

Learning Resources

3-2-1 Classroom Contact Scientific Investigation

Laser Videodisc Level I

This double-sided Level I videodisc contains all four 15-minute programs on *Scientific Investigation: How Do You Know; Collect the Data; Dig it Up!; Experiment: and Make a Model.*

Videodisc technology enables students to view the entire program or rapid access to program segments. The Teacher's Guide provides the bar codes, chapter numbers, and frame numbers for all the segments on the videodisc. It also includes a Frame and Bar Code Index so you can easily find any scene or image on the videodisc. You have maximum flexibility in using the materials efficiently and creatively. Level 1 interactive videodiscs do not require any computer links.

Ages 9 to 11
60 minutes, order 4-4079-IN

3-2-1 Classroom Contact Series

For more than a decade kids have watched 3-2-1 Contact after school. Now you can use a special edition of Children's Television Workshop's popular award winning science series *in school* with 3-2-1 Classroom Contact, a new classroom version for 4th through 6th graders.

3-2-1 Classroom Contact brings the exciting world of scientific discovery into the classroom. The series has two basic elements...thirty 15-minute television shows

See the relationship of animals to their surroundings and their interactions with each other, here is outstanding photography vividly depicting the wonder of life.

specially developed for in-school use and a teacher's guide. Each of these components plays a central role in the total instructional program.

3-2-1 Classroom contact television shows are designed to stimulate student interest in science. Through its live-action sequences, music videos, animations, and on-location mini-documentaries, 3-2-1 Classroom Contact makes science instruction both engaging and accessible to kids. The Teacher's Guide also presents easy to use demonstrations, hands-on activities, and experiments students can perform in their classrooms.

3-2-1 Classroom Contact emphasizes the process of scientific investigation...the dynamic, inquiry-based methods through which we come to know our world. It portrays science as a cooperative human endeavour, open to all...including your students. The goals of the series are to:

- * help children experience the joy of scientific exploration and the satisfaction of accomplishment;
- * help to familiarize them with different styles of scientific thinking;
- * enhance their abilities to analyze scientific and technical issues;
- * motivate them to pursue further scientific activities;
- * encourage all children...especially girls and minority students...to develop their scientific and technical capabilities to the utmost.

Each program and the related hands-on activities are designed to teach fundamental concepts in one of four scientific fields:

- * Earth Science (7 shows)
- * Physical Science (8 shows)
- * Life Science (11 shows)
- * Scientific Investigation (4 shows)

3-2-1 Classroom contact features young cast members, who act as your students' guides, introducing children to some of the remarkable men and women working at the frontiers of science. They pose provocative questions, conduct tabletop experiments and explore each topic, often by relating it to something concrete and observable in students' lives.

The accompanying guide includes step-by-step lesson plans, background information, program synopsis, blackline masters to accompany hands-on activities and curriculum connections.

Antarctica: Getting to the South Pole

The geographic South Pole is located on Antarctica, a huge continent covered with a thick layer of ice...nine thousand feet thick at the South Pole. Follow the route taken across this icy desert by early explorers, who risked their lives in search of the south Pole.

Code 5-4070

Crystals: They're Habit Forming

Salts, sugars, and snowflakes are crystals. Every kind of crystal has its own specific shape, or habit. But how do crystals form? *Grow* some to find out!

Code 5-4071



Learning Resources

Erosion: Earth is Change

Earth's surface is constantly changing. Floods, landslides, hurricanes, erupting volcanoes, and soil-shifting earthquakes can cause sudden, dramatic changes. But gradual action by wind and water over millions of years can also alter the Earth's surface and shape breathtaking landscapes like the Grand Canyon!

Code 5-4072

Fossils: Remains to be Seen

How do we know what dinosaurs looked like when they lived millions of years ago? The answer is fossils...traces of past life preserved in Earth's crust. Fossils help scientists figure out how the dinosaurs lived, and possibly how they died.

Code 5-4073

Ocean Environments: 3-D Sea

Oceans may look the same from the surface, but underneath, different ocean environments offer support to spectacularly different, sea dwelling creatures. The animal life in each environment depends on conditions like the depth, temperature, salinity, and oxygen/carbon dioxide content of the water.

