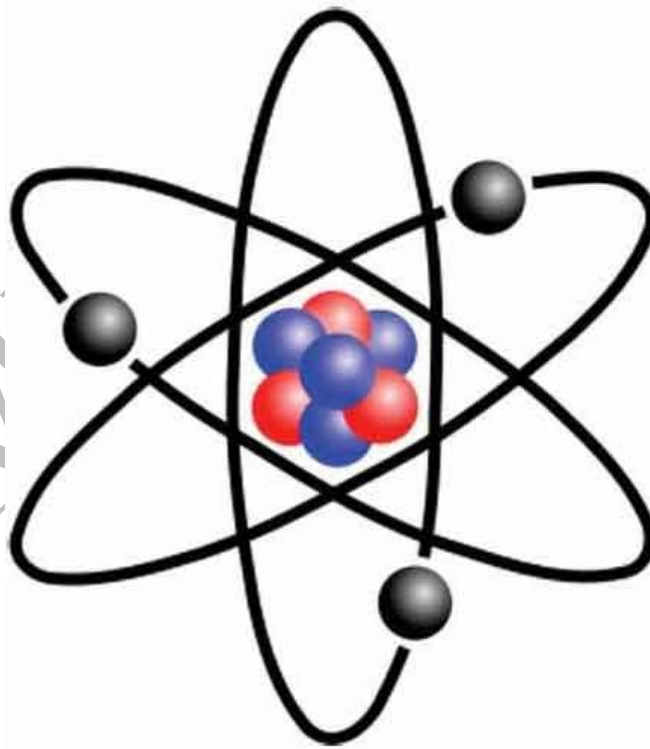


Level 8

(Grade 8 - Ages 12-15)

History of Science



Written by:
Emily Cook

Introduction to Build Your Library Curriculum

Thank you for choosing to use Build Your Library curriculum. I have created this curriculum based on the idea that children learn best through great literature. So, sit down with your children, snuggle up and enjoy the stories and memories!

I am a homeschooling mom like you, and I tried a LOT of different curricula. I knew I wanted to read great stories with my children. I loved the philosophy behind the Charlotte Mason method, but I had a hard time finding a prepackaged curriculum that fit my needs. So, after tinkering and tweaking several different programs, I decided to just create my own. What you are now reading is based on my years of experience. I hope it will save you many hours of research and reading so you can just relax and teach your children.

Table of Contents

Pages 2 – 19	Booklists and Information
Pages 20 – 377	Daily and Weekly Schedule
Pages 378 – 404	History, Literature and Science Activity Pages
Pages 405 – 416	Timeline Figures
Pages 417 – 420	Appendix (blank schedule pages and vocabulary activity)

Copyright Policy

All contents copyright © 2022 by Build Your Library Curriculum. All rights reserved.

No part of this document may be reproduced or transmitted in any form except with written permission by the author. The author does give permission to the original purchaser to make copies of the instructor guide and worksheets for use within their immediate family only.

Booklist

These are the books that are scheduled as part of the curriculum. I highly recommend purchasing the books that are used more than a few weeks. It will save you much aggravation to not have to deal with library fees and such.

All these books are also listed with hyperlinks at the Build Your Library website on the Level 8 Product Page: <https://buildyourlibrary.com/purchase-level-8-curriculum/>

Science:

The Story of Science: Aristotle Leads the Way by Joy Hakim (Spine Weeks 1 – 9)
The Story of Science: Newton at the Center by Joy Hakim (Spine Weeks 10 – 21)
The Story of Science: Einstein Adds a New Dimension by Joy Hakim (Spine Weeks 22 – 36)
Kingfisher Science Encyclopedia (4th edition) (Spine)
Astronomy for All Ages: Discovering the Universe Through Activities for Children and Adults by Philip Harrington (Spine)
The Book of Potentially Catastrophic Science: 50 Experiments for Daring Young Scientists by Sean Connolly (Spine)
Headstrong: 52 Women Who Changed Science and the World by Rachel Swaby (Spine)
The Cartoon Guide to Physics by Larry Gonick (Week 14)
Relativity and Quantum Physics for Beginners by Steven L. Manly (Week 23)

History:

Everything You Need to Ace World History in One Big Fat Notebook by Ximena Vengoechea (Spine)
Amazons, Abolitionists, and Activists: A Graphic History of Women's Fight for Their Rights by Mikki Kendall (Spine)
A Wicked History - Julius Caesar: Dictator for Life by Denise Rinaldo (Week 6)
The Middle Ages: A Graphic History by Eleanor Janega (Week 11)
Sugar Changed the World: A Story of Magic, Spice, Slavery, Freedom, and Science by Marc Aronson and Marina Budhos (Week 15)
Bomb: The Race to Build – and Steal – The World's Most Dangerous Weapon by Steve Sheinkin (Week 26)
In the Shadow of the Moon: America, Russia, and the Hidden History of the Space Race by Amy Cherrix (Week 30)

