

"History of Science"—Scope and Sequence: Schedule for Topics and Skills

Week	Memory Work	Bible Reading	History/Social Studies	Geography	Biography
1	Hebrews 4:14-16	1 Chronicles –13	Beginnings of history, Ancient civilizations; Beginnings of astronomy; Ancient mathematics	<i>Mesopotamia; Egypt; China; Peru; Swaziland; England; India; Nile, Tigris, and Euphrates Rivers; Greece; Mexico</i>	
2	Ephesians 4:31-32	1 Chronicles 14–18	Beginnings of western civilization; Counting systems; Base-60; Historical recording begins; Greek math	<i>Aegean Sea; Greece; Babylon; Phoenicia; Carthage; Crete; Strait of Gibraltar; England; Norway; Baltic Sea</i>	Thales; Homer; Anaximander; Anaximenes; Anaxagoras; Empedocles; Herodotus
3	Proverbs 3:27-28	1 Chronicles 19–25:8	Babylonians; Egyptians; Algebraic math; rational and irrational numbers; the Golden Mean	<i>Samos; Delphi; Italy; Thrace; Diopolis; Babylon; Egypt; Croton; Athens; Sparta</i>	Pythagoras; Democritus; Socrates; Plato; Eudoxus; Pericles
4	Galatians 5:22-23	1 Chronicles 26–2 Chronicles 2	Perfect numbers; the study of the heavens; Calculating the size of the moon; Archimedean screw; Euclid's Elements	<i>Stagira; Athens; Macedon; Alexander's Empire; Syracuse; Sicily; Syene</i>	Plato; Aristotle; Alexander the Great; Aristarchus; Menaechmus; Eratosthenes; Euclid; Archimedes
5	1 Peter 3:15-16	2 Chronicles 3–7	Area of a triangle; beginnings of steam-powered vehicles; levers and pulleys; Euclidean geometry; Density; Working with large numbers; Archimedes' Principle; Finding Pi	<i>Alexandria; Cairo; Constantinople; Athens; Syracuse; Greece; Carthage; Rome</i>	Hero; Euclid; Apollonius; Archimedes
6	Psalms 46:1-2	2 Chronicles 8–12	Size of the Earth; Roman engineering; Mapping the stars	<i>Alexandria; Egypt; Cyrene; Lybia; Rome; Cnidus; Rhodes; Syracuse; Carthage; India; Ceylon; Cape of Good Hope; Ohio; New York; Nebraska; Japan; Illinois; Massachusetts</i>	Eratosthenes; Julius Caesar; Augustus Caesar; Lucretius; Strabo; Hipparchus; Eudoxus; Archimedes; Ida Scudder; James Buchanan

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7	Psalms 46:3-4	2 Chronicles 13-17	"The World is Round"; the Middle Ages; Comparing scientific exploration around the world; Beginnings of Higher Education; the Fibonacci Sequence	<i>Hippo; Italy; Spain; Iraq; Algeria; Zanzibar; Sumatra; Morocco; Egypt; New Jersey; Pennsylvania; New York</i>	Jerome; Augustine; Boethius; Pope Sylvester; Adelard of Bath; Avicenna; Averroes; Malmonides; Aryabhata; Brahmagupta; Muhammead Ibn-Musa-al-Khwarizmi; Lenoardo Fibonacci; Elizabeth Blackwell
8	Psalms 46:5-6	2 Chronicles 18-22	Aquinas, and Faith & Reason; Gutenberg & Movable Type; Magellan and the Explorers	<i>France; Italy; Samarkland; Spain; Portugal; Philippines; India; Massachusetts; Michigan; Ohio; Minnesota; Austria; Prague; Germany; Himalayas; England; Denmark; Ireland; Scotland; Australia; Ceylon; Egypt; Canada; Florida</i>	Thomas Aquinas; Rober Bacon; Johannes Guttenberg; William Tyndale; Vasco Nunez de Balboa; Magellan; Mahatma Gandhi
9	Psalms 46:7-8	2 Chronicles 23-27	Science & Art; the Hundred Years' War; the Modern Times; the Black Death; Newton's Theory of Gravitation	<i>Constantinople; Holland; Italy; Poland; England</i>	Francis Bacon; Leonardo da Vinci; Gutenberg; Copernicus; Michelangelo; Columbus; Isaac Newton
