





W	ond	er \	ear '

Discover the amazing ways animals stay

Wonder Year 2

Materials Build a solid chemistry foundation.

Properties and Purposes of Building

Penguin Parenting Learn about penguin parenting and the

reasons penguins will risk their lives to

Wonder Year 3

provide for and raise their offspring.

NGSS: 1-LS1-2 | 1-LS3-1

From Here to There

Squishy Science

warm.

From Brrr to Burrow

NGSS: 1-LS1-1 | 2-LS4-1

Observe physical properties of materials and design your own stress ball. **NGSS:** K-2-ETS1-3 | 2-PS1-1 | 2-PS1-2

A-Maze-Ing Mirrors

Physics

Physics

Space

Earth &

Space

ఠ

Earth 8

Biology

NGSS: 2-PS1-2 | 2-PS1-3

Brick by Brick

Investigate the world of light and discover what happens when it hits different objects! NGSS: 1-PS4-2 | 1-PS4-3 | 1-PS4-4

need.

Use simple machines to get the objects you

Slingshots, Crossbows, and Catapults, Oh My!

Build and test different launchers to decide

which work best to solve human problems.

NGSS: K-2-ETS1-1 | K-2-ETS1-2 | K-2ETS1-3

NGSS: K-2-ETS1-1 | K-2-ETS1-2 | K-2ETS1-3

Blast Off!

Test how pushes and pulls change the speed or direction of a moving object and design a space probe model. **NGSS:** K-PS2-1 | K-PS2-2 | K-2-ETS1-1 K-2-ETS1-3 That's a Sound Idea

You'll be cheering with delight when you do these hands-on experiments about sound and vibration.

NGSS: 2-PS1-2 | 2-PS1-3

Hot and Cold

Make a thermometer and measure the effects of conditions on temperature. **NGSS:** K-PS3-1 | 2-PS1-4

Go with the Flow

Build and test dams and watersheds to learn how animals and people impact the environment by changing the flow of water. NGSS: K-ESS3-1 | K-ESS2-2 | K-ESS3-3

Super Seeds

Develop models demonstrating how multiple animals cause pollination and seed dispersal.

NGSS: 2-LS4-1 | 2-LS2-2

Weather Watch

Earth & Space

Space

Earth &

Engage with the outdoor adventures and indoor experiments to understand the weather all around vou! NGSS: K-ESS2-1 | K-ESS3-2 | 2-ESS2-3

Not-So-Solid Ground

Learn how Earth's surface features are changed by natural and human-caused events.

NGSS: 2-ESS1-1 | 2-ESS2-1 | 2-ESS2-2

The Sun Blocker

Make art using the sun, learn why the sun is important to Earth, and design a sun blocking device to protect your candy.

NGSS: K-PS3-1 | K-PS3-2

See You Around

Model the movements of the Earth and Moon around the Sun, moon phases, seasons, and more. NGSS: 1-ESS1-1 | 1-ESS1-2

Keys to Life

Sprout seeds, dissect an owl pellet, and build animal homes. NGSS: K-LS1-1 | 2-LS2-1

Parts in Place

Make a toy car with working headlights, and build a bridge while learning about the smallest pieces of matter. NGSS: 2-PS1-1 | 2-PS1-2 | 2-PS1-3







Science Unlocked Scope & Sequence Accelerate (Grades 3-7) A PRODUCT OF HOME SCIENCE TOOLS				
Earth & Space	Physics			

The Dark Side
Test patterns in the night sky and
on Earth to learn about some of our
closest celestial bodies, including

NGSS: 5-ESS1-1 | 5-ESS1-2 | MS-ESS1-1

Feeling the Pressure

the Earth.

Experiment with temperature and pressure to develop your understanding of weather and how to predict it.

NGSS: 3-ESS2-1 | MS-ESS2-5 | MS-ESS2-6

Hazards and Humans

Discover climate connections to understand how humans predict and prevent damage from natural hazards.

NGSS: 3-ESS2-2 | 3-ESS3-1 | 4-ESS3-2 MS-ESS3-2

Raining on our Parade

Test how pH affects the degradation of both the land and sea with living and non-living materials.

NGSS: 4-ESS3-1 | 5-ESS3-1 | MS-ESS3-3 MS-ESS3-4

Rocks and Resources

Learn about how rocks are formed. where they come from, and Earth's natural resources.

NGSS: MS-ESS3-1

Beneath our Feet

Examine fossils in layers of rock, modeling tectonic plates, and

making mountains. **NGSS:** 4-ESS1-1 | 4-ESS2-2 | MS-ESS2-3

Funny Forces

Experiment with air pressure, discover simple machines in evervday items.

NGSS: 3-5-ETS1-2 | 3-PS2-1 | 3-PS2-2 5-PS2-1

Power of Magnets

Get hands-on with magnets to find out what they can do and how they do it.

