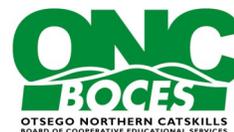
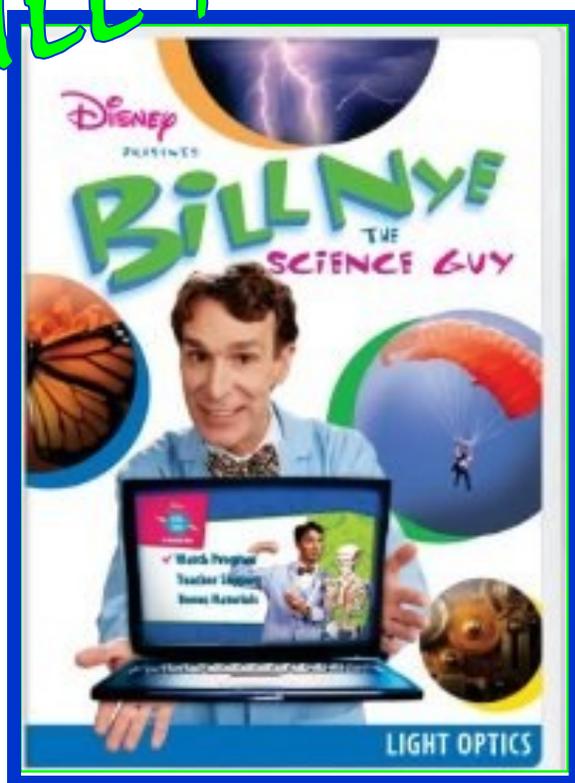


## MEDIA COLLECTION



## EDUCATIONAL MEDIA LIBRARY

BILL NYE



THE  
SCIENCE GUY

SEPTEMBER 2019

**INTERMEDIATE TO HIGH SCHOOL GRADES**



Educational Media Library 7352  
State Highway 23 Suite 3  
Oneonta, NY 13207

**AMPHIBIANS DV 1658**

Amphibians are cold blooded; they don't keep the same body temperature all day. Most live a part of their life in water, part on land.

**ARCHAEOLOGY DV 1708**

Bill digs into the fascinating science of archaeology, the study of those who lived before us. Plus, "Home Improvement's" Richard Karn checks out some ancient "Tool Time" style artifacts.

**ARCHITECTURE DV 1718**

Bill uses the "Dollhouse of Science" to demonstrate how architects design buildings. Then he travels to Japan to learn how pagodas are built to withstand earthquakes. With Guide.

**ATOMS DV 1709**

What's the "big" deal about atoms? They're too small to see with our eyes, so what good are they? Bill Nye explains how atoms combine to form molecules in this episode

**ATMOSPHERE DV 1660**

Atmosphere is the thin layer of air that surrounds Earth, protects it and keeps it warm and wet/

**BALANCE DV 1661**

When we push or pull an object, we create a force. When forces are equal, they are in balance. Bill Nye's the center of attention when he talks about the center of gravity and its effect on balance.

**BIODIVERSITY DV 1719**

In any given environment there are hundreds of varieties of plants and animals living together, creating ecosystems. Bill Nye literally sets up office in an ocean, a forest and a field to commune with nature and show what happens when one link falls out of nature's chain.

**BIRDS DV 1662**

Bill Nye shows us how birds stay airborne, where they live and what they eat.

**BLOOD AND CIRCULATION DV 1663**

Our bodies use blood to carry our food, oxygen and waste. Our heart pumps blood through arteries, veins, capillaries.

**BONES AND MUSCLES DV 1664**

Bones and muscles work together to support, protect and move our bodies. Looks at how many bones are in your body, what holds bones together, what holds muscles to bones and what moves your bones.

**BUOYANCY DV 1720**

The weight of water is what makes an object float or sink. Neutral buoyancy refers to the condition in which an object neither sinks nor floats. Bill Nye explains why objects like boats, helium and balloons are buoyant.

**CAVES DV 1721**

Join Bill as he explores the fascinating spooky, bizarre world of caves! Surviving in complete darkness requires an array of natural adaptations. Caves have their own unique forms of life- it's a whole different world where the sun don't shine. With Guide.