10	Psalms 46:9-10	2 Chronicles 28-32	Copernicus & Earth's celestial orbit; Earth's planetary orbit; Brahe and scientific observation; Supernovas; Newton's Laws of Motion; the Nature of Light	<i>Denmark; Norway; Poland; Sweden; Austria; Prague; England; Baltic Sea</i>	Martin Luther; Copernicus; Vesalius; Tycho Brahe; Johannes Kepler; Francis Bacon; Christiaan Huygens; Galen of Pergamon
11	Psalms 46:1-11	2 Chronicles 33-36, Joel 1	Galileo & Gravity; "Nothing is at Rest"; Mathematics & Motion; Galileo's Law of Uniformly Accelerated Motion; Friction; Inertia; Principle of Relativity; Perception of the Size of the Universe; the Telescope & Microscope	<i>Italy</i>	Galileo Galilei; Giordano Bruno; Christopher Marlowe; William Shakespeare; Copernicus; Antonie van Leeuwenhoek; Robert Hooke
12	Isaiah 40:28-29	Joel 2 & 3, Song of Solomon 1-3	Galileo's Telescope; Kepler & the study of light; Planetary movement; Galileo's Theory of Relativity	<i>Italy; Prague</i>	Galileo; Hans Lippershey; Johannes Kepler; Tycho Brahe

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13	Isaiah 40:30-31	Song of Solomon 4-8	Kepler's Laws of Planetary Motion; Ellipses; Descartes and Mathematic Variables; Newton's Law of Universal Gravitation; Calculus & Geometry; Grid Systems; Mathematical Abstraction; Distance & Infinity	<i>Holland; Sweden; France</i>	Kepler; Rene Descartes; Andrew Wiles; Isaac Newton; Robert Hooke; Zeno; Albert of Saxony; John Bunyan; Gottfried Wilhelm Leibniz
14	Amos 5:23-24	Mark 1-4:25	Color & Wavelengths; Newton's Laws of Motion; <i>Principia</i> ; Halley's Comet; Prime Meridian; Cartography; Instantaneous Speed	<i>France; Copenhagen; Denmark; Holland; Germany</i>	Newton; Edmond Halley; Samuel Janson; Olaus Christensen Roemer; John Harrison; Christiaan Huygens; Baruch Spinoza
15	Revelations 22:12-13	Mark 4:26-Mark 6:56	Chemicals Can Change Matter; Alchemy; Porcelain; Phosphorus; the Nine Elements; Boyle's Law; Air Pressure; Probability; Discovery of Neptune; Longitude and Latitude; the Equator; Age of Exploration	<i>Austria; Rhodes; Poland; Germany; Ireland; Belgium; Switzerland; Netherlands; Russia; Denmark; Italy; England; Portugal; Canary Islands; Madera Islands; Tropic of Cancer; Tropic of Capricorn; Jerusalem; Azores; Tangier; Philadelphia; Caribbean; Jamaica; Patagonia; Tierra del Fuego; Juan Ferdinand Island; Chile</i>	Jabir Ibn Hayyan; Albertus Magnus; Johann Friedrich Bottger; Franze Deleboe; Hennig Brandt; Robert Boyle; Blaise Pascal; Evangelista Torricelli; Daniel Bernoulli; Robert Hooke; Niels Bohr
16	Matthew 22:37-38	Mark 7-Mark 10:31	Chatelet and <i>Principia</i> Translation; Chatelet & Energy Calculations; Carbon Dioxide; Heat and Temperature; Hydrogen; Scheele's Discoveries; Fahrenheit, Celsius, and Kelvin; Density of the Earth; Electrostatic Force; Law of the Conservation of Mass; Industrial Revolution; Velocity of Light; Longitude Act; Pendulum Clocks	<i>France; Scotland; Poland; Holland; Sweden; Portugal; West Indies; England</i>	Emilie du Chatelet; Voltaire; John Locke; Louis XIV; Joseph Black; Karl Scheele; Joseph Priestley; Daniel Fahrenheit; Anders Celsius; Henry Cavendish; Charles-Augustin de Coulomb; Antoine-Laurent Lavoisier; James Watt; Huygens; John Harrison; Johannes Werner; Ole Roemer

