Japologia.

Elementary Science: YOUNG EXPLORER SERIES SCOPE and SEQUENCE



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Scope & Sequence Exploring Creation with Astronomy

GRADE LEVEL: K-6

TEXT SUMMARY: An introduction to Astronomy covers the major structures of our solar system, details about each planet, the Earth's moon, the asteroid belt, stars and galaxies outside our solar system, space travel, astronauts, and more!

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 1 What is Astronomy?	2 WEEKS Lesson 1 provides an introduction to astronomy and how it is a part of our everyday lives.	 Why Did God Create the Universe? Calendar God's Signs Stars and Planets Solar Systems Astronomers, Astronauts, and Satellites 	Build Model Solar System
LESSON 2 The Sun	2 WEEKS Lesson 2 provides an introduction to the closest star (the sun) and how it is observed from Earth.	 Star of Stars 92,935,700 Don't Stare! Revolve and Rotate Take a Walk around the Sun Solar Flares and Sun Spots The Color of God's Love God's Light Shines Brighter Solar Eclipse 	 Focus Heat Model a Solar Eclipse Make a Pinhole Viewing Box
LESSON 3 Mercury	2 WEEKS Lesson 3 provides an introduction to the planet Mercury.	 The Planet Closest to the Sun Rotation and Revolution Features of the Planet Mercury Spacecraft to Mercury A Trip Across the Sun Who Named Mercury? How to Find Mercury in the Sky 	Model Craters Model of Mercury
LESSON 4 Venus	2 WEEKS Lesson 4 provides an intro- duction to the planet Venus.	 Too Much Atmosphere Rotation and Revolution Not a Twin Spacecraft to Venus The Phases of Venus Finding Venus in the Sky 	 Make Some "Lava" Create a Comic Strip How Radar is Used

Exploring Creation with Astronomy



Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 5 Earth	2 WEEKS Lesson 5 provides an intro- duction to the planet Earth.	 Perfect Design by a Perfect Designer Perfect Distance Perfect Mass Perfect Rotation Perfect Atmosphere Perfect Tilt Perfect Land Perfect Magnetosphere 	• Make a Compass
LESSON 6 The Moon	2 WEEKS Lesson 6 provides an intro- duction to the only natural satellite of Earth, the Moon.	 The Moon's Phases Lunar Eclipse Lunar Atmosphere Walking on the Moon The Moon's Gravity 	 Chart the Moon Make a Telescope
LESSON 7 Mars	2 WEEKS Lesson 7 provides an intro- duction to the planet Mars.	 Moving to Mars Martian Gravity Martian Atmosphere Moons Martian Orbit Martian Rotation Liquid Water on Mars? Finding Mars in the Sky 	 Design a Mars Community Build Olympus Mons
LESSON 8 Space Rocks	2 WEEKS Lesson 8 provides an intro- duction to rocks that orbit the sun and how we observe them from Earth.	 Comets The Coma A Comet's Orbit Famous Comets Meteorites Asteroids Asteroid Belt 	Create a Scale Model Solar System

Exploring Creation with Astronomy



Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 9 Jupiter	2 WEEKS Lesson 9 provides an intro- duction to the planet Jupiter.	 Protective Mother Going to Jupiter Little Sun Stormy Skies Jupiter's Rings Rotation and Revolution Many Moons Spacecraft Galileo Finding Jupiter in the Night Sky 	• Make a Hurricane Tube
LESSON 10 Saturn	2 WEEKS Lesson 10 provides an intro- duction to the planet Saturn.	 Twins Ring System Fast Rotation Saturn's Moons Cassini Mission Finding Saturn in the Night Sky 	Make a Centaur Rocket
LESSON 11 Uranus and Neptune	2 WEEKS Lesson 11 provides an introduction to the planets Uranus and Neptune.	 Two More Gas Giants Uranus Moons Eureka! Orbit and Rotation Neptune Eureka! Number Eight or Nine? Atmosphere Rotation and Revolution Moons 	 Write a Play about the Discovery of Uranus Make Clouds
LESSON 12 Pluto and the Kuiper Belt	2 WEEKS Lesson 12 provides an introduction to the Kuiper Belt and Pluto.	 Kuiper Belt Pluto Who's Number Nine? Hubble Space Telescope Opposite Rotation Winter's Coming Moon What is Pluto Anyway? Planet Pluto? 	• Make Ice Cream

Exploring Creation with Astronomy



Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 13 Stars and Galaxies	2 WEEKS Lesson 13 provides an intro- duction to the stars.	 Star Light, Star Bright Black Holes Supernovas Variable Stars Categorizing Stars Light Years Galaxies Constellations Gospel in the Stars? Corruption of Truth Constellations and Astronomy 	 Make an Astrometer Create a Constellation Planetarium
LESSON 14 Space Travel	2 WEEKS Lesson 14 provides an introduction to the history of space travel and working in space.	 Let's Go to Space Sputnik Sensation The 1960s The International Space Station Building the International Space Station Becoming a NASA Astronaut Seeing the International Space Station 	Build a Model Space Station

Scope & Sequence Exploring Creation with Botany



GRADE LEVEL: K-6

TEXT SUMMARY: Content covered includes the nature of botany and the process of classifying plants. It then discusses the development of plants from seeds, the reproduction processes in plants, the way plants make their food, and how plants get their water and nutrients and distribute them throughout the body of the plant.