**CELLS DV 719, DV 1722**

Bill Nye celebrates the basic unit that makes up all living organisms-the cell. This program looks at DNA and creatures like amoebas and paramecia.

**CHEMICAL REACTION DV 1710**

Everything is made of chemicals. Chemical reactions occur when chemicals combine to form new substances.

**COMETS AND METEORS DV 1667**

More than just high-speed chunks, comets and meteors carry important information about the history of our universe. The Earth's impact with comets and meteors may have created the oceans, caused the extinction of the dinosaurs, or even brought life to the Earth! 26 min.



**COMMUNICATION DV 1668**

Bill Nye shows the difference between human and animal communication. It's the signs and symbols that people use to pass information that sets them apart.

**COMPUTERS DV 1732**

Not all inventions are carefully planned - some of the most valuable inventions come about by accident! Bill examines the process of inventing, with help from actor Samuel L. Jackson.

**DESERTS DV 720, DV 1711**

Bill Nye travels to Arizona's stunning Sonoran desert, to explore this unique ecosystem and demonstrate the special ways its native plants and animals flourish.

**DIGESTION DV 1712**

Our bodies need different chemicals (food) to keep them running. We grind our food up, absorb chemicals we need, get rid of waste. Looks at what food is to the human body and how we digest food.

**DINOSAURS DV 1669**

We know dinosaurs once lived, because we have found their fossils. Dinosaurs lived long before people.

**DO IT YOURSELF DV 1724**

This program shows how the cold, hard facts of science can be used to test ideas, myths, and inexplicable happenings./ Who knows better than Bill Nye that you can demonstrate big scientific ideas with small experiments? Get a lesson in "Do-It-Yourself Science" from Bill himself and learn how you, too, can conduct scientific experiments.

**EARTH'S CRUST DV 1726**

The surface of Earth is very thin. This surface is what allows all life to exist on Earth. Bill Nye explains how the Earth's surface is different from the inner mantle.

**EARTH'S SEASONS DV 1727**

The Earth takes one year to go around the Sun. It takes one day to rotate around its own axis. We have seasons because Earth is tilted. Bill looks at why, when it's winter in America, it's summer in Australia.

**EARTHQUAKES DV 1725**

A spinning thing will keep spinning unless something slows it down. When you push on a spinning thing, it will push back/Earth's surface is broken up into plates. Earthquakes happen when energy stored in the Earth is released.

**ELECTRICAL CURRENT DV 1713**

Electricity is flow of electrons. Electrons are pushed by chemical reactions or generators. Electricity flows in closed circuit.

**ENERGY DV 1670**

Energy is what makes things go, run or happen. Looks at potential energy and kinetic energy.

**EVOLUTION DV 1672**

Bill Nye the Science Guy compares the primordial to the present when he dabbles with Darwin and looks at his genes. Along the way, students will explore the surprising similarities shared by all living things and ponder the possibility that birds evolved from dinosaurs. 26 min With Guide.



**EYEBALL DV 1714**

Eyes regulate the amount of light that enters them and focuses on images we see. The brain makes sense out of messages from our eyes.

**FARMING DV 1673**

Farmer Bill (Bill Nye the Science Guy) discovers why farmers work their soil and finds out about the nutrients and elements that are needed for successful farms. In addition, Chris Ballew, of the rock group Presidents of the United States of America, sings a special version of the song "Peaches."

**FARMING DV 1673**

GRADES 5-8. The stages of life animals pass through -- birth, growth, maturation, reproduction and death -- make up the life cycle. Students will learn about the role of reproduction in the cycle and why it is critical to the survival of every species. A fun, hands-on experiment is included. With teacher guide.

**FISH DV 1674**

Fish have backbones, breathe underwater, live almost anywhere there is water. Fins provide ability to travel in all directions.

**FLIGHT DV 1675**

Air has pressure. Moving air creates difference in air pressure, which can be used to develop lift.

