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Water and Climate Next Generation **Grade 3 Earth Science**	**Water and Climate Pathways** **Grade 3 Earth Science**
NGSS Performance Expectations addressed: **3-ESS3-1, 3-ESS2-1,3-ESS2-2,3-5-ETS1-1, 3-5-ETS1-2**	**NGSS Performance Expectations addressed:** **3-ESS3-1, 3-ESS2-1, 3-ESS2-2**
48 sessions	**31 sessions**
Investigation 1: Water Observations	**Investigation 1: Water Observations**
Inv. 1, Part 1: Drops of Water	Part 1: Drops of Water
Inv. 1, Part 4: Water in Nature	Part 2: Water in Nature
Inv. 1, Part 3: Soaking Sponges	*Side Trip 1: Soaking Sponges*
Inv. 1, Part 2: Water on a Slope	Part 3: Water in Earth Materials
Inv. 5, Part 1: Water in Earth Materials	Part 4: Water on a Slope
Investigation 2: Hot Water, Cold Water	**Investigation 2: Weather Data**
Inv. 2, Part 1: Measuring Temperature	Part 1: Measuring Temperature
Inv. 2, Part 2: Build a Thermometer	*Side Trip 2: Build a Thermometer*
Inv. 2, Part 4: Water as Ice	*Side Trip 3: Water as Ice*
Inv. 2, Part 5: Ice Outdoors	*Side Trip 4: Ice Outdoors*
Inv. 3, Part 1: Measuring Weather	Part 2: Local Weather
Inv. 2, Part 3: Sinking and Floating	
Investigation 3: Weather and Water	**Investigation 3: Weather and Water**
Inv. 3, Part 2: Evaporation	Part 1: Evaporation
Inv. 3, Part 4: Evaporation Locations	Part 2: Evaporation Variables
Inv. 3, Part 3: Surface Area	*Side Trip 5: Surface Area*
Inv. 3, Part 5: Condensation	Part 3: Condensation
Inv. 5, Part 3: Waterwheels	*Side Trip 6: Build a Waterwheel*
Inv. 4, Part 3: Weather-Related Hazards.	Part 4: Weather-Related Natural Hazards
Investigation 4: Seasons and Climate	**Investigation 4: Seasons and Climate**
Inv. 4, Part 1: Seasonal Weather	Part 1: Seasonal Weather
Inv. 4, Part 2: Describing Climate	Part 2: Describing Climate
Investigation 5: Waterworks	
Inv. 5, Part 2: Water in Soil	

**Side Trips are optional activities*

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Structures of Life Next Generation **Grade 3 Life Science**	**Structures of Life Pathways** **Grade 3 Life Science**
NGSS Performance Expectations addressed: **3-LS1-1, 3-LS2-1, 3-LS3-1, 3-LS3-2, 3-LS4-1, 3-LS4-2, 3-LS4-3, 3-LS4-4**	**NGSS Performance Expectations addressed:** **3-LS1-1, 3-LS2-1, 3-LS3-1, 3-LS3-2, 3-LS4-1, 3-LS4-2, 3-LS4-3, 3-LS4-4**
53 sessions	**31 sessions**
Investigation 1: Origin of Seeds	**Investigation 1: Starting From Seed**
Inv. 1, Part 1: Seed Search	Part 1: Seed Search
Inv. 1, Part 2: The Sprouting Seed	Part 2: The Sprouting Seed
Inv. 1, Part 3: Seed Soak	Part 3: Seed Soak
Investigation 2: Growing Further	**Investigation 2: Growing Further**
Inv. 2, Part 1: Germination and Growth	Part 1: Germination and Growth
Inv. 1, Part 4: Seed Dispersal	*Side Trip 1: Seed Dispersal*
Inv. 2, Part 3: Roots and Shoots	*Side Trip 2: Roots and Shoots*
Inv. 2, Part 2: Life Cycle of the Bean	Part 2: Life Cycle of a Bean
Investigation 3: Meet the Crayfish	**Investigation 3: Animal Characteristics**
Inv. 3, Part 1: Crayfish Structures	Part 1: Hisser Structures
Inv. 3, Part 2: Characteristics and Adaptation	Part 2: Characteristics and Adaptations
Inv. 3, Part 3: Territorial and Group Behaviors	Part 3: Group Behavior for Survival
Inv. 3, Part 4: Comparing Animals	
Inv. 3, Part 5: Food Chains	Side Trip 3: Food Chains
Investigation 4: Human Body	**Investigation 4: Change over Time**
	Walking Stick Simulation
	Environments Past and Present
Inv. 4, Part 1: Counting Bones	
Inv. 4, Part 2: Owl Pellets	
Inv. 4, Part 3: Joints and Muscles	
Inv. 4, Part 4: Fingerprints	