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Week	Memory Work	Bible Reading	History/Social Studies	Geography	Biography
17	Matthew 22:39-40	Mark 10:32– Mark 13	Water, Gases, and the Earth's Layers; Definition of an Element; Uranus; Chemical Nomenclature; Evaporation and Particles; Atoms; Chemical Bonding; Law of Definite Proportions; Avogadro's Law; Avogadro's Number; the H-4 vs. the Lunar Method; Mean Time	<i>England; France; Italy</i>	William Herschel; Lavoisier; Napoleon; Delambre & Méchain; Thomas Harriot; John Dalton; Amedeo Avogadro; Edward Frankland; Friedrich Kekulé; John Harrison; James Cook
18	Colossians 3:23-24	Mark 14:1– Mark 15:47	Spectroscopy; First International Chemical Congress; Periodic Table of Elements; Valency; Heat is Motion; Static Electricity; Distillation; Four States of Matter; Phlogistan	<i>Russia; Germany; Massachusetts; New Hampshire; Netherlands; Sumer; Egypt; Greece; Syria; Persia; Ireland; England; Bavaria; Italy</i>	Dmitri Ivanovich Mendeleev; Robert Bunsen; Benjamin Thompson; William Gilbert; Benjamin Franklin; Leyden; Jean Theophilus Desaguliers; Johann Baptista van Helment; Robert Boyle; Galileo; Johann Joachim Becher; George Ernst Stahl; Joseph Priestley; Stephen Hales; Henry Cavendish
19	1 Timothy 2:5-6	Mark 16, Acts 1–3	Electrolysis; Magnetism and Electricity; Electrical Currents; Electrons; Dynamos, Electric Motors, and Transformers; Light as a Wave; Color Theory; Maxwell's Equations; Electromagnetic Waves; Conservation of Mass; Acids and Bases; Table of Equivalents; Law of Definite Proportions; Dalton's Atomic Theory; Law of Multiple Proportions; Gases and Whole Numbers; Law of Octaves	<i>Italy; Scotland; France; Germany; England</i>	Alessandro Volta; Humphry Davy; Hans Christian Oersted; Andre-Marie Ampere; Jean-Bernard-Leon Foucault; William Sturgeon; Joseph Henry; Michael Faraday; Christian Huygens; Thomas Young; Augustin-Jean Fresnel; James Clerk Maxwell; Antoine Laurent Lavoisier; Daniel Rutherford; Jeremias Richter; Claude Berthollet; Joseph Proust; John Dalton; Jons Jakob Berzelius; Joseph Louis Gay-Lussac; Amedeo Avogadro; Johann Wolfgang Döbereiner; John Newlands
20	Matthew 7:24-25	Acts 4–7	Frequency of Sound; Heat as a Matter; Atomic Theory; Work and Energy; Joules; Power; Watts; Kinetic and Potential Energy; Noble Gases; Transition Bridge; Metals	<i>Austria; Ireland; Russia; Germany; England; Bosnia; Scotland; Afghanistan</i>	Heinrich Rudolf Hertz; Ludwig Edvard Boltzmann; Ernst Mach; Thomas Young; James Prescott Joule; Charles Babbage; George Boole; Mendeleev; Julius Plucker; Joseph John Thomson; Ernest Rutherford; Henry Moseley

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Week	Memory Work	Bible Reading	History/Social Studies	Geography	Biography
21	Matthew 7:26-27	Acts 8– Acts 10:48	First Law of Thermodynamics; Joules; Second Law of Thermodynamics; Entropy; Kelvin Scale; Probability; Paper and Chemistry; Concrete; Jelly; Comet Dust	<i>Indonesia; Ireland; Scotland; Newfoundland; Canada; Belgium; Italy; France; Sweden; Denmark; Dubai; Switzerland; Holland; Austria; Germany; Norway; Honduras; New Mexico</i>	Julius Robert von Mayer; William Thomson