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 1 Botany	2 WEEKS Lesson 1 provides an intro- duction to how scientists name and categorize plants. Lesson 1 also introduces the different phyla of plants.	 Latin Taxonomy Phyla Vascular Plants Nonvascular Plants Moss Seed Homes Angiosperms Gymnosperms Seedless Vascular Plants 	 Shoe Taxonomy Paper Towel Activity Making A Light Hut Growing plants Making Soap
LESSON 2 Seeds	2 WEEKS Lesson 2 provides an in- troduction to the parts of a seed, how it grows and the two classes of seeds.	 Testas Outside of the Seed Inside the Seed Germination Monocotyledons Dicotyledons 	 Examine a Seed Diagram a Seed Design a Coat Germination Animation Observe Germination Identify Plants Collect Seeds
LESSON 3 Flowers	2 WEEKS Lesson 3 provides an in- troduction to the parts of a flower, seed formation, clas- sification of angiosperms and carnivorous plants.	 Making seeds Flower families Carnivorous Plants 	 Flower Dissection Build a Plant Model Preserve a Fresh Flower

Exploring Creation with Botany



Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 4 Pollination	2 WEEKS Lesson 4 provides and intro- duction to plant pollination.	 Animal Pollination Wind Pollination Self-Pollination 	 Flower Pollination Flower Story & Comic Create a Butterfly Garden
LESSON 5 Fruits	2 WEEKS Lesson 5 provides an introduction to seed disper- sal. Lesson 5 also explains how to tell the difference between a fruit and a veg- etable and introduces some of the the different types of fruit that God made.	 Human Dispersal Water Dispersal Wind Dispersal Animal Dispersal Fruit Types 	 Examine Burrs Creating A Game Split a Squash Which Flies Farthest?
LESSON 6 Leaves	2 WEEKS Lesson 6 provides an introduction to the stomata. Lesson 6 also explains how leaves are classified and identified and clarifies why plants are classified as producers.	 Photosynthesis Color-Fill Transpiration Falling Leaves Anatomy of a Leaf Simple and Compound Arrangement Venation Shapes Margins 	 Testing Transpiration Classify Leaves Create Storybook Making A Field Guide Leaf Skeleton

Exploring Creation with Botany



Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 7 Roots	2 WEEKS Lesson 7 provides an introduction to the root and an overview of the anatomy and classification of root systems.	 Root Hairs Root Growth Geotropism Root Systems Geophytes Rooting 	 Root Classification Hunt Taproots Force A Bulb
LESSON 8 Stems	2 WEEKS Lesson 8 provides an intro- duction to the structure and growth of plants.	 Woody and Herbaceous Stems Cactus Stems Auxins Phototropism Activity 	 Phototropism Activity Celery Experiment Seeking the Light
LESSON 9 Trees	2 WEEKS Lesson 9 provides an introduction to the role of trees in creation and their anatomy.	 Seed Making Tree Growth Twig Anatomy Growing Outward Layers in a Tree Trunk Thirsty Trees Identification 	 Twig growth Estimating the Height of a Tree Bark Rubbings Identifying Trees

Scope & Sequence Exploring Creation with Botany



Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 10 Gymnosperms	2 WEEKS Lesson 10 provides an in- troduction to the largest and oldest gymnosperms and different types of leaves and cones. Lesson 10 also in- troduces two gymnosperms that are not conifers.	 Softwood Evergreen Gymnosperm Leaves Cones Forest Fires Berry-like Cones Ginkgo Biloba 	 Comparing Transpiration Persuasive Speech A Tree Grows Up Opening and Closing Pinecones
LESSON 11 Seedless Vascular Plants	2 WEEKS Lesson 11 provides an in- troduction to vascular plants that produce sporangia rather than seeds.	 Fronds From Spore to Prothallus to Fiddlehead to Fern Tree Ferns 	 Life cycle of a Fern Fern Transfers Fern Spores
LESSON 12 Nonvascular Plants	2 WEEKS Lesson 12 provides an introduction to bryophytes and the many ways they are used, including how they are used to monitor our environ- ment.	 Moss Reproduction Liverworts Lichen 	 Notebook Activities Test Your Air with a Lichenometer
LESSON 13 Nature Journaling	2 WEEKS Lesson 13 provides an introduction to journaling and encourages students to begin to journal after their own explorations.	 When and Where Illustrations Sketches with Labels What to include 	• Make a Nature Journal

Scope & Sequence Exploring Creation with Zoology 1



GRADE LEVEL: K-6

TEXT SUMMARY: In this God-honoring study of birds, Exploring Creation with Zoology 1: Flying Creatures of the Fifth Day teaches your child about the glorious design and characteristics of flying creatures, including physical characteristics, nesting habits, flight patterns, and more! Your child will learn how to attract various bird species to your yard and identify them by looking at their special physical characteristics, diverse nests, and interesting domestic practices.

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 1 What is Zoology?	2 WEEKS Lesson 1 provides an introduction to animal clas- sification, flight, habitat, and extinction.	 Classification Latin Binomial Nomenclature Flight Uplifting Pressure Airfoil What a Drag Habitats Instinct Extinction Extinction Errors 	 Try This! Air Pressure Glider Design Create Notebook Create Field Journal Nature Scavenger Hunt Research Biomes
LESSON 2 What Makes a Bird a Bird?	2 WEEKS Lesson 2 encourages the student to observe and iden- tify the birds that are in his/ her own yard.	 Bird Watching Benefits of Birds Identifying Birds Field Guides Do you Reside Here? Field Marks Wings Crests What's in a Name? Passerines From Large to Small Bird Behavior Habitats Bird Banter Songs and Calls Other Communications Bird Banding 	 Record Bird Observations Map A Bird Build Bird Feeders Experiment: Which Food Do Birds Prefer?

Exploring Creation with Zoology 1



SEMESTER I: QUARTER 1, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 3 Birds of a Feather	2 WEEKS Lesson 3 provides an in- depth study of feathers and their functions.	 Feather Facts Molting Feather Features Contour Feathers Down Feathers Semiplume Feathers Filoplume Feathers Bristles Preening Cormorants Feather Color Bird Baths Sunbathing 	 Diagram A Feather And Label Make A Bird Guide Life List Build A Bird Bath Experiment: The Best Bird Bath
LESSON 4 Facts about Flying	2 WEEKS Lesson 4 provides a closer look at flight and migration.	 Mighty Muscles Takeoff Steering Flapping and Gliding Soaring Seabirds Migration Why Do They Say Goodbye? Knowing where to Go Using Landmarks Sun and Stars Magnetic Fields Enough Eating? Are we there Yet? Champion Migrator Perils on the Path How High Can You Go? Flocks or Loners Left Alone 	 Map Migration Route Non-Migrating Birds Experiment: Which Color Do Birds Prefer?