Code 5-4074

Volcanoes: Too Hot to Handle

What comes out of volcanoes? A lot of stuff! Some eject lava, others hot ash. The materials that come from deep within volcanoes raise Earth's surface, make mountains, and create new land masses. The Hawaiian Islands, Japan, and Iceland were all formed by volcanic eruptions. Come along and see Mauna Loa during an eruption and Mount St. Helens after it blew its top.

Code 5-4075

Water Cycle: Go With the Flow

Did you know that the water you drank today, may have been drunk by a dinosaur fifty million years ago? Well its true. All the water in the world is constantly being recycled. It is cleaned in a never-ending cycle of evaporation, condensation, and precipitation. But there's a limit to the amount of pollution the water cycle can handle. Sometimes water gets polluted even before it hits the ground...rain falling through polluted air can form acid rain that may kill plants and animals.

Code 5-4076

Animal Vision: Eye of the Beholder

Ever wondered how the world looks through a frog's eyes or a chameleon's eyes? Here's your chance to see things in a whole new light! Animal's eyes help them survive in their specific environments and basic components of the eye vary in different species. Some animals don't see colours at all; some see only a few; and some see parts of the spectrum we can't...those of infrared or ultraviolet light.

Code 5-4077

Antarctic Animals: Living on the Edge

Only a few animal species live in Antarctica. On the ice-covered land mass, air temperatures dip to below minus one hundred degrees F. Near freezing water is toasty by comparison. So most animals live in the chilly ocean water surrounding the continent. Animals like penguins and seals are specially adapted to survive in this otherwise inhospitable environment.

Code 5-4078

Australian Mammals: Life Down Under

Australia is home to many unique animals including some unusual mammals like the kangaroo, the koala, and the platypus. But why do all these strange, unusual creatures live in just one place? It all started a long, long time ago in a place called Gondwanaland.

Code 5-4079

Bioelectricity: The Shocking Truth

All living things...people, animals, and plants...produce electricity. Each cell in the human body works like a tiny battery. We use the electricity to send messages to and from our brains. Learn how scientists are using the body's own electrical impulses to help amputees utilize artificial myoelectric limbs!

Code 5-4080

Classification: The Order of Things

Living things can be grouped, or classified, according to common traits. Doing so helps us find out how species are related...the more traits they share, the closer the relationship. Knowing about such common traits even helped a scientist solve the mystery of a plane crash!

Code 5-4081



Learning Resources

Digestion: The Inside Story

Some animals eat plants; some eat meat; and some eat plants *and* meat. Whatever an animal eats, its teeth get the digestive process underway. But where does food go from there? Find out by watching the on-camera dissection of a pig's digestive system which shows how the process works in him and in you.

Code 5-4082

Flying Animals: Winging It

How is a clam like a polar bear? Neither has wings, so neither can fly? But lots of other animals do have standard flying equipment...wings. Some are flying birds, some are flying mammals (bats), and some were flying reptiles (pterosaurs) that became extinct more than sixty million years ago. Even though these creatures may look different, their wings have a lot in common.

Code 5-4083

Food Chains: Eat and Be Eaten

All animals...including humans...depend on plants because there's a plant at the beginning of every food chain. For example, sea urchins thrive on kelp, a water plant, and sea urchins, in turn, are food for sea otters. Find out how marine biologists in California observe the kelp/sea urchin food chain and sometimes intervene to maintain this delicate balance.

Code 5-4084

Innate and Learned Behavior: How do They Know That?

Why does a spider always weave the same kind of web instead of getting creative from time to time? Because the web-spinning is innate...the animal knew how to spin webs when it was hatched. Humans have innate behaviours too, such as crying and swallowing, but there are lots of things animals ... including humans...must learn how to do.

Code 5-4085

Social Behavior: Living in Groups

Although most animals are solitary creatures, some live in groups: herds of bison and schools of fish live in loose assemblies of hundreds; prides of lions and troops of baboons live in small but organized groups; colonies of ants and bees live in highly organized groups of thousands.

Code 5-4086

Training Animals: Learning New Tricks

What do pigs, dolphins, and monkeys have in common? they are animals that can be trained to do things...sometimes just for fun; sometimes to help humans. And they're mammals...the animals best able to learn. When working with animals, trainers break down tasks into steps that are taught one at a time.