22	1 Corinthians 10:12-13	Acts 11 -14	X-Rays; Nitroglycerine and the Nobel Prize; Uranium and X-Rays; Moving Atoms; Plastic; Consumer Cameras; Glass and Light; Graphene; Graphite; Diamonds; Carbon Fiber	<i>Sweden; Maryland; Ohio; Italy; Spain; Libya; Czechia</i>	Antoine-Henri Becquerel; Wilhelm Conrad Roentgen; Alfred Bernhard Nobel; Joseph John Thomson; Albert Michelson; Albert Einstein; William Gilbert; John Wesley Hyatt; Alexander Parkes; George Eastman
23	Colossians 1:15-16	Acts 15–18	Electromagnetism; Coulomb's Law; Morse code; Edison's Inventions; Tesla's Inventions; Light and Sound in a Vacuum; Electrons Orbit Atoms; Atoms and Matter; Ceramics; Splitting the Uranium Atom; Nuclear Advancement; Atomic Age	<i>Maryland; Ohio; New Jersey; Nevada; Prussia; England; California; Germany; Sweden; Denmark; Poland; Czechoslovakia; Norway; Canada</i>	Hans Christian Ørsted; Michael Faraday; Charles-Augustin de Coulomb; Samuel Morse; Thomas Edison; Nikola Tesla; Albert Abraham Michelson; Edward Williams Morley; J.J. Thomson; Herman von Helmholtz; William Crookes; Robert Andrews Millikan; Friedrich Böttger; Otto Hahn; Knut Haukelid; J. Robert Oppenheimer
24	Colossians 1:17-18	Acts 19– 21	Thomson's Model of an Atom; Marie Curie and Radium; Alpha, Beta, and Gamma Rays; Cosmic Radiation; Blackbodies; Planck's Equation; Light as a Particle and a Wave; Special Theory of Relativity; the Universe's Three Key Constants; the Manhattan Project; Nuclear Chain Reaction; Heavy Water; Los Alamos; Plutonium	<i>Poland; France; Montreal; Norway; Scotland; New Mexico; Illinois; Russia; California; Tennessee; Washington</i>	Marie & Pierre Curie; Ernest Rutherford; Victor Hess; Antoine-Henri Becquerel; Max Planck; Enrico Fermi; Klaus Fuchs; Richard Feynman; Robert Serber; Werner Heisenberg; Theodore Hall

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Week	Memory Work	Bible Reading	History/Social Studies	Geography	Biography
25	Colossians 1:19-20	Acts 22–26	Einstein & Light; Photoelectricity; Quantum Theory; Brownian Motion; Radioactive Decay; Actuarial Tables; Bomb Testing; Bombs Over Japan	<i>India; Bangladesh; Scotland; Denmark; New Zealand; Norway; Colorado; Utah; Algeria; Korea; New Mexico; Germany; Japan; Washington DC; Kazakhstan</i>	Thomas Young; Albert Einstein; Satyendra Nath Bose; Lord Rayleigh; Robert Brown; Niels Bohr; Ernest Rutherford; Frederick Soddy; Paul Tibbets; Harry S. Truman
26	Proverbs 15:22; 18:10	Acts 27–28, Romans 1–2	Bohr’s Atomic Diagram; Electromagnetic Energy; Protons and Neutrons; Carbon Dating; Quantum Mechanics; X-Rays; the Arms Race; Evolution and Creation	<i>Germany; Ukraine; Turkey; Netherlands; Russia; Norway; Missouri; East Germany; Bikini Atoll; Black Sea</i>	Ernest Rutherford; James Chadwick; James Franck; George Gamoff; Arthur Compton; Max von Lave; Louis-Victor de Broglie
27	1 Peter 5:6-7	Romans 3–7	Quantum Theory and Rest; Uncertainty Principle; Complementarity; Matrix Mechanics; Particles and Antiparticles; Accelerators; Quarks and Gluons; Standard Model of Particle Physics; Inert and Reactive Atoms; DNA; Fossils; Uniformitarianism	<i>Austria; Germany; England; Oregon; North Sea</i>	Werner Heisenberg; Max Born; Erwin Schrödinger; Ernest Solvay; Paul Adrien Maurice Dirac; Fermi; Wolfgang Pauli; Gilbert Lewis; Linus Carl Pauling; Watson and Crick