**FLOWERS DV 1728**

Flowers make seeds, play a key role in pollination and help plants to reproduce

**FLUIDS DV 1676**

What do syrup, milkshakes and air all have in common? they're all fluids, or stuff that can bend, squish, flow, move, dodge, or mosey out of they way without breaking or separating. Liquids and gases all behave similarly. When two fluids have different characteristics, they interact and move around. When fluids in our atmosphere move around like this, we experience wind, weather, and storms.

**FOOD WEB DV 1729**

Watch Bill Nye become tangled in a complex food web in his quest to demonstrate that all living things depend on other living things to survive.

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**FORENSICS DV 1677**

Learn how detectives reconstruct events from the past using bloodhounds, fingerprints, and DNA.

**FOREST DV 1678**

Forest has four levels: a canopy, understory, floor, sub floor. Different plants, animals live at each level.

**FRICITION DV 1680**

Friction is what slows things down when they rub against each other. Friction changes energy of motion into heat.

**GARBAGE DV 1681**

By digging up the dirt on garbage in ever-expanding landfills from New York to Florida, Bill Nye exposes the vast amounts of non-biodegradable waste humans create.



**GENES DV 1730**

Did you know humans have about 80,000 genes? Join Bill as he explores the chromosomal world of DNA.

**GERMS DV 1682**

Using foam models, the science guy illustrates the various types of germs and how they function. Defines HIV and AIDS.

**GLOBAL CLIMATE CHANGE: EARTH'S ATMOSPHERE HEAT'S UP DV 765**

In this live-action program, Bill Nye the Science Guy takes a look at the possible causes of global warming. Viewers will find out how scientists measure climate change, see how carbon dioxide affects the temperature of Earth's atmosphere and hear about the role of fossil fuels.

**GRAVITY DV 1731**

Have you ever wondered what holds the ocean on the Earth? Or what makes the Earth round? Host Bill Nye provides the explanation for these and other questions about the Earth's gravity.

**HEAT DV 1684**

The hotter something is, the faster its molecules are moving. Heat moves in three ways: conduction, convection and radiation.

**HEART DV 1683**

The heart is a muscle that works all the time, whether you think about it or not. Heart pushes blood around by contracting and relaxing. The heart is a pump with valves. Program provides a variety of experiments and demonstrations

**INSECTS DV1685**

What are the three parts of an insect's body? What is an exoskeleton? What is metamorphosis and the various stages of an insect's life? Bill Nye provides the answers to these questions.

**INVENTIONS DV 1732**

Not all inventions are carefully planned - some of the most valuable inventions come about by accident! Bill examines the process of inventing, with help from actor Samuel L. Jackson.

**INVERTEBRATES DV 1733**

Animals without backbones are called invertebrates. There are far more invertebrates than animals with backbones. Includes a variety of demonstrations, experiments.

**LAKES AND PONDS DV 1686**

(26 minutes) - Bodies of water surrounded by land on all sides are called lakes if they're large and ponds if they're small. Lakes and ponds are formed when water collects in a low place in the ground. Where does all that water come from? Bill ponders this and many other freshwater questions in this exciting program.

**LIGHT AND COLOR DV 1735**

White light is made up of all colors of light mixed together. Color comes from color of light reflected.

**LIGHT OPTICS DV 1687**

Light changes direction when it is reflected (mirror) or refracted (lens). Light travels in a straight line unless it is pulled by gravity or hits an object. When you slow light down with a curving lens (concave or convex), light bends.

**MAGNETISM DV 1715**

Magnets repel and attract other magnets and they attract some metals. Earth is a giant magnet. Takes a look at what magnetism is and where it comes from.

**MAMMALS DV 1736**

Mammals are warm-blooded and keep the same body temperature all day. All mammals have hair and milk to feed their babies.



**MARINE MAMMALS DV 1688**

Marine mammals have fur, blubber-which maintains constant warm body temperature; flippers, give live births and nurse their young.

**MEASUREMENT DV 1737**

Some of our most important tools are the ones used for measuring. Telescopes, spectroscopes, microscopes, stethoscopes, radar, thermometers, scales, barometers, not to mention the humble ruler, are all used to compare stuff in our Universe and make observations. We can measure the smallest atom or the largest galaxy! (26 min.)

