

Introduction to Foundations of Science: Science and Creation (Year 1)

The foundations of our science curriculum are firmly based upon the creation of the world by YHWH:

- We believe that Scripture teaches **YHWH created the world** in six literal, consecutive 24-hour days.
- We believe that **the Flood of Noah's day** was a worldwide, literal flood. It was a significant geological event and much (but not all) fossil sediment originated at that time.
- We believe that **the gap theory has no basis in Scripture**.
- We believe that no apparent, perceived or claimed **evidence in science** can be valid if it contradicts the scriptural record. Of primary importance is the fact that evidence is always subject to interpretation by fallible people who do not possess all information.

We also attempt to emphasize some things in our curriculum:

- We seek to teach our students to **think logically and carefully** about the created world. We emphasize the scientific method, which consists of observing (gathering facts), hypothesizing (suggesting explanations), and experimenting (testing explanations).
- We teach that **science is inseparable from mathematics**, which we call the "language of science." We teach our students to be precise, exact, and careful when interacting with God's world.
- We acknowledge that **we are made in the image of a Creator**, and we hope to cultivate creativity in our children and constant appreciation of the created world. (We try to avoid the use of the word "nature," choosing to use the word "creation" instead.) While teaching responsibility and stewardship of God's creation (Genesis 1:28), we also seek to worship the Creator, rather than created things, in all that we do (Romans 1:18-32).

Topics Covered in Year 1

Our curriculum combines grades 4-12 together for science each day. All students start in Year 1, so that a firm foundation in Creation is laid.

Year 1 covers the six days of creation over the entire school year and is designed to be done together as a whole family, with additional independent reading and research assignments for high-school students. Our plan is to offer science in a 4-year sequence, giving students the opportunity to visit each topic repeatedly and in greater depth.

- **Light, Energy, and Matter** (Creation Day 1) – Topics include magnetism, electricity and currents, motion, force, light and sound waves, color, gravity, radiation, electronics.
- **Water and Atmosphere** (Creation Day 2) – Topics include water, oceanography, molecules, atmosphere, weather.
- **Land and Plants** (Creation Day 3) – Topics include rocks, minerals, elements, chemical reactions, earthquakes, plants, flowers, seeds, trees, fungi, mold, bacteria.
- **Sun, Moon, and Stars** (Creation Day 4) – Topics include the moon and moon phases, planets, constellations, eclipses, galaxies, meteors, star clusters, comets, asteroids, calendars, and the study of space.
- **Birds and Sea Life** (Creation Day 5) – Topics include birds, fish, amphibians, environmental science.
- **Land Animals and Man** (Creation Day 6) – Topics include fossils, reptiles, mammals, insects, invertebrates, classification systems, microbiology, human anatomy and physiology, disease.

Years 2-4 of our science curriculum will cover the following:

- Science and the Flood (Year 2)
- Science and the Torah (Year 3)
- Science and History (Year 4)

See an Overview of all 4 years of science here:

<https://homeschoolingtorah.com/overview-of-foundations-of-science>

Features of Our Science Curriculum

- Each “week” of lesson plans is set up so that **3 days will be spent discussing science topics with Mom, then 2 more days of study, projects, and review can be done relatively independently**. Our goal is to allow Mom several days a week of intense study with her children, yet also give Mom a few days to accomplish housework, errands, and other responsibilities. You are always welcome to do more than the curriculum suggests.
- We have utilized online resources extensively in our curriculum, to save you the added expense of purchasing additional books and materials. **You will need Internet access for many of the lessons.**
- We have scheduled topics of **discussion** to go with each topic. However, don’t feel that you must limit the discussion to only these things! Mom should feel free to discuss things that she knows are important to her family. Allow the Holy Spirit to guide you as you learn together.
- We provide at least weekly opportunities for science to be “**hands on.**” However, out of respect for your budget and energy levels, we try to use supplies that are readily available around your home.
 - Download Science Supply List here:
<https://homeschoolingtorah.com/introduction-to-foundations-of-science>
- We do suggest ways to spend time outside **observing Creation**, but because we ourselves live in a cold climate where we can’t always watch things grow or stay outside too long, we offer other options for families who also have difficulty getting outside at all times of the year or might live in an urban environment.
- **Memorization** is an important part of our curriculum, so that students will have a mental “handle” on which they can hang all of the other things they learn. We strongly emphasize the days of Creation on which God made things, and we learn the history of scientific inventions and discoveries. We emphasize especially the Latin and Greek roots of scientific words, to promote literacy and the ability to interact with scientists and academic literature in the sciences.
- During all years of this curriculum, we will be constructing a **science notebook**. At least once each week, we schedule a “notebooking” activity that your children can mostly do independently. Provide them with supplies, such as colored pencils, markers, pretty papers, glue, and special scissors. Younger children might want to dictate a paragraph to Mom, which she could then type and print out, to be included in their notebooks. Some families like to have their children notebook several times a day. Other families skip notebooking altogether, just having their children “tell back” (narrate) to them what they have learned.
- Some activities are simply listed as **research projects**, such as “Visit a public library or do research online on the migration of birds.” These could be used as notebooking activities, as writing assignments, or as parts of larger reports or projects. Do what works best for your family!
- **High-school students** are ready to discuss and interact with many of these topics on a much deeper level than younger students. We recommend that you take many of the weekly notebooking topics and require 2-3 pages of essays from your high school students. You may wish to pose controversial questions of your students and ask them to defend their positions. We have also included additional reading assignments, research projects, and application activities for high school students. Some of these are more difficult than others, so use your discretion in what you require of your own students. Resources and ebooks are available for free online but if your budget allows, consider purchasing hard-copy books, since it will be easier for your student to read, to highlight, and to take notes.
 - **Note about high-school science:**
If your student is almost done with high school, and if you have started him on a certain “track” and want to maintain that, you might not want to use our science curriculum. Ours uses more of a spiral