**Side Trips are optional activities*

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Motion and Matter Next Generation **Grade 3 Physical Science**	**Motion Pathways** **Grade 3 Physical Science**
NGSS Performance Expectations addressed: **3-PS2-1, 3-PS2-2, 3-PS2-3, 3-PS2-4, 3-5-ETS-1-1, 3-5-ETS1-2, 3-5-ETS1-3**	**NGSS Performance Expectations addressed:** **3-PS2-1, 3-PS2-2, 3-PS2-3, 3-PS2-4, 3-5-ETS-1-1, 3-5-ETS1-2, 3-5-ETS1-3**
39 sessions	**28 sessions**
Investigation 1: Forces	**Investigation 1: Forces**
Inv. 1, Part 1: Two Forces	Part 1: Two Forces
Inv. 1, Part 2: Magnetic-Force Investigation	Part 2: Magnetic-Force Investigation
Inv. 1, Part 3: More about Forces	Part 3: More about Forces
Investigation 2: Patterns of Motion	**Investigation 2: Patterns of Motion**
Inv. 2, Part 1: Wheel-and-Axle Systems	Part 1: Wheel-and-Axle Systems
Inv. 2, Part 2: Predicting Motion of New Systems	Part 2: Predicting Motion of New Systems
Inv. 2, Part 4: Tops	*Side Trip 1: Tops*
Inv. 2, Part 3: Twirly Birds	Part 3: Twirly Birds
Investigation 3: Engineering	**Investigation 3: Engineering**
Inv. 3, Part 1: From Here to There	Part 1: From Here to There
Inv. 3, Part 2: Distance Challenge	Part 2: Distance Challenge
Inv. 3, Part 3: Investigating Start Position	Part 3: Investigating Start Position
Inv. 3, Part 4: Carts	Part 4: Magnetic Solutions
Investigation 4: Mixtures	
Inv. 4, Part 1: Mixing Solids and Liquids	
Inv. 4, Part 2: Reactions	
Inv. 4, Part 3: Metric Field Day	

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Soils, Rocks, and Landforms Next Generation **Grade 4 Earth Science**	**Soils, Rocks, and Landforms Pathways** **Grade 4 Earth Science**
NGSS Performance Expectations addressed: **4-ESS1-1, 4-ESS2-1, 4-ESS2-2, 4-ESS3-1, 4-ESS3-2, 3-5-ETS1-1, 3-5-ETS1-2**	**NGSS Performance Expectations addressed:** **4-ESS1-1, 4-ESS2-1, 4-ESS2-2, 4-ESS3-2, 3-5-ETS1-2**
47 sessions	**29 sessions**
Investigation 1: Soils and Weathering	**Investigation 1: Soils and Weathering**
Part 1: Soil Composition	Part 1: Soil Composition
Part 2: Physical Weathering	Part 2: Physical Weathering
Part 4: Schoolyard Soils	Side Trip 1: Schoolyard Soils
Part 3: Chemical Weathering	Side Trip 2: Chemical Weathering
Investigation 2: Landforms	**Investigation 2: Landforms**
Part 1: Erosion and Deposition	Part 1: Erosion and Deposition
Part 2: Stream-Table Investigations	Part 2: Stream-Table Investigations
Part 3: Schoolyard Erosion and Deposition	Part 3: Reducing Erosion Impact
Part 4: Fossil Evidence	
Investigation 3: Mapping Earth's Surface	**Investigation 3: Mapping Earth's Surface**
Part 1: Making a Topographic Map	Part 1: Using Models and Topographic Maps
Part 2: Drawing a Profile	Side Trip 3: Drawing a Profile
Part 3: Mount St. Helens Case Study	Part 2: Mount St. Helens Case Study
Part 4: Rapid Changes	
Investigation 4: Natural Resources	**Investigation 4: Changes to Landforms**
	Part 2: Mapping Earthquakes and Volcanoes
	Part 3: Interpreting Rock Layers
Part 1: Introduction to Natural Resources	
Part 2: Making Concrete	
Part 3: Earth Materials in Use	