Exploring Creation with Zoology 1



Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 5 Nesting	2 WEEKS Lesson 5 provides an intro- duction to the many aspects of nesting.	 Home Builders Types of Nests Unusual Nests Weavers No Nests Ground and Mound Nesters Earth-Hole Nesters Cavity Nesters Platform Nesters Cup Nesters Adherent Nests Egg Color 	 Build a nest Nature Walk Write an Advertisement Build a Birdhouse Experiment: Which Nest Material Does a Bird Use?
LESSON 6 Matching and Hatching	2 WEEKS Lesson 6 provides and intro- duction to bird development and family life.	 Showcase Helpful Mates Single Parents Exceptional Eggs Clutch Incubation Development in the Egg Egg tooth Baby Birds Precocial Birds 	 Make a Comic Strip Experiment: Candling Experiment: Do Eggs Absorb Water?
LESSON 7 Bats	2 WEEKS Lesson 7 provides an overview of bats: classifica- tion, anatomy, habitats, and family life.	 Keystone Bats Bat Anatomy Echolocation Microbats What Big Ears You Have Megabats Bat Habitats Guano Winter Homes Breeding The Nursery 	 Make a Play Project: Find Your Pup
LESSON 8 Flying Reptiles	2 WEEKS Lesson 8 provides an intro- duction to an extinct flying creature, the Pterosaur.	 Pterosaurs Pterosaurs in History Types of Pterosaurs Pterosaur Lifestyle Powered Flight Other Pterosaur Lifestyle Issues 	 Research Pterosaur Activity: Make a Fossil Egg

Exploring Creation with Zoology 1



Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 9 A First Look at Insects	2 WEEKS Lesson 9 provides an intro- duction to insect anatomy.	 Identifying Insects What Good Are They? Cold-Blooded Exoskeleton Molting Insect Heads Insect eyes Antennae Mouths Thorax The Abdomen 	 Try This! Lazarus Experiment Nature Walk Project: Create an Insect Zoo
LESSON 10 Insect Life Cycles and Life Styles	2 WEEKS Lesson 10 provides an introduction to the life cycles and defense mechanisms of different insects.	 Finding a Mate Metamorphosis Complete Metamorphosis Incomplete Metamorphosis More Incomplete Metamorphosis Insect Life Styles Crypsis Advertisment Mimicry Trickery Chemical Defense Bites and Stings 	 Nature Walk Draw Life Cycle Charts Project: Insect Display Experiment: Can Trap Experiment
LESSON 11 Social Insects	2 WEEKS Lesson 11 provides an intro- duction to insect socializa- tion and survival.	 Hymenoptera Worker Ant Jobs Ant Talk Ant Food The Ant Shepherds And Farmers The Honeybee Royal Food The Queen Bee Worker Bee Worker Bees Dancing Bees Flower Power Making Honey Bumblebees Wasps Termites Ant Versus Termites 	 Nature Walk Make A Bee Book Project: Make An Ant Farm Experiment: Learning About Ants

Exploring Creation with Zoology 1



SEMESTER II: QUARTER 3, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 12 Beetles, Flies, and True Bugs	2 WEEKS Lesson 12 provides an intro- duction to the classification of beetles, bugs, and flies.	 Beetle Behavior Both Beneficial and Pesky Scarab Beetles Fireflies/Lightning Bugs Ladybugs Flies Mosquitoes True Bugs 	 Try This! Observe Fly Try This! Surface Tension Nature Walk Experiment: Where Do Most Insect Prefer to Live?

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 13 Interesting Insect	2 WEEKS Lesson 13 provides an introduction to a variety of common insects.	 Praying Mantises Dragonflies and Damsel Flies Winging It Seeing More Than Double Feeding On The Fly Water Babies Crickets, Grasshoppers, and Katydids Hearing Legs and Abdomens Chomp and Chew Swarming Leg Power Differences Among Crickets, Grasshoppers, and Katydids Dangers and Defense Looking For Members Of Order Orthoptera Aphids Cicadas 	 Nature Walk Experiment: Which Environment Does a Cricket Prefer?

Exploring Creation with Zoology 1



SEMESTER II: QUARTER 4, continued

Lesson	Timeline/Summary	Main Themes	Supporting Experiments
LESSON 14 Order Lepidoptera	2 WEEKS Lesson 14 provides an over- view of the anatomy, habitat, and life cycle of butterflies. Lesson 14 also encourages students to attract and ob- serve butterflies.	 Lep Anatomy Antennae Drinking Straws Thorax Migration More Metamorphosis Cocoon What's the Difference? Home Sweet Home Butterfly Pets 	 Create a Poster of Butterflies in Area Project: Home Sweet Home Project: Butterfly Pets Experiment: Do Caterpillars Use Gravity or Light to Determine Which Way Is Up?

Scope & Sequence Exploring Creation with Zoology 2

Contraction Creation Exploring Creation With Robidsy's Swimming Creatings of the Day Day

GRADE LEVEL: K-6

TEXT SUMMARY: God filled the Earth's waters with animals great and small. This text covers swimming creatures from the microscopic to the massive.

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 1 Aquatic Animals	2 WEEKS Lesson 1 provides an intro- duction to the habitats of swimming creatures.	 Aqua Mobility Filter Feeders Animal Assortment Current Events Surface Currents Deep Ocean Currents Tides Planet Water Freshwater Facts Salt Solutions Continental Shelf The Abyss Abyssal Animals The Bottom Line 	 Try This! Air Pressure Create Ocean Box Experiment: Currents
LESSON 2 Whales	2 WEEKS Lesson 2 provides an intro- duction to several species of whales, the anatomy of whales and the behavior of whales.	 Two Kinds of Whales A Whale of a Tail Do You Hear What I Hear? Thar She Blows! Beach Bum Whale Moves Whalers Migration Don't Have a Calf Toothed Whales Echoes to Locate Dolphins Porpoises Killer Whale Narwhals Sperm Whales Baleen Whales Gray Whales Right Whales 	 Try This! Using Sound Try This! Freezing Water Ocean Box Experiment: Sound

Exploring Creation with Zoology 2



SEMESTER I: QUARTER 1, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 3 Seals and Sea Cows	2 WEEKS Lesson 3 provides an in- depth look at seals and sea cows.	 Pinnipeds Finding Food Family Planning Pinniped Peril True Seals Eared Seals Walrus Family Manatees and Dugongs Manatee Menaces 	 Ocean Box Experiment: How Blubber Works
LESSON 4 Aquatic Herps	2 WEEKS Lesson 4 provides an intro- duction to aquatic reptiles and amphibians.	 Ectothermic Turtle Tales Significant Shells Give Me Air Munching Mouths Hatching Heroes Sand Flight Eight Turtles of the Sea Sea Snakes Eight Turtles of Sea Sea Snakes Positively Poisonous Spotting Sea Snakes Reptitles versus Amphibians Frog or Toad Aquatic Toads Aquatic Salamanders 	 Try This! Move Like a Turtle Try This! Draw a Full-Size Leatherback Turtle Ocean Box Experiment: Raise an Aquatic Frog Experiment: Does Temperature Affect Tadpole Development?