Code 5-4087

Air is Matter: Air is There

Air is matter that really matters. It's everywhere, throwing its weight around by holding things up or knocking them down. But wherever it is and whatever it does, air has volume and mass that make it matter!

Code 5-4088

Friction: Getting a Grip

What do bobsleds, roller coasters, motorcycles, skis, cars, planes, snakes, and people all have in common? They all need friction to get 'em going and to slow 'em down! Friction is the resistance encountered when one thing moves over the surface of another. Treads on tires and shoes create friction so people can "get a grip!"

Code 5-4089

Generating Electricity: More Power to You

How can you generate electricity? Simply. Just move a magnet past a wire or a wire past a magnet and you'll get an electric current. Huge power plants use falling water, wind or steam to rotate coils of wire inside giant magnets to create enough electricity for all of us.

Code 5-4090

Gravity/Weightlessness: Measuring G's

Gravity constantly grabs things and pulls them toward Earth's centre. In fact, that's why things have weight. But how do you get into a weightless situation? Try riding a roller coaster...or even an elevator!

Code 5-4091

Light and Color: Living Color

Why can't we see colours of objects in the dark? Because light has to hit the object and reflect its colour back to our eyes. Hard to visualize? Well watch, as simple animations and colourful experiments take us out of the dark and into the light!

Code 5-4092

Motion and Forces: Play Ball

An object can't move unless acted upon by some force that sets it in motion. We apply force when we hit a baseball or shoot a basketball through a hoop, but there's another force that's working all the time...gravity. You'd be surprised at what you can do if you know that forces like gravity work in predictable ways. For example, softball pitchers use gravity to throw pitchers that trick batters!

Code 5-4093



Learning Resources

Refraction: Facts of Light

A ray of light ordinarily travels in a straight line, but it can be refracted, or bent, when it enters a new medium at an angle. It's important to be able to bend light. Lighthouses, for example, use lenses to bend light from one bulb and send it far out to sea to warn sailors of rocks ahead.

Code 5-4094

Surface Tension: BUBBLE-ology!

Can anyone blow a soap bubble that's non-spherical? No. Because of surface tension, soap film sticks together and always forms a sphere. Experiments with soap bubbles help kids learn more about what's holding the bubbles all together...surface tension.

Code 5-4095

How do You Know? Collect the Data

You can get a lot of information from books, data banks, and even from TV. But sometimes you just have to get up, go out into the field, and observe people and things in order to collect data. Meet some scientists collecting data deep in the woods and deep underwater.

Code 5-4096

How do You Know? Dig it Up!

How do archaeologists find out what prehistoric humans ate? The scientists become detectives, excavating ancient trash heaps and hunting for animal bones, shells, and plant pollen that give clues to what people ate. But for direct evidence, scientists analyze fossil feces. Seeds and plant pollen that are trapped and preserved in thousand-year-old dung reveal what was eaten!

Code 5-4097

How do You Know? Experiment!

Is every sound a language? Do parrots speak English? And who left that message on the answering machine? You can try to guess the answers to these questions, or you can set up controlled experiments designed to let you know when you've found the right answers!

Code 5-4098

How do You Know? Make a Model

Lots of people put together model planes or ships for fun. But models aren't just toys, they're scientific tools! Models can help us test theories, learn about things that are very small, very big, very far away, or that lived very long ago. We can even calculate a dinosaur's weight by using a model of the creature!

Code 5-4099

Friction: Getting A Grip

What do bobsleds, roller coasters, motorcycles, skis, cars, planes, snakes, and people all have in common? They all need friction to get 'em going and to slow 'em down! Film clips demonstrate friction (or lack of it) in action, and encourage comparing different surfaces.

Code 5-4089

Ages 9 to 11
450 minutes, order 5-40700-IN

African Apes And How They Live (Primary Level Narration)

Animals And How They Live Series

Fact-filled narration and beautiful photography combine to present the lives, habits, and social systems of the most human-like animals on earth at home in Africa's tropical rain forests.

Early Years, Ages 6 to 8
17 minutes, order 1-8597-IN

African Apes And How They Live (Intermediate Level Narration)

Animals And How They Live Series

Fact-filled narration and beautiful photography combine to present the lives, habits, and social systems of the most human-like animals on earth at home in Africa's tropical rain forests.