Poetry:

Poems to See By: A Comic Artis Interprets Great Poetry by Julian Peters (Spine)
Call Us What We Carry: Poems by Amanda Gorman (Spine)

Literature:

The Golden Goblet by Eloise Jarvis McGraw (Week 1)
The Sand-Reckoner by Gillian Bradshaw (Week 4)
Fahrenheit 451: A Novel by Ray Bradbury (Week 8)
A Midsummer Night's Dream by William Shakespeare (Week 10)
A Parcel of Patterns by Jill Paton Walsh (Week 13)
Longitude: the True Story of a Lone Genius Who Solved the Greatest Scientific Problem of His Time by Dava Sobel (Week 15)
Frankenstein by Mary Shelley (Week 17)
The True Adventures of Charley Darwin by Carolyn Meyer (Week 20)
To Kill a Mockingbird by Harper Lee (Week 24)
Nation by Terry Pratchett (Week 28)
The House of the Scorpion by Nancy Farmer (Week 32)

Readers:

We Have No Idea: A Guide to the Unknown Universe by Jorge Cham and Daniel Whitson (Week 1)
Stargirl by Jerry Spinelli (Week 4)
Ink and Bone: The Great Library by Rachel Caine (Week 6)
The Canterbury Tales retold by Geraldine McCaughrean (Week 9)
The Second Mrs. Gioconda by E.L. Konigsburg (Week 11)
Along Came Galileo by Jeanne Bendick (Week 13)
Carry On, Mr. Bowditch by Jean Lee Latham (Week 14)
The Disappearing Spoon: and Other True Tales of Rivalry, Adventure, and the History of the World from the Periodic Table of the Elements Young Readers Edition by Sam Kean (Week 17)
Itch: The Explosive Adventures of an Element Hunter by Simon Mayo (Week 20)
Animal Farm by George Orwell (Week 23)
Radioactive: Marie & Pierre Curie: A Tale of Love and Fallout by Lauren Redniss (Week 24)
Journey to the Center of the Earth by Jules Verne (Week 26)
Code Talker: A Novel About the Navajo Marines of World War Two by Joseph Bruchac (Week 29)
Astrophysics for Young People in a Hurry by Neil DeGrasse Tyson with Gregory Mone (Week 32)
Relativity by Cristin Bishara (Week 34)

Art:

DK Art That Changed the World: Transformative Art Movements and the Paintings that Inspired Them (Spine)

Living Math:

Note: This is supplemental – you still need to add a full math program

Can You Count in Greek? Exploring Ancient Number Systems by Judy Leimbach (Consumable)
DK The Math Book: Big Ideas Explained (Spine)
Power in Numbers: The Rebel Women of Mathematics by Talithia Williams, PhD (Spine)

History of Science

Week 1

	Day 1	Day 2	Day 3	Day 4	Day 5
Science: <i>Story of Science: Aristotle Leads the Way</i> <i>Kingfisher Science Encyclopedia</i> <i>Astronomy Through the Ages</i> <i>Potentially Catastrophic Science</i>	Chapters 1 – 2	Pg. 4 – 7	Pg. 31 – 34	Chapter 3 Pg. 426 – 429	Pg. 84 – 88
History: <i>Everything You Need to Ace World History</i>		Unit 1 Chapter 1			Chapter 2
Literature <i>The Golden Goblet</i>	Chapter I	Chapter II	Chapter III	Chapter IV	Chapter V
Reader <i>We Have No Idea!</i>	Introduction – Chapter 1	Chapter 2	Chapter 3	Chapter 4	Chapter 5
Poetry: <i>Poems to See By</i>		Pg. 2 – 5			
Language Arts	Narration Card	Dictation	Narration Card	Dictation	Narration Card
Art <i>Art That Changed the World</i>		Pg. 12 – 15		Pg. 16 – 21	
Living Math: <i>Can You Count in Greek?</i> <i>The Math Book</i>	Pg. 12 Pg. 20 – 21	Pg. 13	Pg. 14 – 15 Pg. 24 – 27	Pg. 16	Pg. 17 – 18

History of Science

Week 1 - Day 1

Science Reading:

Aristotle Leads the Way – read chapters 1 – 2

Key Idea/Topic – The ancient Sumerians and Egyptians used the sun, moon and stars to keep track of time. They believed these lights ruled over all human activity. Ancient peoples used stories called myths to explain things that they couldn't understand. Science seeks to answer the same questions using observation and experimentation.