Exploring Creation with Zoology 2



Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 5 Primeval Reptiles	2 WEEKS Lesson 5 provides an in- troduction to the fossils of extinct reptiles.	 Amazing Creations Four Saurs The Nothosaurs The Mosasaurs The Plesiosaurs The Pliosaurs The Ichthyosaurs The Deluge 	 Try This! Draw life-size head of Pliosaurs Try This! No Fossils? Experiment: Best Material for Fossils?
LESSON 6 Fish	2 WEEKS Lesson 6 provides an intro- duction to fish: their differ- ences, anatomy, survival, and life stages.	 Bony Fishes Grand Gills Fabulous Fins Shaping Up Defense Bouncy Buoyancy Smelly Fishes Do You See What I See? Do You Hear What I Hear? Lateral Lines Spawning Stages of Life Hermaphrodites Explore More 	 Ocean Box Experiment: Effect of Temperature
LESSON 7 Sharks and Rays	2 WEEKS Lesson 7 provides an intro- duction to cartilaginous fish and an in-depth look at the shark.	 Sharks and Rays Rays Stingrays Manta Rays Electric Rays Eagle Rays Sawfish Skates Sharks Shark Teeth Shark Sense Shark Pups Shark Orders Avoiding Shark Bites Jawless Fish 	 Ocean Box Experiment: Conducting Electricity in Water

Exploring Creation with Zoology 2



SEMESTER I: QUARTER 2, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 8 Crustaceans	2 WEEKS Lesson 8 provides an intro- duction to different types of crustaceans.	 Exoskeleton Crustacean Anatomy Head Features Leg Features Hind Features Lobsters Crayfish Crabs Fiddler Crabs Hermit Crab Crabs for Christmas? Shrimp Symbiotic Shrimp Shrimp-like Crustaceans Barnacles Horseshoe Crabs Trilobites 	 Try This! Trilobite Focus Project: Animal Game Quiz Ocean Box Experiment: Raise Sea Monkeys

Exploring Creation with Zoology 2



Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 9 Mollusks	2 WEEKS Lesson 9 provides an intro- duction to several different species of mollusks.	 Bivalves Bon Appetit, Bivalve Burrowing Bivalves Clams Clinging Creatures Pearls Swiftly Swimming Scallops Sea Snails Conchology Conchology Conchs Whelks Winkles or Periwinkles Moon Snail Cowries Wentletraps Cone Shells Limpets Abalones Slipper Shell Nudibranchs 	 Ocean Box Experiment: Resonance Project: Make a Conchology Box
LESSON 10 Cephalopods	2 WEEKS Lesson 10 provides an introduction to four different types of cephalopods: how they move, reproduce, and see.	 Propulsion Cuttlefish Squids Reproduction Giant Squid Octopuses Feeling Colors Reproduction Octopus Brains Seeing Eye to Eye Nautilus Chitons 	 Try This! Blind Spot Ocean Box Experiment: Buoyancy
LESSON 11 Echinoderms	2 WEEKS Lesson 11 provides an introduction to echinoderms. Lesson 11 also provides a closer look at echinoderms that lack eyes or brain.	 Sea Stars Making New Sea Stars Brittle Stars Crinoids Sea Urchins Sand Dollars Sea Cucumbers 	 Ocean box Project: Salty Brittle Stars

Exploring Creation with Zoology 2



SEMESTER II: QUARTER 3, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 12 Cnidarians	2 WEEKS Lesson 12 provides an introduction to the phylum Cnidaria including jellyfish, sea anemones and corals.	 Polyp vs. Medusa Nematocysts Jellyfish Making More Jellies Floating Boxes Floating Friends Sea Anemones Anemone Associates Adding Anemones Coral Stony Corals Assisting Algae Coral Reefs Reefs at Risk Soft Corals Non-nettle Jellies 	 Ocean box Experiment: Deep Sea Current

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 13 Other Interesting Aquatic Animals	2 WEEKS Lesson 13 provides an intro- duction to "simple aquatic animals including those with no eyes and ears and those that resemble plants.	 Sponges Sponge Anatomy Defenses Sponge Assortment Making New Sponges Sea Squirts Water Worms Phylum Annelida Leeches Bristle Worms Flatworms Tiny Tales Rotifiers Tardigrades 	 Ocean Box Experiment: Desalination of Saltwater

Scope & Sequence Exploring Creation with Zoology 3



GRADE LEVEL: K-6

TEXT SUMMARY: This third book in the zoology series takes students on a safari through jungles, deserts, forests, farms, and even their own backyard to explore, examine and enjoy the enchanting creatures God designed to inhabit the terrain. Exploring Creation with Zoology 3: Land Creatures of the Sixth Day will have your family snuggling together as you discover amazing animals from primates to parasites, kangaroos to caimans, and turtles to the terrifying T-Rex!