Ages 9-14
17 minutes, order 1-8600-IN

African Plant Explorer: Fatimah Jackson, Biography

The Wonderwise Women In Science Series

Ages 9 to 11
minutes, order 5-45941-IN

The All About Animals Series

With outstanding nature photography, singable songs and key words captioned on-screen each program presents animals in their natural environment to teach concepts essential to science, language arts and reading.

Amphibians

The characteristics of amphibians and their related behaviours.

Code 1-4012

Birds

Vivid portrayal of birds physical and social characteristics will stimulate children's curiosity and awareness.

Code 1-4013

Fish

Characteristics of fish adaptation and behaviour is made clear to young viewers.

Code 1-4010

Mammals

Familiar and exotic animals illustrate the characteristics of mammals.

Code 1-4004



Learning Resources

Insects

Macrophotography illustrates how we define insects, their habits and habitat.

Code 1-9804

Reptiles

Investigates the physical characteristics and behaviour of representative reptiles.

Code 1-4006

Series titles also available on CD-ROM

Ages 6 to 8
minutes, order 1-98040-IN

Alligators And How They Live

Animals And How They Live Series

Stunning photography introduces students to the very special characteristics of the American alligator, describing features shared with other reptiles and exploring the unique traits which allow survival on land and in the water.

Also available in laser videodisc.

Ages 9 to 11, Ages 12 to 14
17 minutes, order 1-8391-IN

Alligators And How They Live

Laser Videodisc

Once hunted to the point of extinction, American alligators have made a thriving comeback. Florida leads the way with an estimated total of one million alligators; they can also be found in the lakes and swamp of Louisiana and other Gulf states and as far north as the Carolinas.

This program introduces viewers to the very special characteristics of the American alligator. It describes the features they share with other reptiles and other *crocodilians*, and explores the unique traits they have evolved in order to survive on land and in water.

Ages 9-14
17 minutes, order 1-83911-IN

Animal Life In A Tidepool

Grade 4 - *Habitats and Communities; basic concept; animals and plants live in a specific habitat because they are dependent on it and adapted to it.*

Grade 6 - Diversity of Living Things: basic concept: compare the characteristics of different kinds of arthropods.

Outstanding nature photography vividly depicts the wonder of life in these delicate communities, uncovering many fascinating animals, including sponges, anemones, tubeworms, barnacles, mussels, sea urchins, starfish, sea cucumbers, limpets, slugs, and crabs. Includes brief discussion of ocean tides. Also available as a Level I laser video disc.

Ages 9-14
12 minutes, order 1-8384-IN

The Animal Life Series

Grade 2: *Growth and Changes in Animals: Basic concepts: Identify and describe the major physical characteristics of animals; behavioural characteristics that enable animals to survive; classify a variety of animals; adaptation to environment.*

This introduction to the study and classification of animals, by award winning wildlife cinematographer Wolfgang Bayer, illustrates the web that unites all life on earth, and reminds students of their own roles in the scheme of nature.

How We Classify Animals

Surveys the diversity of animal life on Earth, illustrating the taxonomic system that scientists use to classify animals. Available in VHS and Laser Videodisc formats
14 minutes, order 1-8205

How Animals Survive

Illustrates physical and behavioural adaptations animals have evolved in order to survive. Available in CD-ROM, VHS, or Laser Videodisc

15 minutes, order 1-8206

Animal Communities

Explores relationship of animals to their surroundings and their interactions with each other. Available in CD-ROM, VHS or Laser Videodisc

14 minutes, order 1-8207
Ages 9 to 11, Ages 12 to 14
minutes, order 1-82050-IN

Animal Life In A Tidepool

Laser Videodisc

Outstanding nature photography vividly depicts the wonder of life in these delicate communities, uncovering many fascinating animals, including sponges, anemones, tubeworms, barnacles, mussels, sea urchins, starfish, sea cucumbers, limpets, slugs, and crabs. Includes brief discussion of ocean tides. Available in Level 1 or HyperStax-Level 3.

Ages 9 to 11, Ages 12 to 14
12 minutes, order 1-83841-IN



Learning Resources

Animal Reproduction

Grade 6 - Diversity of Living Things: Basic concept: Explain why formal classification systems are usually based on structural characteristics (i.e. reproductive systems) rather than on physical appearance; identify characteristics of vertebrates and use these to classify as mammals, etc.

Uses vivid photography and colourful diagrams to show how animals reproduce sexually and asexually.