NGSS: 3-PS2-3 | 3-PS2-4 | MS-PS2-3 MS-PS2-5

Controlling Collisions

Learn how the structure of design impact the ability to withstand collisions.

NGSS: 3-5-ETS1-2 | 3-5-ETS1-3 | 4-PS3-1 4-PS3-3 | 4-PS3-4 | MS-PS3-1 | MS-PS3-5

Wave Wisdom

Learn what waves are, how people use them by doing some wavy water tricks.

NGSS: 4-PS4-1 | 4-PS4-3 | MS-PS4-1 MS-PS4-2

The Light Trap

Investigate light's role in energy transfer and sight, and find out how pigments connect science and art. **NGSS:** 4-PS3-2 | 4-PS4-2 | 5-PS1-1 | MS-PS1-3

No Wires Necessary

Investigate the conductivity of materials, test circuits, and design a model circuit of a home. **NGSS:** 4-PS3-2 | 4-PS3-4 | MS-ETS1-2

Chemistry Warm and Bright

Explore thermal energy.

NGSS: MS-PS1-4 | MS-PS3-3 | MS-PS3-4

Explore the changes involved in storing and releasing energy from food.

NGSS: MS-LS1-7 | MS-PS1-1 | MS-PS1-6

Fizz, Foam, Fire

Energy to Burn

Perform chemical reactions to find evidence for chemical change, use clues to describe reactants and products.

NGSS: 5-PS1-4 | MS-PS1-2

Contain Your Excitement

Learn how mass is conserved when matter changes during physical change.

NGSS: 5-PS1-2 | 5-PS1-4 | MS-PS1-2 MS-PS1-5

Water: Weird and Wonderful

Discover what water can do. and find out how molecular structure determines its unique properties. **NGSS:** 5-PS1-1 | 5-PS1-3 | MS-PS1-1

Mega Molecules

Master the macromolecules required to survive NGSS: MS-PS1-2 | MS-PS1-3 | MS-LS1-7

arowth.

How's it Growin'

Eye Spy Open your eyes to the unique traits that make species perfectly suited to survive in their habitats.

Biology

Design and conduct investigations

to discover the world of plant

NGSS: 3-LS4-3 | 5-LS1-1 | MS-LS1-6

NGSS: 3-LS3-1 | 3-LS3-2 | 3-LS4-1 | 3-LS4-2

Seeking Survival

Simulate and study the relationships species have in the wildt

NGSS: 3-LS2-1 | 3-LS4-4 | MS-LS1-4

Hungry for Change

Discover an amazing insect that can break down plastics on our planet!

NGSS: 3-LS1-1 | MS-LS2-3 | MS-LS2-4

Making Sense of Senses

Discover how the brain processes your senses which allows you to experience the world. NGSS: 4-LS1-1 | 4-LS1-2 | MS-LS1-8

Magnificent Magnification

Look into the microscopic world by creating your own slides, and explore the smaller side of life. **NGSS:** MS-LS1-1 | MS-LS1-2 | MS-LS1-3







Earth & Space

Physics

Chemistry

Biology

Danger Zone

Climate change connects people and living things around the world.

NGSS: MS-ESS3-5 | HS-ESS2-4 | HS-ESS3-5

Transformers

Energy can't be created or destroyed. Design, build, and test devices to convert it from one form to another!

NGSS: HS-ETS1-3 | HS-PS3-1 | HS-PS3-3 HS-PS3-5

Rate of Reactions

Experiment with making chemical reactions happen at different speeds!

NGSS: HS-PS1-5 | HS-PS1-6

Ancient Organisms

Discover the intricacies of fossils and learn how they are used to understand ancient and modern organisms.

NGSS: MS-LS4-1 | MS-LS4-2 | MS-LS4-3

HS-LS4-1

Working with Watersheds

Model the relationships between humans, watersheds, and natural resources.

NGSS: HS-ESS3-3 | HS-ESS3-4 | HS-ESS3-6

Magnetize Me

Perform investigations involving magnetism and electricity to learn how magnetic force, voltage, current, and resistance are connected. NGSS: MS-PS2-3 | MS-PS2-5 | HS-PS2-5

Naturally Nuclear

Use models of radioactive decay to learn about natural and human-made nuclear reactors. NGSS: HS-PS1-4 | HS-PS1-8

Game of Survival

Play the survival game detailing natural selection and explore examples from each class of animals.

NGSS: MS-LS4-4 | MS-LS4-6 | HS-LS4-3 HS-

LS4-4 | HS-LS4-5

Going in Circles

Follow carbon through the carbon cycle, water cycle, nitrogen cycle, phosphorus cycle, and rock cycle.

NGSS: MS-ESS2-1 | HS-ESS2-6

UV Defenders

Engage in memorable physics activities using UV color changing beads.