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 1 Introduction to the Animals of Day 6	2 WEEKS The young scientist will begin his/he safari into the world of land animals and will be introduced to the ways scientists study the animals and the different careers with animals.	 God Made the Animals Predators and Prey Studying Animals Habituation Animal Careers Zoologist Pet Careers 	 Map It! Track It! Experiment: Predator or Prey?
LESSON 2 Carnivorous Mammals	2 WEEKS The young scientist is introduced to the features of mammals. The first to be explored in all its variety is the family of Canines.	 Creature Features Order Carnivora Family Canidae What are Dogs Like? Canine Communication Canine Construction Canine Senses Hunting Wolves Coyotes Foxes Jackals Dingoes Raccoon Dogs African Wild Dogs 	 Map It! Track It! Experiment: Sense of Smell
LESSON 3 Caniforms Continued	2 WEEKS The study of the animals in the order of Caniform is continued. The young scientist is introduced to the diverse animals that are in the families of Ursidae and Mustelidae.	 Unparalleled Ursidae Do Not Feed the Bears If You See a Bear Brown Bears American Black Bears Polar Bears Sun Bears Giant Pandas Musky Mustelidae Otters The Great Hunt Mephitidae Stink Prying Procyonidae Raccoon Rabies 	 Map It! Track It! Experiment: Skin Color Effect On Keeping Warm

Exploring Creation with Zoology 3



SEMESTER I: QUARTER 1, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 4 Feliform Carnivores	2 WEEKS The families of feliform are explored in this chapter. Mutation is introduced.	 Family Felidae Proficient Predators Specific Spots and Stripes Family Names The Top of the Food Chain Lions Tiger North America's Three Hyaenidae Aardwolves Viverriadae Herpestidae Meerkats 	 Map It! Track It! Experiment: Cougar Eats Deer

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 5 Marsupials	2 WEEKS The diverse animals that are in the marsupial order are explored. The theory of Pangaea is introduced.	 Marsupial Migration Order Diprotodontia Suborder Macropodiformes Wallabies Bettongs and Potoroos Suborder Vombatiformes Suborder Phalangeriformes Order Peramelemorphia Order Notoryctemorphia Order Microbiotheria Order Didelphimorphia Virginia Opossums 	 Map It! Track It! Experiment: Capture Animal Tracks

Exploring Creation Zoology 3



SEMESTER I: QUARTER 2, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 6 Primarily Primates	2 WEEKS Primates are introduced in this lesson and differences in variety of animals are explored.	 Monkeys and Man Primate Classification Suborder Strepsirrhini Aye-Ayes Suborder Haplorrhini Tarsiiformes Platyrrhini: The New World Monkeys Catarrhini: The Old World Monkeys and Apes Baboons and Madrills Apes Gibbons Chimpanzees and Bonobos Gorillas Orangutans 	 Map It! Track It! Experiment: Depth Perception
LESSON 7 Rodentia and the Rest	2 WEEKS The remaining seven orders are defined and some of their amazing creatures introduced.	 Rodentia Mouse-Like Rodents Special Squirrels Flying Squirrels Beavers Order Insectivora Order Lagomorpha Order Demoptera Order Monotremata Platypuses Echidnas Order Edentata Sloths Anteaters Armadillos Order Tubulidentata 	 Map It! Track It! Experiment: Owl Pellets

Exploring Creation with Zoology 3



SEMESTER II: QUARTER 2, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 8 Ungulates	2 WEEKS Hoofed creatures are introduced in this lesson. El- ephants, mammoths, horses and others are explored.	 Order Proboscidea Wooly Mammoths Mastodos Order Perissodactyla Horse History Horse Care Horse Sense Horse Breeds The Gait Growing Horses Donkeys Zebras Rhinos Tapirs 	• Map It! • Track It!

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 9 Order Artiodactyla	2 WEEKS More hooved animals are explored in this lesson. Rumination is defined and explained.	 Family Bovidae Antelopes, Gazelles, and Impalas Wildebeests Bovines Bison And Buffalo Caprines Family Camelidae Deer Family Giraffidae Leaf Lovers Puzzling Spots Okapis Family Suidae Family Tayassuidae Family Hippoptamidae 	 Map It! Track It! Experiment: High Blood Pressure

Exploring Creation with Zoology 3



SEMESTER II: QUARTER 3, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 10 Orders Squamata and Rhynchoecphalia	2 WEEKS Two orders of reptiles that live on the land are explored in this lesson.	 Reptiles Snakes Snake Defense Baby Snakes Slithering Snakes Slithering Snakes Harmless or Venomous? Snake Habitats and Families Lizards The Iguania Geckos Skinks The Large Lizards Worm Lizards Tuataras Living Fossils 	• Map It! • Track It!
LESSON 11 The Rest of the Reptiles and Amphibians	2 WEEKS The last two orders of reptiles that live on the land are introduced, along with amphibians.	 Order Testudines Turtle, Tortoise, or Terrapin? Finding Food Snapping Turtles Soft-Shelled Turtles Mud Turtles and Musk Turtles Family Emydidea Side-Necked Turtles Tortoises Order Crocodilia Crocodilian Conventions Crocodiles Gavials Caimans Alligators Gator Farms Amphibians Frog Sond Toads Frog Food Frog Foe Salamanders and Newts 	 Map It! Track It! Project: Raise a Turtle

Exploring Creation with Zoology 3



SEMESTER II: QUARTER 3, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 12 Dinosaurs	2 WEEKS This lesson focus is on the extinct creatures known as dinosaurs. The historical and fossil evidence is discussed.	 What's in a Name? Bone Basics What's Your Stance? Name Game Sauropods Common Sauropods Theropods Common Theropods Ornithischia What Happened to Them? 	 Map It! Track It! Experiment: Stances

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 13 Arthropods of the Land	2 WEEKS The young scientist will crawl into the world of arthropods, such as spiders, harvest- men, scorpions, mites, centi- pedes, and millipedes.	 Arachnids Spiders Spider Friends and Foes Spider Silk and Spiderlings Creation Confirmation Wondrous Web Hunting Spiders Harvestmen Scorpions False and Whip Scorpions Acarina Centipedes and Millipeds Isopods 	 Project: Create a Web Frame Experiment: Woodlouse Population Study

Exploring Creation with Zoology 3



SEMESTER II: QUARTER 4, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 14 Gastropods and Worms	2 WEEKS In this final lesson the world of slugs, snails, and worms is explored.	 Slugs and Snails Special Slime Gastropod Anatomy Snail Stowaways Worms Flatworms Land Planarians Roundworms Ascaris and Whipworms Hookworm Guinea Worm Filarial Worm Trichinella Pinworm Toxocara Annelids Annelid Anatomy 	• Experiment: Worm Temperature Preference

Exploring Creation with Human Anatomy and Physiology



GRADE LEVEL: K-6

TEXT SUMMARY: An elementary level Anatomy and Physiology book that gives glory to God as children discover all that goes on in their bodies from their heads to the nails on their toes! Beginning with a brief history of medicine and a peek into cells and DNA, your students will voyage through fourteen lessons covering many subjects, such as the body systems: skeletal, muscular, respiratory, digestive, cardiovascular, nervous and more!

