

7th Grade Science Curriculum Guide 2022-2023

Week	Standard	Major Concept/Topic And content limitations	Possible Resources	Vocabulary	Spiral Review
Week1 8/10-8/14	NATURE OF SCIENCE SC.7.N. 1.2	<ul style="list-style-type: none"> • Empirical evidence • Theory vs. law • Scientific knowledge 	Use states of matter as foundation for this unit for Nature of Science (states of matter, particles, etc.)	1. empirical evidence 2. theory 3. law 4. experiment 5. observation	Wk 1 Observation & Inference
Week 2 8/17-8/21					

<p>Week 3 8/24-8/28</p>	<p>1.3 1.4 1.5 1.6 1.7 2.1 3.1 3.2</p>	<p>changes over time with new evidence</p> <ul style="list-style-type: none"> Experiment v.s investigation Steps in scientific investigation Replication and repetition Models and limitations Analyzing data 	<p><u>Chapter 1, lesson 1</u> <u>pg.8-9,10-12</u> Food Coloring (Color Me Pink) Lab Measurement Lab</p> <p><u>Chapter 1, lesson 2 pg. 20-23, 24-25 Sci. Method</u> Magazine Sci. Method Variable Practice</p> <p>During weeks 1-2, participate in scientific investigation to teach lab safety, procedures, data collection, analysis, etc. <u>Chapter 1, lesson 3 pg 33-39</u> Atomic Theory Model</p> <p><u>Prerequisite review:</u> Inference vs.observation qualitative vs. qualitative Accuracy and precision (brainpop) mean(average) Measurement and tools</p> <p>Oobleck Lab -- states of matter i. Science bob ii. Scientific American</p> <p>Florida Coach Book pp 12-42: Lesson 1- Scientific Investigation</p>	<p>6. hypothesis 7. independent variable 8. dependent variable 9. control 10. Data 11. Model 12. Bar graph 13. Line graph 14. Circle graph 15. Outlier 16. Linear 17. nonlinear</p>	<p>SC.6.N.3 (Specific meanings to describe scientific knowledge)</p> <p>Start with Week 2 Variables Part 1 SC.6&7.N.1.1</p> <p>Week 3 Repetition vs Replication SC.6.N.1.2 & N.1.4 SC.7.N.1.2</p>
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			Lesson 2 - Designing and Conducting Experiments Lesson 3 - Organizing and Analyzing Data Lesson 4 - Scientific Knowledge Lesson 5 - Scientific Models		
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Week 4 8/31-9/4	SC.7.N.1.1 N.1.2	Performing a scientific investigation	<u>Labs (Possibilities)</u> Variable Practice **Density Liquid Layers Demo Lab (Hypothesis, Group Interaction, Sci.Method) Graduated Cylinder Lab Science Experiment Probe	1. Repetition 2. Replication 3. Control 4. Independent variable 5. Dependent variable 6. Procedure 7. Data analysis 8. conclusion	Week 4 Spiral Review Spheres of the Earth SC.6.E.7.4 *geosphere *cryosphere *hydrosphere *atmosphere *biosphere
Week 5 9/8-9/11	EARTH SCIENCE *SC.6.E.7.4. SC.7.E 6.2 **Weathering & Erosion along with Human Impact **Spheres of the Earth from 6th Grade	<ul style="list-style-type: none"> Identifying/Interactions among the geosphere, hydrosphere, cryosphere, atmosphere, biosphere Weathering, erosion, deposition Classes of rocks and how they are formed Rock Cycle 	Prerequisite knowledge: Unit 2, lesson 1 as background review on minerals and properties Sciencesaurus pg. 179 (through HMH:ED) <u>Brainpop topics:</u> <u>Weathering</u> <u>Erosion</u> <u>Rock cycle</u> <u>Types of rocks</u> <u>Unit 2, lesson 2</u> <u>Florida Coach, Lesson 8 - The rock Cycle</u>	1. Weathering 2. Erosion 3. Deposition 4. Igneous 5. Metamorphic 6. Sedimentary 7. Rock cycle	Week 5 Spiral Review Contact & Noncontact Forces from 6th SC.6.P.13.1 (Connect to Wegener not being able to explain the forces moving the continents; Integrate forces also into lessons on plate movements & earthquakes/volcanoes)
Week 6 9/14-9/18	**6th Grade Standards of Contact and Noncontact Forces & Net Forces 6.1 6.2	<ul style="list-style-type: none"> Plate tectonics Pangea Mountain building (Earth changes slowly)	<u>Unit 2, lesson 3-See Content Limits for Layers</u>	1. Crust 2. Mantle 3. Core 4. Convection 5. Lithosphere	Week 6 Spiral Review Net Forces 6th SC.6.P.13.1
Week 7 9/21-9/24			<u>Unit 2, lesson 4</u>		Week 7 Spiral Review