History and Science Activities:

- Mapwork: Map 1 (found on page 378 of this guide) – Color and label the map of the Fertile Crescent. Shade the area of the Fertile Crescent green and label Egypt, Assyria, and Babylon. Shade in each empire's lands in a different color. (Use the map on page 5 of *Aristotle Leads the Way* as your key)
- Watch: [Becoming Human](#) (Episode 1 – First Steps)

Literature:

The Golden Goblet – read chapter 1

Notes and Vocabulary:

crucible – a pot made of a substance not easily damaged by fire that is used for holding something to be treated under great heat

ingot – a mass of metal cast into a shape that is easy to handle or store

beneficently – doing or producing good

fathom – a unit of length equal to six feet; to come to understand

annealing – to heat and then cool so as to toughen and make less brittle

ingratiatingly – pleasing, intending to gain favor

sibilant – having or producing the sound of or a sound like the *s* or the *sh* in *sash*

servility – appropriate to a slave; lacking spirit or independence; submissive

- Why was Ranofer unhappy working at the gold house?
- Describe Ibni. Why does Ranofer dislike him?
- Why do you think it is hard for Ranofer to be friends with Heqet?
- **Project:** While reading *The Golden Goblet*, pay attention to the different gods and goddesses mentioned. Use the Activity page (page 394 of this guide) to create an Egyptian Mythology field guide.

Week 1 - Day 1 continued

Dictation Passage:

The workshop came clear into his mind, until it seemed as if he were there again, this minute, smelling the acacia blossoms just outside the door. Hour upon hour in the old days, he had leaned upon his father's workbench watching the long, strong hands of the artist shape a bowl or a massive ornament, fashion chains and necklaces of such delicate grace that the eye delighted in them.

Reader:

We Have No Idea! – read the Introduction – Chapter 1
Have your child choose a narration card to complete.

Living Math:

Can You Count in Greek? – page 12

The Math Book – read pages 20 – 21

Key Idea/Topic – Introduction to the Ancient and Classical Periods

History of Science

Week 1 - Day 2

Science Reading:

Kingfisher Science Encyclopedia – read pages 4 – 7

Key Idea/Topic – Fossils and Geological Time/Human Origins, Human Change

The Book of Potentially Catastrophic Science – read pages 1 – 7

Key Idea/Topic – Stone Age Tools

History Reading:

Everything You Need to Ace World History – read Unit 1 Chapter 1

Key Idea/Topic – Historians study written records and art to learn more about the past.

Archaeologists and Anthropologists study artifacts to learn about prehistory. Our earliest human ancestors were humanlike creatures called hominids. There were many different types of hominids, eventually leading to Neanderthals and Homo Sapiens.

Early humans of the Paleolithic era made simple tools from natural materials. They were nomadic, traveling from place to place in search of food. 80,000 years ago, humans began the Great Migration out of Africa and across the globe.

History and Science Activity:

- Watch: [Becoming Human](#) (Episode 2 – Birth of Humanity)
- Sketch: Sketch and label the formation of a fossil.
- Complete the Stone Age Chopper experiment (*Potentially Catastrophic Science* Pg. 6 – 7)
- Complete the Check Your Knowledge questions for Chapter 1 included in *Everything You Need to Ace World History* (EYNTAWH)

Literature:

The Golden Goblet – read chapter II

Notes and Vocabulary:

jocular – said or done in jest; fond of joking around

spasmodically – acting or going now and again; subject to outbursts of emotional excitement

temerity – the quality or state of being recklessly or foolishly bold

waif – a stray person or animal; a homeless child

- Why was the western half of Thebes known as the City of the Dead?
- Why was Ranofer reluctant to go home?
- What happened when Ranofer revealed to Gebu that he knew about the wineskins?
- Why does Ranofer talk himself out of running away?
- Who are Gebu's friends?

Week 1 - Day 2, continued

Dictation:

Complete dictation passage. (see note about dictation on page 7)

Reader:

We Have No Idea! – read chapter 2

Poetry:

Poems to See By – read the poem on pages 2 – 5

Memory Work:

Begin to memorize the poem *Hope is the Thing with Feathers* by Emily Dickinson (Pg. 5 of PTSB)
Your child will have two weeks to learn this poem.

Art:

Art That Changed the World – read pages 12 – 15

Key Idea/Topic – Prehistoric Art

Living Math:

Can You Count Like a Greek? – page 13

History of Science

Week 1 - Day 3

Science Reading:

Astronomy for All Ages – read pages 31 – 34

History and Science Activities:

- Sketch: Get creative and make a diagram or poster to show the birth of the universe.
- Complete the Telling Time by the Stars projects in *Astronomy for All Ages*
- Watch: [Becoming Human](#) (Episode 3 – Last Human Standing)

Literature:

The Golden Goblet – read chapter III

Notes and Vocabulary:

drollest – having the most odd or amusing qualities

obeisance – a movement of the body, such as a bow, made as a sign of respect

mollified – to soothe in temper or disposition

urchins – a mischievous child

frivolity – a lack of seriousness; something that is unnecessarily silly

aghast – struck with terror, amazement or horror

- Why was Ranofer so light-hearted? Tell some of the good things that happened at the gold house.
- Explain the process for making charcoal.
- What happens when he returns home empty handed?