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 1 Introduction to Anatomy and Physiology	2 WEEKS Lesson 1 provides an overview of the history of anatomy and physiology. Lesson 1 also provides an introduction to the cell.	 History of Anatomy and Physiology Ancient Egyptians Ancient Hebrews Ancient Greeks Aristotle Creation confirmation Ancient Rome European Scientists Cells Cell Anatomy Cell Membrane Mighty Mitochondria Lysosome Patrols Grocer Golgi ER Delivery and Pick Up Centrioles: Mothers of the City The Nucleus Government Inside the Nucleus DNA RNA Cell creation 	 Personal Person Project Edible Cell

Exploring Creation with Human Anatomy and Physiology



SEMESTER I: QUARTER 1, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 2 The Skeletal System	2 WEEKS Lesson 2 provides an introduction to the skeletal system: its anatomy and physiology.	 What Do Bones Do? Got Blood? Warehouse Wonder Bone Brawn Let's Get Moving Bone Anatomy On the Outside Made to Last Bouncy Bone In the Marrow Bone's A-Growing Deep and Wide Broken Basics Shapin Up Connect the Bones Ligaments A Head of the Game Let's Face It Shivers Down Your Spine Baby Back Ribs A Peck of Peppers Armed and Dangerous Girdles Around The Last Leg Joint Venture Kinds of Joints 	• Experiment: Analyzing A Chicken Bone
LESSON 3 The Muscular System	2 WEEKS Lesson 3 provides an introduction to the different types of muscles, how they work and how they move the skeletal system.	 Skeletal Muscles Tendons Moving Skeletons Muscle Cells Get a Move On Let's Face It Contracting Muscles Mighty Muscle Mitochondria Growing Muscles Pack the Protein Cardiac Muscles Smooth Muscles 	• Experiment: Growing Muscle

Exploring Creation with Human Anatomy and Physiology



SEMESTER I: QUARTER 1, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 4 The Digestive and Renal Systems	2 WEEKS Lesson 4 teaches how the digestive system converts food into materials the body needs to live, repair itself, and grow.	 Down the Hatch Grand Opening Mouth Terrific Teeth Super saliva Terrific Tongue Stirring Stomach Stomach Stories Chyme to Go Living Liver Pancreas Potential Large Intestine The Renal System 	 Project: Design a Digestion Theme Park

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 5 Health and Nutrition	2 WEEKS Lesson 5 teaches the impor- tance of fruits, vegetables, protein, sugar, and fat in the diet.	 Necessary Nutrients Win with Water Carb Control Simply Energetic Complex Carbohydrates Carbohydrates: The inside Story Power Packed Protein Getting the Essentials Protein: The Inside Story The Skinny on Fats Fundamental Fatty Acids Counting Calories Victorious Vitamins Vitamin A Vitamin C Where's the C at Sea? Vitamins D and K B Vitamins: The Inside Story Minerals 	• Testing for Vitamin C

Exploring Creation with Human Anatomy and Physiology



SEMESTER I: QUARTER 2, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 6 The Respiratory System	2 WEEKS Lesson 6 provides an intro- duction to the respiratory system: how all the parts work together and what happens when they are impaired.	 Hairy Catchers Musky Mucus Slashing Cilia Crazy Conchae Holes in Your Head Speaking Strings Tranchea Track Bronchi Branches Baby Bronchioles Alveoli Alley Catching Cold Asthma Attack Smoking Insanity The Great Exchange Filled to Capacity Diaphragm Design Heimlich Maneuver Tasty Diaphragms 	 Diaphragm Model Vital Lung Capacity
LESSON 7 Life in the Blood	2 WEEKS Lesson 7 provides an intro- duction to blood: its make- up and how it moves through the body.	 Super Highway Artery Highways & Capillary Byways Capillaries Transporter Protector Message Carrier Thermostat Blood Basics Plasma Red Blood Cells White Blood Cells White Blood Cells Platelets Wound Care Making Blood Need Blood? Blood Types 	 Finding Iron in Cereal Experiment: Type Your Blood

Exploring Creation with Human Anatomy and Physiology



SEMESTER I: QUARTER 2, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 8 The Cardiovascular System	2 WEEKS Lesson 8 provides an intro- duction to the heart, how it works, and how we can ob- serve its function externally.	 Heart Matters Heart Anatomy Pumping Iron Heart Health Signs of a Heart Attack Capillary Switch Cardiac Components Open Sesame Beating Heart Vascular Vehicles Zoe's Life 	 Project: Make a Stethoscope

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 9 The Nervous and Endocrine Systems	2 WEEKS Lesson 9 provides an introduction to the nervous system and how it works with the endocrine system to control the different func- tions in the body.	 The Central Highway Peripheral Points On My Nerves Sense and Do Between It All Integration Sensation Sending the SNS ANS Unaware Ending with Endocrine 	• Project: Anatomy Trivia Game
LESSON 10 The Nervous System Extended	2 WEEKS Lesson 10 provides an overview of how the brain functions and works with the nervous system.	 Half a Brain Shapely Cerebrum Frontal Fractions Temporal Tones Occipital Optics Parietal Position What's the Matter? My Myelin Swinging Cerebellum Bossy Brainstem Sorting Stimuli The Spinal Cord The Reflex Arc Packaged and Protected Bigger Brains My Brain 	• Project: Design a Science Fair Project