	6.5 6.7	<p>Content Limits: Earth's Layers limited to crust, lithosphere, hot convecting mantle, liquid outer core, and solid inner core, density of layers</p> <p>Plate Tectonics: Types of movement, rocks forming along subduction, hotspots, types of mountain building, trench, mid-oceanic ridges, basins</p>	<p>Unit 2, lesson 5 Folding and Faulting Pg. 149-153</p> <p><u>Brainpop topics:</u> <u>Plate tectonics</u> <u>Earth's Structure</u> <u>Mountains</u></p> <p><u>Florida Coach, lesson 6</u> <u>- Earth's Structure</u></p> <p><u>Florida Coach, lesson 7</u> <u>- Plate Tectonics and</u> <u>Earth's Changing</u> <u>Surface</u></p>	6. Asthenosphere 7. Mesosphere 8. Pangea 9. Plate tectonics 10. Faulting 11. folding 12. Deformation 13. Intrusion	Variables Part 2
Week 8 9/28-10/2	6.5 6.7	<p>Earthquakes Volcanoes How Earth can change quickly</p> <p>Content Limits: will not assess types of volcanoes, but will assess causes of volcano formation at Plate Boundaries</p> <p>Will not assess types of earthquake waves, they happen at boundaries</p>	<p>Unit 2, lesson 6 Unit 2, lesson 7 Pg. 175-178 FORMATION</p> <p><u>Florida Coach, lesson 7</u> <u>- Plate Tectonics and</u> <u>Earth's Changing</u> <u>Surface</u></p> <p><u>Brainpop topics:</u> <u>Earthquakes</u> <u>Volcanoes</u></p>	1. Earthquake 2. Divergent boundary 3. Convergent boundary 4. Transform boundary 5. Volcano 6. Magma 7. Lava 8. Vent 9. Hot spot	<p>Week 8 Spiral Review Data Analysis SC.6&7.N.1.1</p> <p>**Also review graphing for the lab to use as model**</p>
Week 9 10/5-10/9	FLEX WEEK				<p>Week 9 Theory vs Law SC.6 & 7.N.3.1</p>
End of 1st Quarter					

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Week 11 10/19-10/23					
Week 12 10/26-10/30	L.15.1 L.15.2 L.15.3	Theory of Evolution Natural Selection Content Limits NO speciation, genetic drift, gene pools NO hominid evolution	<u>Unit 7, lesson 1</u> <u>Unit 7, lesson 2</u> <u>Florida Coach, lesson 15 - The Theory of Evolution</u> <u>Brainpop Topics:</u> <u>Natural selection</u> <u>Genetic mutation</u> <u>Labs</u> Evolution Lab Natural Selection Lab	1. Evolution 2. Artificial selection 3. Natural selection 4. Genetic Variation 5. Mutation 6. Adaptation 7. Environmental Factors 8. Extinction 9. Fossil record 10. Common (homologous) structure 11. Common ancestor	Week 12 Spiral Review Plate Tectonics SC.7.E.6.1 & SC.7.E.6.5
Week 13 11/2-11/6	LIFE SCIENCE SC.7.L.16.3	**Prerequisite review on 6th grade cell parts/functions, cell theory	Unit 8, Lesson 1 Unit 8, Lesson 2 Unit 8, Lesson 3	1. DNA 2. Chromosomes 3. Cell cycle 4. Mitosis	Florida Coach GRADE 6 INVESTIGATION pgs. 174-179: Investigation 2 - Examining Cells
Week 14 11/9-11/13			Amoeba Sisters Mitosis		