**MOMENTUM DV 1737**

Brace for the impact of this moving program as Bill Nye shows how weight and speed affect momentum. The crash test dummies know a lot about momentum in a car and the importance of wearing a safety belt.

**MOON DV 1689**

Bill Nye illuminates the orbit and phases of the moon.

**MOTION DV 1690**

Bill Nye gets things rolling and then puts on the brakes to demonstrate how things cannot move or stop moving by themselves. Everything needs a push or pull-a-force to make them move or stop. Forces are required for movement because all objects have inertia. Sometimes an object might seem to be at rest, even when it is in motion. Confused? It's all relative. Relative motion, that is. That's motion in motion.

**NUTRITION DV 1739**

Humans have to eat many different kinds of foods to stay healthy. Learn about fats, starches, proteins, junk food, empty calories, chemicals/A peep of chickens, a pride of lions, a gaggle of geese, and a crowd of people. What do they all have in common? They're all populations! Bill Nye explores how these living groups compete for food, homes and space.

**NYE TV TOP 11 COUNTDOWN DV 1691**

Bill Nye hosts a countdown on Nye TV's best music video parodies.

**OCEAN EXPLORATION DV 1692**

Take a glimpse of some of the special tools required for ocean exploration and find out why studying the ocean is so crucial to life on land.

**OCEANOGRAPHY DV 1716**

Ocean water is always moving in huge currents caused by wind, heat from the sun and salt in the water.

**OUTER SPACE DV 1693**

Bill Nye talks about Outer Space - planets, stars, galaxies and the universe. Bill visits the Mount Wilson Observatory in California to help illustrate how long it takes light to travel through the galaxy.

**PATTERNS DV 1694**

Every time you look at something, hear something, touch something, or taste something, your brain collects information about the world around you. You deal with that information by finding patterns. To define and describe the patterns seen in nature, humans invented a special language-math. With computers, finding, creating, and studying patterns with math has become faster and easier than ever-opening up whole worlds to explore! (26 min.) WITH GUIDE

**PHASES OF MATTER DV 1741**

Everything is made of matter. Matter exists in three phases; solids, liquids, gases. Adding or taking away energy makes matter change phase.



**PLANTS DV 1743**

Plants make own food, use sunlight to take carbon dioxide from air, release oxygen. Plants have developed many ways of living on Earth.

**PLANETS DV 1742**

Bill Nye goes planet gazing and takes a serious look at Jupiter's features, Earth's elliptical orbit and the distance between the planets.

**POLLUTION SOLUTIONS DV 1744**

Program looks at how all humans can prepare for the future by recycling, researching, and developing solutions to combat the "way UN-cool" problem.

**PRESSURE DV 1695**

Pressure is pushing force spread out over an area. Pressure acts in all directions at once.

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**PSEUDOSCIENCE DV 1747**

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**PROBABILITY DV 1746**

Bill Nye examines the use and functions of probability in daily life. When invited into the wacky lab of Bill Nye, we begin to understand that luck and chance are really a mathematical predictability. Probability is important in the sciences, used in the world of business, and of course is a big part of many games. Bill Nye demonstrates probability in action from throwing the dice and tossing a coin to winning the lotto or finding a four leaf clover.

**REPTILES DV 1696**

Reptiles are cold blooded, have scaly skin, no hair. They have special ways of living in different places on Earth.

**RESPIRATION DV 1697**

Breathing is how our bodies get oxygen from the air. We combine oxygen with chemicals in our food to get the energy we need to live.

**ROCKS AND SOIL DV 1748**

Bill Nye unearths the facts on volcanoes, landslides, tectonic plates, rivers and weather and their varies effects on the creation of rocks and soil. Check out how to unearth fossils in sedimentary rocks and soil.

**SIMPLE MACHINES DV 1700**

Simple machines help change the elevation and size of forces. A wheel is many levers pivoting on one fulcrum.

**SKIN DV 1749**

Skin protects us from weather, regulates body temperature, gives us a sense of touch.