approach over 4 years, covering biology, chemistry, earth science, and physics for a short time each year, then returning to do more the next year. Our oldest son will be a senior this year, for instance, and he is not using our curriculum for his last year, because all he has left is physics. Of course, he hears a lot of what the rest of us are discussing. On the other hand, our 2nd daughter will be a freshman, so she is using our science curriculum (along with the 8th and 6th graders). She will have more assignments than her younger siblings, mostly in researching things and writing assignments. Anyway, you might want to consider a different science curriculum. We like Science for High School, mixed with some videos and lab demonstrations from Khan Academy, although neither is Torah observant, of course.

- <http://www.scienceforhighschool.com/how-to-use>
- <https://www.khanacademy.org>

The reason we use a spiral (rather than topical) approach is so that we can use the Bible as the primary textbook. We were first inspired to use this strange order when studying the writings of Sir Isaac Newton. He is credited with many scientific discoveries and even laws of science, which is amazing because even Einstein only has theories. He credits his success in science to studying the Scriptures, verse by verse, then asking questions of the text, taking it very literally. Our hypothesis is that students will be able to think MORE scientifically if they read the Scriptures FIRST, even though it's not the way the public school does it.

***"I have more understanding than all my teachers, For Your testimonies are my meditation"
(Psalm 119:99).***

Even adults will love this curriculum – we know we did! Take every opportunity to discuss these topics throughout your days and alongside your activities. As adults, stick some of the additional books beside your bed, so you can be reading them, too. You'll start seeing the Creator's hand everywhere!

Our Teaching Methods

Note: This science curriculum uses our "Hear, Learn, Keep, Do" method of teaching. You should take the time to read about it here:

<http://homeschoolingtorah.com/what-is-our-hear-learn-keep-do-method>

Use of the Internet

Throughout this curriculum, we recommend various websites to study topics in further depth. If you don't have access to the Internet, a local library should be able to provide you with many similar resources.

- Please use discretion when using any website, including the ones we recommend, and always supervise your children when using the Internet.
- Please contact us if any link does not work so that we may update it.

Introduction to Foundations of Science for Little Ones

We do not have a separate science curriculum for students in 3rd grade or younger. Our own younger children tend to "listen in" to our science discussions each day, and we're amazed how much they learn.

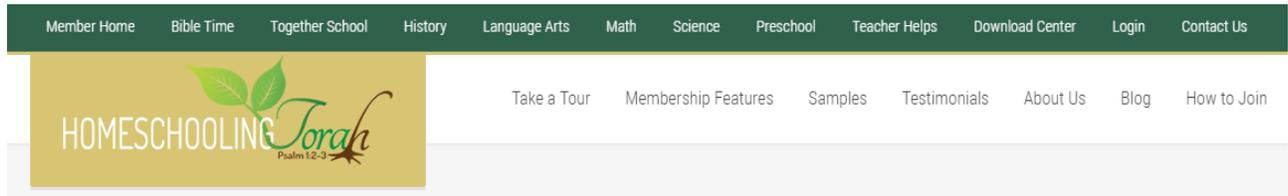
However, we don't feel that formal science instruction is necessary for children younger than 4th grade. **Instead, our lesson plans will include a simple, weekly science discussion topic** (with learning ideas) for parents of young children.

We recommend you do these activities with your children each Sabbath day, as you remember that "in six days YHWH made heaven and earth, the sea, and all that is in them" (Exodus 20:11, ESV).

It's Time to Print Week 3!

Print Science Lessons at <https://homeschoolingtorah.com/science-1>

Print Science for Little Ones at <https://homeschoolingtorah.com/science-little-ones>.



I like to prepare for the next week's lessons on the first day of each week. I click on each subject tab at the top of the HomeschoolingTorah website, printing the lessons I need for the following week, as I enjoy a warm cup of coffee.