		<p>Mitosis Meiosis Sexual and asexual reproduction (advantages and disadvantages)</p> <p>Content Limitation: knowledge of the phases/stages of mitosis and meiosis is not assessed. WILL NOT ASSESS haploid, diploid</p>	<p>https://www.youtube.com/watch?v=f-ldPgEfAHI</p> <p>Amoeba Sisters Meiosis https://www.youtube.com/watch?v=VzDMG7ke69g</p> <p>Amoeba Sisters Worksheets https://www.amoebasisters.com/handouts.html</p> <p><u>Florida Coach, lesson 18 - Asexual and Sexual Reproduction</u></p> <p><u>Brainpop Topics: Mitosis cells</u></p>	<p>5. Meiosis 6. Asexual reproduction 7. Sexual reproduction 8. Fertilization 9. Cell Theory 10. Prokaryotic 11. Eukaryotic</p>	<p>Week 13 Spiral Review Evolution Evolution SC.7.L.15.2</p> <p>Week 14 Spiral Review Spiral Review Cells SC.6.L.14.4</p>
<p>Week 15 11/16-11/20</p>	<p>L.16.1</p>	<p>Heredity</p>	<p><u>Unit 8, lesson 4</u></p> <p><u>Florida Coach, lesson 16 - Heredity</u></p> <p><u>Brainpop Topics: Heredity Genetics</u></p> <p><u>Study Jams: Heredity</u> http://studyjams.scholastic.com/studyjams/jams/science/human-body/heredity.htm</p>	<p>1. Heredity 2. Traits 3. Dominant 4. Recessive 5. Heterozygous 6. homozygous 7. Genes 8. Alleles 9. Genotype 10. Phenotype</p>	<p>Week 15Spiral Review Cells & Organization of Living Things SC.6.L.14.4</p>
<p>Week 16 11/23-11/25</p>	<p>L.16.2</p>	<p>Punnett squares and pedigrees</p>	<p><u>Unit 8, lesson 5</u></p> <p><u>Florida Coach, lesson 17 - Using Punnett Squares</u></p>	<p>1. Punnett Square 2. Probability 3. Ratio 4. pedigree</p>	<p>Week 16Spiral Review Cells & Organization of Living Things SC.6.L.14.4</p>
<p>Week 17 11/30-12/4</p>	<p>L.17.1</p>	<p>Intro to ecology</p>	<p><u>Unit 10, lesson 1</u> <u>Unit 10, lesson 2</u></p>	<p>1. Ecology 2. Biotic factor</p>	<p>Week 17 Spiral Review</p>