Dictation Passage:

Ranofer swelled with satisfaction. He had bested his enemy with exactly the scornful phrases he had imagined this morning and the seal of success was on the day. He dismissed Ibni from his mind, sniffing the air luxuriously.

Reader:

We Have No Idea! – read chapter 3

Have your child choose a narration card to complete.

Memory Work:

Continue to memorize *Hope is the Thing with Feathers* by Emily Dickinson.

Week 1 - Day 3 continued

Living Math:

Can You Count in Greek? – pages 14 – 15

The Math Book – read pages 24 – 27

Key Idea/Topic – the origin of numbers

Activity:

Invent your own numerical system. How does it work? Write out your explanation along with what your system looks like. Give a demonstration of how it works. This assignment will be completed on Day 5.

History of Science

Week 1 - Day 4

Science Reading:

Aristotle Leads the Way – read chapter 3

Key Idea/Topic – The ancient peoples used the moon or the sun to keep track of the days and hours – eventually creating calendar systems that are still in use today.

Kingfisher Science Encyclopedia – read pages 426 – 429

Key idea/Topic – Time and Measuring Time

History and Science Activities:

Optional Reading: I highly recommend the book *The Story of Clocks and Calendars* by Betsy Maestro. This picture book is a great brief introduction to the history of telling time and calendars.

Literature:

The Golden Goblet – read chapter IV

Notes and Vocabulary:

scrupulously – being very exact, painstakingly

hewn – to chop down; to stick close to

irascibly – having a hot temper; easily angered

wheedling – to gain or get by coaxing or flattering

peremptorily – not to be refused; expressing a command; arrogant

raucous – being harsh and unpleasant; behaving in a rough and noisy way

- Describe the plan that had come to Ranofer in the night.
- Who did he believe gave him the plan? How did he show his thanks?
- Do you think his plan will work? Can you find any holes in the plan?
- What spoiled the plan?
- What was strange about Gebu's reaction to receiving the wineskin? What might this mean?
- Learn about Egyptian beliefs about death and the afterlife.
<http://legacy.mos.org/quest/afterlife.php>

Dictation:

Complete dictation passage.

Reader:

We Have No Idea! – read chapter 4

Week 1 - Day 4 continued

Memory Work:

Continue to memorize *Hope is the Thing with Feathers* by Emily Dickinson.

Art:

Art That Changed the World – read pages 16 – 21

Key Idea/Topic – Prehistoric Art

Living Math:

Can You Count in Greek? – page 16

Continue to work on your Numerical System project.

History of Science

Week 1 - Day 5

Science Reading:

Astronomy for All Ages – read pages 84 – 88

History Reading:

Everything You Need to Ace World History – read Chapter 2

Key Idea/Topic – People developed agriculture and formed more sedentary communities. Once people began to farm, they formed villages with hierarchies. Different people had different roles and jobs, like farmers, artisans, and merchants. Governments formed to regulate these villages and they were often run by a monarch who believed in a Divine Right to rule. These early civilizations created writing systems and oral traditions.

History and Science Activity:

- complete the Make a Sundial project found in *Astronomy for All Ages*
- Watch this video – [Intro to History of Science | Crash Course History of Science #1](#)
- Complete the Check Your Knowledge quiz for Chapter 2.
- Choose a topic from this week's readings and write a brief report. You'll want to guide your child in narrowing down a topic, writing an outline and then using their outline to write a brief one-page report.

Literature:

The Golden Goblet – read chapter V

Notes and Vocabulary:

joviality – full of or expressing good humor

ostensibly – to all outward appearances, seemingly

surliness – having a rude or unfriendly disposition

amends – something done or given by a person to make up for a loss or injury he or she has caused

buoyant – capable of floating; cheerful

furtively – done in a sneaky or sly manner

obsequious – ready or prompt to help or obey like a servant or slave at the wish or command of another person, especially to gain favor

paltry – mean; worthless

- What caused the commotion in the streets? Why is it such a terrible crime to rob a tomb?
- Describe the Ancient. How does he live? Why does this sound so appealing to Ranofer?
- Did Ranofer's and Heqet's plan work? What happened to Ibni?
- How did Gebu treat Ibni? How have things changed for Ranofer?

Week 1 - Day 5, continued

Reader:

We Have No Idea! – read chapter 5

Have your child choose a narration card to complete.

Memory Work:

Continue to memorize *Hope is the Thing with Feathers* by Emily Dickinson.

Living Math:

Can You Count in Greek? – pages 17 – 18

Complete your Numerical System project.

BuildYourLibrary.com