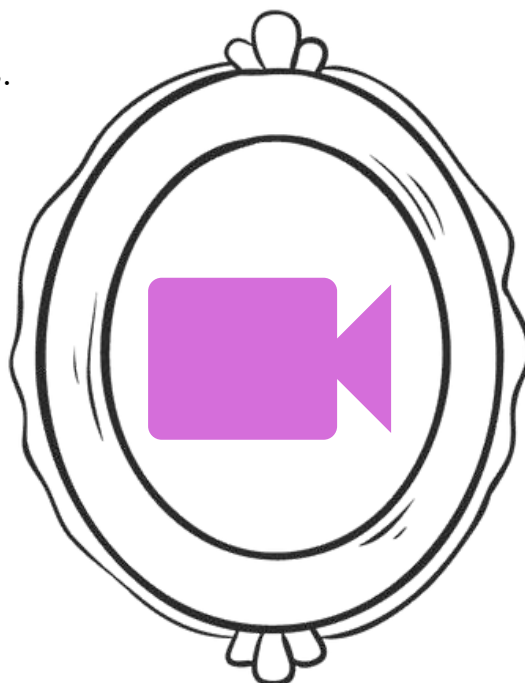


Let's learn more about chemistry with Perkin's Perfect Purple by Tami Lewis Brown and Debbie Loren Dunn.

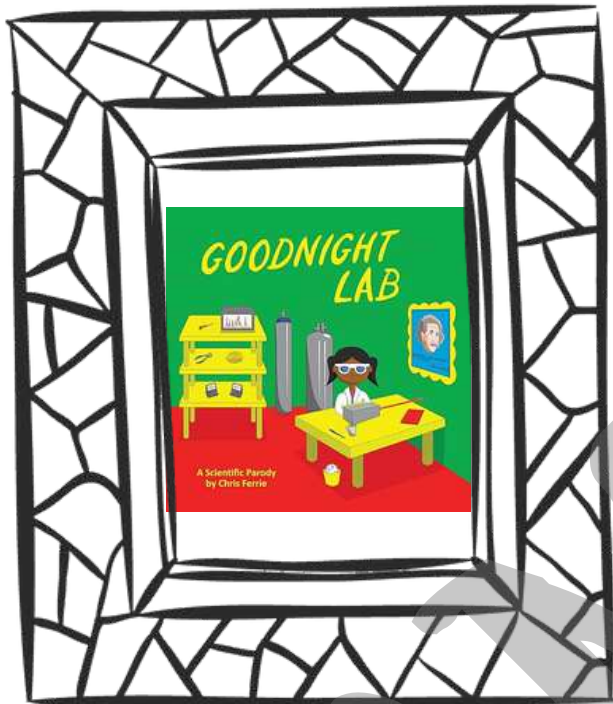


Continue learning with Charlotte the Scientist is Squished by Camille Andros.

Watch What is Chemistry? on Free Animated Education's YouTube channel to learn about the definition of chemistry.



Goodnight Lab
by Chris Ferrie



LIBRARY list...

Blue
by Nana Ekua Brew-Hammond



Mary Had a Little Lab
by Sue Fliess



-Vocabulary Words: There will be vocabulary words to add to your child's notebook in every lesson. Of course, make sure this is age appropriate. For younger children, just discuss the definitions or use as copywork. For older children, they may look up the definitions themselves in the dictionary or glossary.

- chemistry
- chemists
- minerals
- patent
- atoms
- spectroscopy

-List the five main branches of chemistry and their descriptions from page 5.

-YouTube has several tutorials on Bunsen Burners, which are commonly used in labs. How to Light A Bunsen Burner on Mr. Jansen Tan's channel is a great intro. This would be a great way to see these in action, since the majority of homes won't have access to these.

-If you can, set up your own lab in your home and practice lab safety. Choose a place to keep your supplies organized and easily accessible for experiments.

-Do some conversions. Using a thermometer, measure the temperature inside your refrigerator and freezer. Can you convert the temperature from Fahrenheit to Celsius?