<p>**Week 18** 12/7-12/11 12/14-18 Holiday Time!</p>		<p>Roles in Energy Transfer</p>	<p><u>Florida Coach, lesson 20 -The Flow of Energy in an Ecosystem</u></p> <p><u>Florida Coach INVESTIGATION pgs. 150-156: Investigation 2 - Describing a Food Web</u></p> <p><u>BrainpopTopics: Food chains Energy pyramids</u></p>	<ol style="list-style-type: none"> Abiotic factor Population Species Tertiary Consumer Ecosystem Secondary Consumer Primary Consumer Habitat Producer Decomposer Consumer Herbivore Carnivore Omnivore Food chain Food web 	<p>Earth's Layers SC.7.E.6.1 & 6.7</p> <p>Week 18 Spiral Review Earth's History SC.7.E.6.4 & 6.3</p>
End of 2nd Quarter					
<p>Week 19 1/5-1/8</p>	L.17.2	<p>Interaction in Communities Symbiosis</p>	<p>Unit 10, lesson 3</p> <p><u>Florida Coach, lesson 21 - Relationships among Organisms</u></p> <p><u>BrainpopTopics: Symbiosis</u></p>	<ol style="list-style-type: none"> Predator Prey Symbiosis Mutualism Commensalism Parasitism competition 	<p>Week 19 Spiral Review Energy Transformation in Ecosystems</p>
<p>Week 20 1/11-1/15</p>	L.17.3	<p>Florida's Ecosystems</p>	<p>Unit 10, lesson 4</p> <p><u>Florida Coach, lesson 22 - Limiting Factors in Ecosystems</u></p>	<ol style="list-style-type: none"> Limiting factor Native species Introduced species Wetland Coral reef 	<p>Week 20 Spiral Review Earth's Landforms</p>

			<u>BrainpopTopics: Ecosystems</u>	6. estuary	Week 21 Spiral Review Layers of the Atmosphere
Week 21 1/18-1/22	6.6	Human Impact - deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water	<u>Unit 4, lessons 1-4</u> <u>Florida Coach, lesson 10 - The Impact of Humans on Earth</u> <u>Brainpop topics: Humans and the Environment</u>	1. Natural resource 2. Renewable resource 3. Nonrenewable resource 4. Fossil fuel 5. Urbanization 6. Desertification 7. Deforestation 8. Point-source pollution 9. Nonpoint-source pollution 10. Thermal pollution 11. Eutrophication 12. Reservoir 13. Greenhouse effect 14. Particulate 15. Smog 16. Acid precipitation	

Week 22 1/25- 1/29	SC.7.P.10.1	Waves Electromagnetic spectrum Interactions in light Correlation of wavelength, frequency and energy level with waves Order of frequencies Wave speed through states of matter	<u>Unit 5, lesson 1 (skip longitudinal and transverse waves)</u> <u>Unit 5, lesson 2 (skip calculations)</u> <u>Unit 5, lesson 3</u> <u>Unit 5, lesson 4</u> <u>Florida Coach, lesson 11 -Waves and Electromagnetic Energy</u> <u>Florida Coach, lesson 12 - The Behavior of Light</u> <u>Florida Coach INVESTIGATION pgs. 142-147: Investigation 1 - Exploring Light Interactions and Energy Transformations</u> <u>Brainpop topics: Waves</u> <u>Electromagnetic spectrum</u> <u>Light</u> <u>Study Jams: Light absorption, reflection, refraction</u> http://studyjams.scholastic.com/studyjams/jams/science/energy-light-sound/light-absorb-reflect-refract.htm	1. Frequency 2. Wavelength 3. Wave 4. Amplitude 5. Electromagnetic wave 6. Reflection 7. Refraction 8. Absorption 9. Radiation 10. Electromagnetic spectrum 11. Infrared 12. Ultraviolet 13. Transparent 14. Translucent 15. Opaque 16. Absorption 17. Reflection 18. Refraction	Week 22 Spiral Review Earth's Spheres
Week 23 2/1-2/5		Content Limits WILL NOT ASSESS: Color and wavelength EM waves in a vacuum NO Calculations!!			Week 23 Spiral Review: Symbiotic Relationships
Week 24 2/8-2/12					Week 24 Spiral Review Asexual and Sexual Reproductions SC.7.L.16.3.
Week 25 2/15-2/19	P. 11.2 P. 11.3	<ul style="list-style-type: none"> Energy and Heat Forms of energy Energy conversion and conservation Temperature Thermal energy and heat 	Unit 6, lesson 1 Unit 6, lesson 2 Unit 6, lesson 3 <u>Florida Coach, lesson 13 - Heat, Temperature, and Changes of State</u>	1. Energy transformation 2. Law of conservation of energy 3. Temperature 4. Degree	Week 25 Spiral Review Genetics I SC.7 L.16.1, L.16.2.
Week 26-27 2/22-2/26					Week 26 Spiral Review Punnett Squares