Different species have evolved to use the method which works best for them given the environment and conditions in which they live.

Asexual reproducers shown are the hydra and the paramecium. Shown is the paramecium, which divides in half to form two new paramecia.

Most animals reproduce sexually, where a sex cell from each parent unites to form a new individual. Shows how chromosomes determine the attributes of the new individual.

This program is a visual overview of the subject. Advance preparation for terms used may be required. Animal reproduction, where shown, is age appropriate.

Ages 9 to 11, Ages 12 to 14
16 minutes, order 1-9122-IN

Animals Of The African Plains

Animals And How They Live Series

Close-up view of how cheetahs hunt, how hippos spend their days in their watery homes and how female lions share responsibilities for their young in this exciting photo safari through the African Savannah. Also spotlights gazelles, ostriches, rhinos, giraffes, elephants and hyenas, a perfect introduction to food chains and how they work.

Ages 6-11
17 minutes, order 1-8630-IN

Animals Of The North Pacific

Animals And How They Live Series

The unique and beautiful animals making their home in and around this harsh, icy and seemingly barren ocean.

Ages 6-11
18 minutes, order 1-8576-IN

Animals Of The Amazon River Basin

Animals And How They Live Series

Explores the dazzling world of Brazil's rainforest in the Amazon River Basin as it focuses on the extraordinary wildlife in the area.

Ages 6-11
25 minutes, order 1-8766-IN

Ants And How They Live

Animals And How They Live Series

The channels they build, the behaviours of queen, male, and larva are all examined fully by observations made in a formicarium and in the field.

Also available in laser videodisc.

Ages 9 to 11, Ages 12 to 14
16 minutes, order 1-8222-IN

NEW RELEASE

An Arctic Expedition With Famed Explorer Will Steger

Newton's Apple Series

Staying alive in one of the most hostile environments on earth. Sled dogs pull their own weight and more. Life in camp. Proper insulation prevents big chill.

Ages 12 to 14
30 minutes, order 5-5004-IN

Bacteria And Health

With the aid of diagrams, animation, X-ray cinematography, electron microscopy, and time lapse photography, youngsters learn that from the moment they're born, they're exposed to bacteria. Teaches that some are useful in the body, others are harmful. How the body copes with harmful bacteria also shown. Raise student awareness and stimulate questions.

Also available in Laser Videodisc.

Ages 9 to 11, Ages 12-18, Adult
18 minutes, order 1-8015-IN

Bats And How They Live

Laser Videodisc

Recommended science 8-Adaptation and Succession. Saskatchewan Education, Training and Employment.

Close-up, slow-motion photography captures a rare and unique view of various species of bats in their natural environments. The program discusses the bat's anatomy, flight movements, and hunting abilities.

Intensive scientific studies show how bats are able to navigate at night using echolocation. The experiments also reveal the bat's ability to distinguish between different kinds of insects it hunts for food, the insect's direction of movement, and its distance. A fascinating look into the life cycle of the only mammal that can fly!

Ages 9 to 11, Ages 12 to 14
15 minutes, order 1-84771-IN

Bats And How They Live

Animals And How They Live Series

Close-up, slow-motion photography captures a rare and unique view of various species of bats in their natural environments, showing the bat's anatomy, flight movements, and hunting and navigation abilities – including echolocation.

Also available in laser videodisc.

Ages 9-14
15 minutes, order 1-8477-IN



Learning Resources

Beavers And How They Live

Animals And How They Live Series

Learn how they live and build their homes to protect themselves and their families from predators and harsh weather conditions.

Ages 9 to 11, Ages 6-11
18 minutes, order 1-8513-IN

Bees And How They Live

Animals And How They Live Series

Grade 2 - Growth and Changes in Animals: basic concept: compare the life cycles of some animals that have similar/different life cycles.

The fascinating secret life of three classes of honey bees: queen, workers, and drones. Witness a complete metamorphosis from the laying and fertilizing of eggs, through the emergence from its cell.

Ages 6-11
15 minutes, order 1-8631-IN

Beetles And How They Live

Animals And How They Live Series

Come along on a beetle catching expedition as the group collects specimens for a home observation tank. Also learn about whirligig beetles, diving beetles, ladybugs, and more, in their natural habitats.