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Structures of Life; Environments; and Living Systems Next Generation **Grade 3-5 Physical Science**	**Senses and Survival Pathways (NEW)** **Grade 4 Life Science**
	NGSS Performance Expectations addressed: **4-LS1-1, 4-LS1-2, 3-5-ETS1-1**
	30 sessions
	Investigation 1: Sensory Systems
Living Systems, Inv. 4, Part 1: Stimulus/Response	Part 1: Stimulus/Response
Environments, Inv. 2, Part 4: Sound Off!	Part 2: Sound Off
	NEW—Part 3: Survival Systems
Structures of Life—Investigation 4: Human Body	**Investigation 2: Skeletal and Muscle Systems**
Part 1: Counting Bones	Part 1: Bones
Part 2: Owl Pellets	*Side Trip 1: Owl Pellets*
Part 3: Joints and Muscles	Part 2: Joints and Muscles
Part 4: Fingerprints	*Side Trip 2: Fingerprints*
Living Systems—Investigation 3: Transport Systems	**Investigation 3: Transport Systems**
Part 2: Circulatory Systems	Part 1: Circulatory and Respiratory Systems
Part 3: Respiratory Systems	
Part 1: Plant Vascular Systems	Part 2: Plant Vascular Systems

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Energy Next Generation **Grade 4 Physical Science**	**Energy Pathways** **Grade 4 Physical Science**
NGSS Performance Expectations addressed: **4-PS3-1, 4-PS3-2, 4-PS3-3, 4-PS3-4, 4-PS4-1, 4-PS4-2, 4-PS4-3, 4-ESS3-1, 3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3**	**NGSS Performance Expectations addressed:** **4-PS3-1, 4-PS3-2, 4-PS3-3, 4-PS3-4, 4-PS4-1, 4-PS4-2, 4-PS4-3, 4-ESS3-1, 3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3**
59 sessions	**32 sessions**
Investigation 1: Energy and Circuits	**Investigation 1: Energy and Circuits**
Part 1: Lighting a Bulb	Part 1: Lighting a Bulb
Part 2: Conductors and Circuits	Part 2: Conductors and Circuits
Part 3: Series and Parallel Circuits	
Part 4: Solving the String-of-Lights Problem	*Side Trip 1: Solving the String-of-Lights Problem*
	NEW—Part 3: Design Circuits with Solar Cells
Investigation 2: The Force of Magnetism	**N/A**
Part 1: Magnets and Materials	n/a
Part 2: Magnetic Fields	n/a
Part 3: Magnetic Force	n/a
Investigation 3: Electromagnets	**Investigation 2: Information Transfer Systems**
Part 1: Building an Electromagnet	Part 1: Building an Electromagnet
Part 2: Changing the Strength	*Side Trip 2: Changing the Strength*
Part 3: Reinventing the Telegraph	Part 2: Reinventing the Telegraph
	NEW—Part 3: Comparing Systems
Investigation 4: Energy Transfer	**Investigation 3: Energy Transfer**
Part 1: Presence of Energy	n/a
Part 2: Rolling Balls Down Slopes	Part 1: Rolling Balls Down Slopes
Part 3: Collisions	Part 2: Collisions
Investigation 5: Waves	**Investigation 4: Light and Waves**
Part 1: Forms of Waves	Part 2: Forms of Waves
Part 2: Light Travels	Part 1: Light Travels
Part 3: Engineering with Solar Cells	n/a

**Side Trips are optional activities*

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Earth and Sun Next Generation **Grade 5 Earth Science**	**Earth and Sun Pathways** **Grade 5 Earth Science**
NGSS Performance Expectations addressed: **5-ESS1-1, 5-ESS1-2, 5-ESS2-1, 5-ESS2-2, 5-ESS3-1, 5-PS1-1, 5-PS2-1, 3-5-ETS1-2, 3-5-ETS1-3**	**NGSS Performance Expectations addressed:** **5-ESS1-1, 5-ESS1-2, 5-ESS2-1, 5-ESS2-2, 5-ESS3-1, 5-PS1-1, 5-PS2-1**
68 sessions	**30 sessions**
Investigation 1: The Sun	**Investigation 3: Earth's Sun**
Part 1: Shadow Shifting	
Part 2: Sun Tracking	Part 1: Sun Tracking
Part 3: Day and Night	Part 2: Day and Night
Investigation 2: Planetary Systems	**Investigation 4: Looking Out from Earth**
Part 1: Night-Sky Observations + some of Part 4: The Solar System	Part 1: Gravity and Orbits
Part 2: How Big and How Far?	
Part 3: Phases of the Moon (optional)	
Part 4: The Solar System	*Side Trip 2: The Solar System*
Part 5: Stars	Part 2: The Stars
	Part 3: Sky Modeler (NEW)
Investigation 3: Earth's Atmosphere	**Investigation 1: Earth's Atmosphere**
Part 1: The Air around Us	
Part 2: The Atmosphere	Part 1: Air in the Atmosphere
Part 3: Local Weather	
Investigation 4: Heating Earth	**Investigation 1: Earth's Atmosphere**
Part 1: Heating Earth Materials	Part 2: Heating Earth's Atmosphere
Part 2: Conduction	
Part 3: Convection	*Side Trip 1: Convection*
Part 4: Color and Energy Transfer	
Investigation 5: Water Planet	**Investigation 2: Earth's Water**
Part 1: Condensation	
Part 2: Evaporation	
Part 3: Water Cycle	Part 1: Water Cycle
Part 4: Climate	Part 2: Climate Change