		<ul style="list-style-type: none"> Conduction, convection, radiation Particle motion/temperature 	Florida Coach, lesson 14 - Transformations of Energy Brainpop topics: Forms of Energy Study Jams: Energy and Matter http://studyjams.scholastic.com/studyjams/jams/science/matter/energy-and-matter.htm Heat http://studyjams.scholastic.com/studyjams/jams/science/energy-light-sound/heat.htm	5. Thermometer 6. Celcius 7. Thermal energy 8. heat 9. Conduction 10. Conductor 11. Insulator 12. Convection 13. Radiation 14. Specific Heat 15. Conduction 16. Convection 17. Radiation	SC.7 L.16.1 Week 27 Spiral Review Homeostasis SC.7.L.14.3.
Week 28 3/1-3/5		Difference between potential and kinetic energy Examples of Law of Conservation of Energy Temperature in Celsius Content Limits: WILL NOT ASSESS Nuclear energy Maximum of 5 Energy Transformations NO CALCULATIONS NO Chemical Changes NO conductors & insulators			Week 28 Spiral Review Human Impact SC.6.E.6.6.
Week 29 3/8-3/11	SC.6.L.15.1	Classification of Living Things The Linnaean System/Domains Note: This can be integrated into a Flex week and/or during evolution topic Classification BrainPOP Kingdoms BrainPOP	6th HMH Book Unit 6 Lesson 6 Classification of Living Things Kingdoms of Life http://studyjams.scholastic.com/studyjams/jams/science/animals/kingdoms-of-life.htm	1. Domain 2. Bacteria 3. Archaea 4. Eukarya 5. Animalia 6. Plantae 7. Protista 8. Fungi 9. genus 10. species	Week 29 Spiral Review Plate Tectonics II SC.7.E.6.2.

			<u>BrainpopTopics:</u> Kingdoms Classification		
End of 3rd Quarter, 3/11					
Week 30 3/22-3/26	SC.6.L.14.1 Sc.6.L.14.6	Body Systems Homeostasis Infectious Agents	6th HMH Book Unit 7 Lessons 1-6 & page 558 The Human Body http://studyjams.scholastic.com/studyjams/jams/science/index.htm <u>BrainpopTopics:</u> Body Systems Homeostasis	<ol style="list-style-type: none"> 1. Homeostasis 2. Musculoskeletal system 3. Cardiovascular system (circulatory) 4. Lymphatic System (Immune) 5. Respiratory System 6. Reproductive System 7. Excretory System 8. Nervous System 	Week 30 Spiral Review Variables III SC.6&7.N.1.1
Week 31 3/29-4/2				1.	Week 31 Spiral Review Variables III SC.6&7.N.1.1
Week 32 4/5-4/9				1.	Week 32 Spiral Review Nature of Sci. III SC.N.1.1.1
Week 33 4/12-4/16				1.	Week 33 Spiral Review States of Matter SC.7.P.11.2, 11.3.
Week 34 4/19-4/22	FLEX WEEK	FLEX WEEK	FLEX WEEK	FLEX WEEK	Week 34 Spiral Review Mixed Review Energy FLEX WEEK
Week 35 4/26-4/30	FLEX WEEK	FLEX WEEK	FLEX WEEK	FLEX WEEK	Week 35 Spiral Review Density FLEX WEEK

Week 36 5/2-5/6		TEOC Review FSA Testing			Week 36 Spiral Review Waves SC.7.P.10.1.
Week 37 5/9-5/13		<u>TEOC</u> <u>FSA Testing</u>			Week 37 Spiral Review **Review Topic As Needed**
Week 38 5/16-5/20		Last FULL Week of School			Week 38 Spiral Review **Review Topics As Needed**
Week 39 5/23-5/27					