Ages 9-14
17 minutes, order 1-8396-IN

Big Cats Of The World

Animals And How They Live Series

Explores the hunting life of the graceful and mysterious large cats of the wild and the enormous amount of time and effort in the daily search for food. Details lions, cheetahs, tigers, leopards and jaguars.

Ages 9-14
19 minutes, order 1-8762-IN

Bone And Muscle

How Your Body Works Series

Uses x-ray photography to show how bones move in joints and how muscles move in different directions. Stop-motion sequence builds a human skeleton one bone at a time.

Ages 9 to 11, Ages 12 to 14
15 minutes, order 1-8385-IN

Buffalo And How They Live

Animals And How They Live Series

The buffalo still exists as the majestic king of the plains in much the same way it did centuries ago except not in their old numbers. Records extraordinary scenes of their lives in a natural park - from the newborn calf struggling through a blinding spring snowstorm to the adult bulls as they spar for dominance.

Ages 9-14
17 minutes, order 1-8763-IN

Bugs

The Reading Rainbow Series

Grade 2: Growth and Changes in Animals: Basic concept: responding and adapting to their environment. **Grade 4: Habitats and Communities**

Insects are amazing creatures that live everywhere - so why not get to know them!

We share our world with ants, crickets, flies, centipedes and lady beetles. In *Bugs* by Nancy Winslow Parker and Joan Richards Wright, viewers learn where insects live, what they're good for, how they grow, and much more. LeVar visits Insect World at the Cincinnati Zoo for an in-depth look at some of the more fascinating members of the insect world. The incredible story of the migration to the Sierra Cinqui Mountains in Mexico of the monarch butterfly is an added highlight. Program Number 47.

Ages 6-11
30 minutes, order 5-1977-IN

Chickens Aren't The Only Ones

The Reading Rainbow Series

Grade 2: Basic Concepts: Identify and describe the major physical characteristics of ... Compare the appearance of young and mature animals

A look at all the different kinds of animals that hatch from eggs convinces us that "chickens aren't the only ones."

Which came first, the chicken or the egg? Inspired by the feature book, *Chickens Aren't the Only Ones* by Ruth Heller and narrated by Georgia Engel, LeVar searches for the answer to this age-old question. Assuming the role of a reporter, LeVar visits a chicken farm and provides viewers with "eggsclusive" information about how baby chicks are kept safe until their final moment of hatching. LeVar also travels to the beaches of Melbourne, Florida, where he discovers majestic loggerhead turtles emerging from the ocean to lay and bury their eggs in the sand. Program Number 38.

Ages 6-11
30 minutes, order 5-1245-IN

Coral Reef: A Living Wonder

An exciting journey to the colourful world of coral reefs in the Pacific Ocean and Caribbean.

Shows how tiny creatures called coral polyps build reefs - the largest structures on earth. Explains how coral reefs play an integral role in the life cycle of the tropical seas. Introduces some of the thousands of fish and invertebrates that inhabit these living animal colonies.

Ages 12-18
24 minutes, order 1-8634-IN



Learning Resources

Cougars And How They Live

Animals And How They Live Series

A dramatic and unprecedented look at the great mountain predator and its life. Against the imposing mountain backdrop, the story of a female and her three cubs unfolds as the cubs grow to mature mountain lions.

Ages 9-14
27 minutes, order 1-8765-IN

Coyotes And How They Live

Animals And How They Live Series

Coyotes are seen taking care of their young, defending their territory, hunting for food, and adapting to harsh winter conditions amidst great herds of bison and elk in Yellowstone National Park.

Ages 9-14
18 minutes, order 1-8468-IN

Deer And How They Live

Animals And How They Live Series

Scenic nature photography captures an extraordinary view of white tailed, mule, and black tailed deer foraging for food, caring for their young and surviving in harsh conditions through their yearly cycle.

Ages 9-14
14 minutes, order 1-8656-IN

Desert Giant: The World Of The Saguaro Cactus

The Reading Rainbow Series

Grade 4 - Habitats and Communities. Basic Concept: Identify various factors that affect plants and animals in a specific habitat; Describe structural adaptations of plants and animals that demonstrate a response to their environment.

Grade 3: Growth and Changes in Plants: Basic concept: Describe how the growth of plants is affected by changes in environmental conditions.