Exploring Creation with Human Anatomy and Physiology



SEMESTER II: QUARTER 3, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 11 Your Senses	2 WEEKS Lesson 11 provides an intro- duction to the five senses and the specific organs on which they are dependent.	 Old Fashioned Olfaction Tasty Taste Buds Dissolving Donuts Get It While It's Hot Now Hear This External Ear Middle Ear Inner Ear Hearing in a Nutshell Sound off All Fall Down Seeing is Believing Eyeball to Eyeball Color My World Cornea Control Glass Helpers Upside Down World Double Vision Eye Will Protect You Eye will Understand 	Experiment: Testing Taste
LESSON 12 The Integumentary System	2 WEEKS Lesson 12 provides an intro- duction to the skin.	 Stretch and Grow Dearly Departed Hair Skin Stories Thick Skin Your Epidermis is Showing Skin Deep Carrots Please Melanin Melody The Dermis Bruising Bursting Blisters Don't Sweat It Heat Exhaustion Thermostat Hair Controls Very Hairy Layered Hair Straight or Curly Dermal Indentions Happy Hypodermis Sensing General Senses Nails 	• Project: Braille Challenge Experiment: Sensing Sensitivity

Exploring Creation with Human Anatomy and Physiology



Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 13 The Lymphatic and Immune Systems	2 WEEKS Lesson 13 provides a basic understanding of how the body protects, communi- cates, and responds to virus- es, bacteria, and parasites.	 The Bad Guys Pathological Parasites Bad Bateria Freaky Fungi Wonky Worms Viral Villians Cursed Cancer Dastardly Disease Our Faithful Father The Lymphatic System The Spleen Immunity Special Agents B and T Antibodies and Antigens Antibody Antics Immunity Modes Acquired immunity Vaccinations Amazing Antibiotics 	• Experiment: Testing for Bacteria and Fungi
LESSON 14 Growth and Development	2 WEEKS Lesson 14 provides an overview of the total body, including how it grows and changes. Lesson 14 also provides an explanation of how genes work and the differences between hu- mans and all other creatures created.	 Diving Cells Development in the Womb Development Outside the Womb Genetics Chromosome Commotion Merry Mitosis Magnificent Meiosis Time for Twins? Redhead Revelation Gregor Mendel Personhood In His Image Apes and Apemen What about Cavemen? Why Did God create Me? Grow in Wisdom 	Project: Dominant and Recessive Traits

Scope & Sequence Exploring Creation with Chemistry and Physics



GRADE LEVEL: K-6

TEXT SUMMARY: Exploring creation using chemistry and physics helps us to understand our surroundings and our interaction with the physical world God created. This course investigates the chemistry of matter from the smallest atom to a multitude of mixtures. The lessons examine the mechanics and dynamics of motion; explain how energy works; explore sound, light, heat, electricity, and magnetism; and demonstrate the principles of simple machines.

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 1 Chemistry and Physics Matter	2 WEEKS Lesson1 provides an introduction to the studies of chemistry and physics. Lesson 1 also provides an overview of God's creation of matter, it's general character- istics and its properties.	 Formation of the World Importance of Matter Volume Mass Density Buoyancy The Golden Rule Properties of Matter: Luster, Color, Shape, Hardness, Smell, and Other Properties 	 "I Spy" Volume Measurement Egg Drop Salt Density Comparing Liquid Densities Sink or Float? How Much Treasure Can You Carry on Your Boat? Create a Rock Journal Compare Common Metals Through Smell Magnetism Project: Lava Lamp
LESSON 2 Moving Matter	2 WEEKS Lesson 2 provides an introduction to the differ- ent states of matter: solid, liquid, and gas.	 Moving Atoms Solid Matter Liquid Matter Viscosity Values Gas Matter Expanding and Escaping Air Gas to Liquid to Solid to Liquid to Gas 	 Compare Freezing Points Liquid or Solid? Separate Water Drops Examine Surface Tension Make Sorbet Gas Takes Up Space Blow Up a Balloon with Soda Pop Learn How to Blow a Bubble Examine Your Breath on a Mirror Experiment: Earth's Water Cycle

Scope & Sequence

Exploring Creation with Chemistry and Physics



Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 3 Building Blocks of Creation	2 WEEKS Lesson 3 provides an intro- duction to atoms, elements, and bonding.	 Overview of Atoms Variety of Atoms Attaching Atoms Attaching Atoms Atom Anatomy Charge Protons, Neutrons, Electrons Electron Energy Clouds, Shells, and Orbitals Valence Valor The Periodic Table of Elements Bonding Basics 	 Create a Chemical Reaction Build an Atom Model Build Two Atom Models to Represent Hydrogen Atoms Build an Atom Model to Represent Oxygen Legos for Elements and Bonding Periodic Table Seek and Find Be the Atom Simulated Sodium Chloride Bond Project: Sugar Cookie Periodic Table
LESSON 4 Compound Chemistry	2 WEEKS Lesson 4 provides an in- troduction to compounds: explanations, creations, and properties.	 Compound Basics Crystallized Creations Putty, Plastics, and Pencil Erasers Laboratory Creations: Positives and Negatives Recycling Acidic Acid Chemical Chaos 	 Crystal Formation Make Your Own Bouncy Ball Properties of a Polymer Don't Pop the Balloon Comparing Breakdown Times Styrofoam/Acetone Chemical Reaction Cooper/Vinegar Reaction Acidic vs. Basic Litmus Test Physical Reaction of Mentos and Diet Coke Steel Wool Chemical Reaction Experiment: Make a Smoke Bomb Project: Grow Crystals

Scope & Sequence

Exploring Creation with Chemistry and Physics



SEMESTER I: QUARTER 2, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 5 Multitude of Mixtures	2 WEEKS Lesson 5 provides an intro- duction to the properties and types of mixtures.	 Mixtures Overview Heterogeneous Mixtures Homogeneous Mixtures Separating Mixtures 	 Cookie Mixture Investigate Carbonated Mixtures Oil vs. Water How Dishwashing Liquid Works Aluminum-Foil Ring Separate a Homogeneous Mixture Chocolate, Chocolate Milk! Chromatography Enactment Experiment: Filter Water
LESSON 6 Mechanics in Motion	2 WEEKS Lesson 6 provides an intro- duction to mechanics and the laws of motion.	 Mechanical Mechanics Always in Motion Newton's First Law of Motion Newton's Second Law of Motion Newton's Third Law of Motion 	 Explore Inertia Using a Stack of Pennies Explore Inertia Using Pennies, Water, and an Index Card An Eggcellent Illustration of Mass's Relation to Inertia Create a "Newton's Cradle" Make a Straw Rocket Game: Ringers
LESSON 7 Dynamics of Motion	2 WEEKS Lesson 7 provides an intro- duction to the forces that affect motion and how these forces work together.	 Feeling Friction Increasing Friction Adhesion Reducing Friction Air and Water Friction Gravity Distance Dynamics Accelerating Action Free Falling Diving from the Sky Centripetal Force David and Goliath 	 Understand Bicycle Brakes Compare How Different Surfaces Affect Friction Explore van der Waals forces Reduce Friction for Easier Movement Air Friction Same Shape, Different Weight, What's the Speed? Create Centripetal Force with a Balloon and Penny Create Centripetal Force with a Pail of Water Project: Paper Airplane Design