NGSS: HS-PS3-2 | HS-PS4-1 | HS-PS4-3 HS-PS4-4

Reaction Rainbow

Make a reaction rainbow to study reactions of acids and bases, and solve problems related to pH of solutions.

NGSS: HS-PS1-3

Unintended Consequences

Build, arind, and wash away dirt and rocks to discover the fascinating effects of erosion and weathering.

NGSS: MS-LS2-5 | HS-LS2-1 | HS-LS2-2

HS-LS2-7 | HS-LS4-6

Reducing Reliance on Rarity

Work through the processes of uncovering and using materials to make a smartphone.

NGSS: HS-ESS3-1 | HS-ESS3-2

Trick of the Light

Uncover the secrets of refraction and reflection by making your own optical illusions, and comparing digital and analog transmissions. **NGSS:** HS-PS4-2 | MS-PS4-3 | HS-PS4-5

Super Cool

Discover the relationship between crystalline structure and phase changes with Super Cool!

NGSS: HS-PS3-4

Breathing Without Air

Learn how energy and matter cycle through organisms during respiration, with and without oxygen.

NGSS: HS-LS1-7 | HS-LS2-3 | HS-LS2-4

HS-I S2-5

Reading the Rocks

Learn how geologists decipher the clues hidden in rock layers. get hands-on with how those layers form.

NGSS: MS-ESS1-4 | HS-ESS1-6 | HS-ESS2-7

Newton's Notions

Get hands-on with Newton's three laws of motion, exploring concepts like inertia, acceleration, and reaction forces.

NGSS: MS-PS2-1 | MS-PS2-2 | HS-PS2-1 HS-PS2-2

The Material World

Learn how physical properties are determined by particle-level chemical structures. NGSS: HS-PS2-6

Revenge of the Synth

Connect biological structures to the chemical processes of photosynthesis and uncover unusual organisms that photosynthesize.

NGSS: HS-LS1-5 | HS-LS1-6







Earth & Space	arth & S	pace
---------------	----------	------

Physics

Chemistry

Biology

Unusual Structures

Build, grind, and wash away dirt and rocks to discover the fascinating effects of erosion and weathering.

NGSS: MS-ESS2-2 | HS-ESS2-2 | HS-ESS2-5

Project Projectile

Hit the mark with this physics kit that aims to help students understand the laws of onedimensional and two-dimensional motion.

NGSS: HS-PS2-1

Salty States

Investigate to determine the effect of salt on phase changes and observe interactions between molecules.

NGSS: HS-PS1-3

Chasing Equilibrium

Conduct a series of hands-on activities to learn the details of the mechanisms that keep your body regulated.

NGSS: HS-LS1-2 | HS-LS1-3

Restless Rocks

Use models of Earth's interior and the ocean floor to explore how earthquakes, volcanoes, and island formation are connected.

NGSS: HS-ESS1-5 | HS-ESS2-1

Gravity of the Situation

Explore how objects in space stay in orbit, how they could escape orbit, and how the force of gravity is related to the forces within atoms.

NGSS: MS-PS2-4 | MS-PS3-2 | HS-PS2-4

Good to Glow

Explore the connections between the properties of unique elements, chemical bonding, and chemical reactions.

NGSS: HS-PS1-1 | HS-PS1-2

Cats and Chromosomes

Uncover the mystery of Hemingway's six-toed cats while diving into organism genetics. NGSS: MS-LS1-5 | MS-LS3-2 | MS-LS4-5

HS-LS1-4

Searching the skies

Uncover the secrets of the Solar System by using ancient calendars and observations of planets, stars, and more

NGSS: MS-ESS1-2 | MS-ESS1-2 | HS-ESS1-4

In Perfect Harmony

Learn about the natural patterns of harmonic motion by exploring springs, pendulums, and more.

NGSS: HS-ESS1-4

The Mighty Mole

Inflate balloons, hydrate silica, and chew bubblegum to learn to convert between moles, mass, and particles with ease!

NGSS:HS-PS1-7

Crack the Code

A mystery can be solved with the right tools. Become immersed in genetics and DNA to solve a disease mystery.

NGSS: MS-LS3-1 | HS-LS1-1 | HS-LS3-1 HS-LS3-2

Secret Lives of Stars

Use magnetism to affect electricity, make star property graphs, view colorful spectra. NGSS: HS-ESS1-1 | HS-ESS1-2 HS-ESS1-3

Martian Impact

Learn how measurements and conversions help scientists and engineers design technological solutions to problems in physics. NGSS: HS-PS2-3

Atoms and Angles

Explore the forces within and among molecules that determine structure and chemical behavior.

NGSS: HS-PS1-3

Flashy Feathers

Play a game, investigate seeds, grow plants, and raise an ant farm to discover heritable traits.

NGSS: MS-LS2-2 | HS-LS2-8 | HS-LS3-3 HS-LS4-2