28	1 John 4:10-11	Romans 8–11	Ionic & Covalent Bonds; Octet Rule; Metals; Einstein’s Formula; Critical Mass; Fission and Fusion; Red Record and Rock Formations; the Flood and Extinction	<i>Hungary; Italy</i>	Franklin D. Roosevelt; James Chadwick; John Cockcroft; Paul Dirac; Edwin Armstrong; Leo Szilard; Harold Urey; Emilio Gino Segrè; Carl David Anderson; Alan Turing; Edward Teller; Irène & Frédéric Joliot-Curie; Otto Hahn; Fermi
29	Isaiah 41:10; Revelations 4:11	Romans 12–16	New Radioactive Substances; Nuclear Chain Reactions; World War II; Heavy Water; Uranium; Oort Cloud; Stars and Galaxies; Macroevolution	<i>Sweden; Norway; New Jersey</i>	Fritz Strassman; Lise Meitner; Einstein; Oppenheimer; Richard Feynman; Otto Frisch; Edward Teller; Stanislaw Ulam; Leo Szilard
30	John 10:27-28	Galatians 1–5	Quantumelectrodynamics (QED); Relative Motion; Center of the Universe; Space and Time; Random Mutation	<i>Japan; Sicily; Pocono Mountains</i>	Feynman; Dirac; Julian Schwinger; Sin-itiro Tomonaga; Freeman Dyson; Theodosius Dobzhansky

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Week	Memory Work	Bible Reading	History/Social Studies	Geography	Biography
31	Deuteronomy 7:9; 1 Corinthians 10:31	Galatians 6, 1 Thessalonians 1-4	Non-Euclidean Geometry; Fourth Dimension; Time and Velocity; Mass and Motion; Matter and Energy; Special Relativity; Paradoxes; Time Dilation; Genetic Code; "Noise" and Entropy; Transposition	<i>Germany; Switzerland; Czechia; Belgium</i>	Georg Friedrich Bernhard Riemann; Hendrik Lorentz; Hermann Minkowski; Barbara McClintock
32	Galatians 3:27-28	1 Thessalonians 5, 2 Thessalonians 1-3, 1 Timothy 1	Einstein and Gravity; General Relativity; Spacetime; Gravitation; Lambda; Hubble's Telescope; Redshifts and the Doppler Effect; Horizontal Gene Transfer; Cells and Communication; Symbiogenesis; Punctuated Equilibrium; Genome Duplication	<i>Italy; Siberia; Principe; Brazil; Russia; California; The Alps; Belgium</i>	Walther Nernst; Arthur Stanley Eddington; Edwin Powell Hubble; Harlow Shapley; Willem de Sitter; Annie J. Cannon; Aleksandr Friedmann; Georges Lemaître; Christian Doppler
33	Hebrews 10:24-25	1 Timothy 2-6	Luminosity and Distance; Celestial Formations; Black Holes and Singularity; Supermassive Stars; Natural Selection; How Cells Communicate; Irreducible Complexity; Design in Biology	<i>California; India; Bulgaria</i>	Henrietta Leavitt; Subrahmanyan Chandrasekhar; Fritz Zwicky; Walter Baade; Lev Landau; George Gamow; John Archibald Wheeler; Maartin Schmidt
34	Luke 16:10-11	2 Timothy 1-4, Titus 1	Black Holes; Event Horizon; Quasars; LIGO; Gravitational Waves; Universal Forces; Paradigm of Physics; Neo-Darwinism; Artificial Intelligence	<i>Belarus; Russia; Italy; Germany; Japan; Australia; Louisiana; Washington</i>	Stephen Hawking; Yakov Boris Zeldovich; George Gamow; Ralph Alpher; Hans Bethe; Robert Herman; Robert H. Dickie
35	Luke 16:12-13	Titus 2 & 3, 1 Peter 1-3	Theory of Everything; Entanglement; "Random"; Ergodic; Multiverse; Random Mutations	<i>Australia; Chile; Hawaii</i>	Alan Guth; David Bohm; Einstein; Pololsky; Rosen
36	Luke 1:37; John 1:29	1 Peter 4 & 5, 2 Peter 1-3	Dark Energy; Dark Matter; Boolean Logic; Goldilock's Search; SETI; Chaos Theory	<i>Switzerland; Arizona; Michigan; Argentina; West Virginia</i>	Zwicky; Vera Cooper Rubin; George Boole; Claude Shannon; Carl Sagan