Scope & Sequence

Exploring Creation with Chemistry and Physics



SEMESTER I: QUARTER 2, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 8 Work in the World	2 WEEKS Lesson 8 provides an intro- duction to energy, where it is found and how it is used.	 Finding Energy Kinds of Energy: Kinetic and Potential Conserving Energy Forms of Energy 	 Energy in a Rubber Band Energy Transfer Using a Drum Create Your Own Spin Top Energy and Energy Transfer in Bouncy Balls How Pressure Affects the Release of Oil From the Ground How Colors Affect the Absorption of Energy from Light Experiment: Strike It Rich!

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 9 Sound of Energy	2 WEEKS Lesson 9 provides an intro- duction to sound, its charac- teristics, and its uses.	 Sound Essentials Conductors of Sound Speed of Sound Frequency of Sound Sound Quality Technology and Sound Defining Sound Sounds in Space 	 What Sound Waves Look Like Dominoes Make Water Move with Your Voice Directing Sound Through a Tube Make Your Own Megaphone Sound Conduction of Different Materials Experimenting with Frequency Using Water Experimenting with Frequency Using Cans Project: Soundproof Box

Scope & Sequence

Exploring Creation with Chemistry and Physics



SEMESTER II: QUARTER 3, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 10 Light of the World	2 WEEKS Lesson 10 provides an introduction to light: how it is made, its sources, and its characteristics.	 Let There Be Light The Sun and Nuclear Fusion Radiant Energy Sources of Light Shadows Beams and Waves Spectrum of Colors Wavelength "Eye See" Bouncing Light Bending Light 	 Make Your Own Prism Using Water Separate Light and Put It Back Together Why the Sun Appears Orange Investigation of the Primary Colors of Light Investigation of the Primary Colors of Paint Use Your TV Remote to Investigate the Invisible Spectrum Understanding Reflection Using a Bouncy Ball Reflection of Light: Paper vs. Foil Reflection of Light: Using Different Angles Infinite Images Using Mirrors The Bending of Light in Water Using a Penny Experiment: Build a Periscope

Scope & Sequence

Exploring Creation with Chemistry and Physics

SEMESTER II: QUARTER 3, continued

Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 11 Thermal Energy	2 WEEKS Lesson 11 provides an introduction to the four laws of thermodynamics. Lesson 11 also provides an over- view of heat, how it affects us, and its characteristics.	 Thermodynamics Overview The Zeroth Law of Thermodynamics The First Law of Thermodynamics The Second Law of Thermodynamics The Third Law of Thermodynamics Heat Traveling Heat Fire Measuring Heat Thermal Expansion Ways of Wonderful Water 	 Radiant Heat Using a Light Bulb Hot Water: Does It Rise or Fall Balloon Expansion with Steam Conduction with Different Materials Compare Insulation Materials Use a Magnifying Glass to Start a Fire Eliminate Oxygen with a Jar Lid Eliminating Oxygen with a Chemical Reaction Make Your Own Thermometer Compare How Different Materials Freeze The Properties of Water When It Freezes Experiment: Build a Solar Oven
LESSON 12 Electrifying Our World	2 WEEKS Lesson 12 provides an intro- duction to the properties of electricity and how electricity is stored, transferred, and used.	 All Charged Up Static Electricity Currents Lines of Power Loading the Circuit Battery Power Circuit Central Series Circuits Parallel Circuits Circuit Symbols 	 Investigate Charges Using a Balloon Create Electron Transfer With Your Feet Making "Mouth Lightning" Power Use in Your Home Label Your Circuit Breakers Make Your Own Battery Build a Simple Circuit Test the Ability of Solid Materials to Conduct Electricity Test the Ability of Liquid Materials to Conduct Electricity Create Your Own Switch Increase Light Bulbs: Decrease Power Create a Parallel Circuit Experiment: Make a Flashlight

Scope & Sequence

Exploring Creation with Chemistry and Physics



Lesson	Timeline/Summary	Main Themes	Supporting Activities and Experiments
LESSON 13 Mysterious Magnetism	2 WEEKS Lesson 13 provides an intro- duction to magnetism: what it is, how it works, and how it is used.	 Magnetic History Magnets Everywhere North and South Magnetic Materials Compass Points Northward Facing Electrifying Magnet Motor Effect 	 The North and South Poles of a Magnet Characteristics of Magnetism Using Different Shaped Magnets The Power of the Magnetic Field Magnetism of Household Objects Transferring Magnetism Magnetizing a Nail Magnetizing a Needle with Heat Magnetism of a Compass Needle Create an Electromagnet How Electromagnetic Motors Work Project: Magnetic Race Track
LESSON 14 Simple Machines	2 WEEKS Lesson 14 provides an in- troduction to the six simple machines and the physics behind them.	 Archimedes Six Simple Machines Inclined Planes Twisting Planes (Screw) Wedges Levers Pulleys Wheels and Axles Gears 	 Test Force on an Incline Plane Wrapped Incline Plane = Screw Test the Physics of a Screw Create a Lever Test a First-Class Lever Investigate the Fulcrum Point Test a Second-Class Lever Make Your Own Pulley Test the Mechanics of the Wheels and Axles Machine Create a Belt Drive Observe the Gears on Your Bicycle <i>Experiment: Build a Rube Goldberg Device</i>