**SMELL DV 1750**

Your sniffer's always at work, but you don't always realize it. The human sense of smell helps up interpret our environment and react to the things around us by letting us know when new smells are nearby. Noses receive a smell, then the olfactory part of the brain decodes the many messages it gets and lets you know that, yes, your feet are truly smelly. With Guide.

**SPACE EXPLORATION DV 1701**

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**SPACE EXPLORATION DV 1701**

Join Bill in the "final frontier" and see the tools humans invent to explore space

**SOUND DV 1751**

Sound is made by vibrations. Sound travels through materials in waves. Ears are specialized structures designed to receive sound/White light is made up of all colors of light mixed together. Color comes from color of light reflected.

**RIVERS AND STREAMS DV 1698**

Rivers, streams carry water downhill to the ocean. We find special ecosystems in and around rivers, streams.

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**SPIDERS DV 1702**

Spiders are arachnids and have only two body parts. They are eight-legged predators that spin their webs and balance our ecosystem by preying on pesky insects

**SPINNING THINGS DV 1703**

A spinning thing will keep spinning unless something slows it down. When you push on a spinning thing, it will push back/Earth's surface is broken up into plates. Earthquakes happen when energy stored in the Earth is released.

**SUN DV 1706**

Bill sheds light on solar flares, eclipses, sunspots, fusion and solar energy and visits an enormous solar energy farm



**THE SCIENCE OF MUSIC DV 1699**

Even before people used words, they used music to communicate. The music we listen to today is the result of years of experimentation with sound. Each musical note and every one of each instruments is, in fact, a unique sound wave. Getting the exact sound waves in the pattern you want - now that's way cool science! (26 min.)

**STATIC ELECTRICITY DV 1704**

All materials have electrons, which are tiny charged parts of atoms. A build up of these charged electrons is called static electricity.

**STORMS DV 705**

Storms happen when huge masses of air collide. Disaster or not, storms benefit us. The tropical regions of the earth would be too hot to inhabit-and the sub-polar regions too cold-if we didn't have hurricanes and typhoons to distribute the Earth's heat so efficiently.

**TIME DV 1753**

Bill Nye addresses the concept of time. What makes a day? Exactly were does a day begin and how do we know when it's over? Why do we measure time the way we do? It it true that time can be measured only after it has passed? Bill Nye shows how to measure time with the help of "Beverly Hills 90210" heartthrob Ian Ziering, and comedian Ellen Gleg-home.

**VOLCANOES DV 1754**

Bill Nye looks at volcanoes: what they are, how they are formed and different types that exist.

**WATER CYCLE DV 1717**

Water cycle has four parts: evaporation, condensation, precipitation, collection. Most water in the world is the same that was here when the Earth was formed.

**WAVES DV 1755**

Bill explores sound waves, light waves, seismic waves, energy waves and even "the waves" that's so popular with stadium crows! We'll visit a doctor's office to check out an X-ray machine and find out why those heavy lead jackets are required attire when X-rays are taken.

**WIND DV 1756**

Wind comes form heating and cooling of Earth by the Sun and Earth's rotation. Wind makes weather and can do work.

**WETLANDS DV 1707**

Wetlands are places where ground is full of water and home to many types of plants, wildlife. Wetlands help keep water clean, control floods.



## **GRADES 7-12 SCIENCE**

Addiction: Disease or Behavior? DV 1758

Antibiotics: Man vs. Microbe DV 1759

Astrobiology: Does Extraterrestrial Life Exist DV 1760

Cloning: The Science Behind the Controversy DV 1761

Genetic Diversity: Sexual Reproduction DV 1762

Genetically Modified Foods: Benefits and Risks DV 1763

Global Climate Change: Earth's Atmosphere Heats Up DV 1764

Human Characteristics and Adaptations DV 1765

Nuclear Energy: The Costs and Benefits of Alternative Choices DV 1766

Population: Human Demographics DV 1767

Pseudoscience: Looking for Evidence and Proof DV 1768

Sports: Science in Action DV 1769

Transportation: Traffic, Fuel DV 1770

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**NEW BILL NYE SOLVING FOR "X" ALGEBRA PROGRAMS**  
Grades 6-23, 20 minutes each. Ideal for STEM Studies