**Side Trips are optional activities*

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Environments and Living Systems Next Generation **Grade 4-5 Life Science**	**Living Systems Pathways** **Grade 5 Life Science**
NGSS Performance Expectations addressed:	**NGSS Performance Expectations addressed:** **5-LS1-1, 5-LS2-1, 5-PS3-1, 5-ESS2-1, 5-ESS3-1**
(Not a one-to-one match)	**30 sessions**
	Investigation 1: Food Webs
Environments, Inv. 2.2: Food Chains and Food Webs	Part 1: Composting
Living Systems, Inv. 4.4: Ecosystems	Part 2: Ecosystems
Environments, Inv. 2.3: Population Simulation	*Side Trip 1: Population Simulation*
Living Systems—Investigation 2: Nutrient Systems	**Investigation 2: Producers and Consumers**
Living Systems, Inv. 2.2: Plant Nutrition	Part 1: Plants Make Food
Living Systems, Inv. 2.3: Animal Nutrition	Part 2: Animals Get Food
	Investigation 3: Aquatic Ecosystems
	Part 1: Freshwater Ecosystems
Living Systems, Inv. 1.3: Kelp Forest Food Web + some new	Part 2: Marine and Estuary Ecosystems
Environments, 3.1-3.2: Setting Up the Experiment/ Determining Range of Tolerance	Part 3: Salt Lake Ecosystems
	Investigation 4: Understanding Systems
Living Systems, Inv. 4.3: Instinct and Learning	Part 1: Migration Systems

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Mixtures and Solutions Next Generation **Grade 5 Physical Science**	**Mixtures and Solutions Pathways** **Grade 5 Physical Science**
NGSS Performance Expectations addressed: **5-PS1-1, 5-PS1-2, 5-PS1-3, 5-PS1-4, 3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3**	**NGSS Performance Expectations addressed:** **5-PS1-1, 5-PS1-2, 5-PS1-3, 5-PS1-4, 5-ESS3-1, 3-5-ETS1-2**
45 sessions	**30 sessions**
Investigation 1: Separating Mixtures	**Investigation 1: Separating Mixtures**
Inv. 1, Part 1: Making and Separating Mixtures	Part 1: Making and Separating Mixtures
Inv. 1, Part 2: Separating a Salt Solution	Part 2: Separating a Salt Solution
Inv. 1, Part 3: Separating a Dry Mixture	
Inv. 1, Part 4: Outdoor Solutions	
	NEW—Part 3: Separating a Pond-Water Mixture
Inv. 2, Part 1: Black Boxes	*Side Trip 1: Black Boxes*
Inv. 2, Part 3: Models for Changes in Properties	Part 4: Comparing Melting and Dissolving
Investigation 2: Developing Models	
Part 2: Drought Stopper	
Investigation 3: Concentration	**Investigation 2: Concentration Models**
Part 1: Soft-Drink Recipes	
Part 2: Salt Concentration	Part 1: Salt Concentration
Part 3: Mystery Solutions	
Part 4: Liquid Layers	
	NEW—Part 2: Applying Concentration to Solve Problems
Investigation 4: Reaching Saturation	**Investigation 3: Properties of Matter**
Part 1: Salt Saturation	
Part 2: Epsom Salts Saturation	Part 1: Reaching Saturation
Part 3: The Saturation Puzzle	Part 2: Solubility Puzzle
Part 4: What's in Your Water?	
	NEW—Part 3: Properties and Uses of Metals
Investigation 5: Fizz Quiz	**Investigation 4: Chemical Interactions**
Part 1: Chemical Reactions	Part 1: Chemical Reactions
Part 2: Reaction Products	Part 2: Reaction Products
Part 3: Reaction in a Zip Bag	*Side Trip 2: Reaction in a Bag*

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