The desert is a magical place with more plants and animals than you may think, and one very important cactus – the saguaro.

This story by Barbara Bash takes viewers to the beautiful landscape of Arizona's Sonoran Desert to discover the mysteries of the majestic saguaro cactus. The life and seasons of the desert are explored with an introduction to a variety of the desert's inhabitants including bobcats, gila monsters, and a javelina pig. Viewers will also meet a real life "snake man" who gives them a close-up look at the amazing rattlesnake. Program Number 62.

Ages 6-11
30 minutes, order 5-2135-IN

Desert Hopping Mouse

Fascinating study of the Australian hopping mouse showing how it has adapted to its surroundings and illustrating the bustling social interactions in burrows.

Ages 9 to 11, Ages 12 to 14
10 minutes, order 1-8043-IN

Desert Toads And How They Live

Animals And How They Live Series

The life cycle of desert toads in the Sonoran Desert of Arizona, including: hibernation, mating, development of the young, hunting prey, and the race for survival in the brief rainy season of the desert.

Ages 12 to 14, Ages 9 to 11
16 minutes, order 1-8478-IN

Dive To The Coral Reefs

The Reading Rainbow Series

Grade 2 - Growth and Changes in Animals; Basic concept: describe ways in which animals respond and adapt to their environment.

Grade 4 - Habitats and Communities; Basic concept: identify various factors that affect plants and animals in specific habitats.

There's a whole different world beneath the sea, especially where there's a coral reef.

Explores the strange and beautiful world that lies beneath the surface of the sea...the living coral reef. Inspired by this remarkable book, LeVar scuba dives in the coral reefs off the Florida Keys where he encounters tropical fish and a variety of fascinating coral. Viewers will also meet a "reef doctor" who restores life to damaged reefs by transplanting living coral. Program Number 61.

Ages 6-11
30 minutes, order 5-2134-IN

Dolphins:our Friends From The Sea

How dolphins are trained, cared for, their physical characteristics, how they hear, communicate, why we capture them, and what's an oceanarium are explained in this combination of live footage and animation.

Ages 6 to 8, Ages 9 to 11
13 minutes, order 1-9800-IN



Learning Resources

Dolphins And How They Live

Animals And How They Live Series

Dolphins have been a part of human history in the form of myths and folklore since practically the beginning of recorded time. The ancient Greeks worshipped dolphins, and in Greek law, it was illegal to harm a dolphin in any way.

This new program takes the viewer on a voyage to meet a group of wild Spotted Dolphins in the Bahamas to learn how they conduct their daily lives.

People have always identified dolphins as intelligent and friendly. Research has shown that dolphins are "social" animals, living together in groups called pods, and communicating through their own language.

Viewers will see how the dolphins hunt and play (their activity for most of the day), as well as learn about their mating rituals and their sophisticated form of sonar.

The program also introduces a man who works and plays with wild dolphins almost every day, and has come to know individual dolphins by sight.

This rare glimpse into the lives of dolphins as they allow a film crew into their world is an unforgettable and educational experience for young and old alike.

Key Points: - Introduces the dolphin as a marine mammal species.

- Teaches the importance of preserving all living things.

- Examines the physical and evolutionary differences and similarities between marine and terrestrial mammals.

Ages 6-11
20 minutes, order 1-8886-IN

Ecosystem Of A Pond

Animals And How They Live Series

Grade 6: Diversity of Living Things: Basic concept: describe microscopic living things.

Grade 4: Habitats and Communities: Basic concept: recognize that plants and animals live in specific habitats.

Explores a tranquil pond to show an ecosystem teeming with life. Remarkable photography allows up close examination of creatures living on and in the water. The chloroplast in spirogyra and cells in pond weed are examined under a microscope. Encourages exploration and appreciation for the delicate balance that exists in any ecosystem.

Available in CD-ROM and VHS

Ages 9 to 11, Ages 12 to 14
18 minutes, order 1-8397-IN

Egg-laying Mammals: The Echidnas And Platypus

This fascinating film shows echidnas (spiny anteaters) and platypus in their natural habitats in Australia and New Guinea, and contains some of the first footage ever obtained of the young breaking out of the egg and being suckled by the parent.

Ages 9 to 11, Ages 12 to 14
19 minutes, order 1-8026-IN

Elk And How They Live

Animals And How They Live Series

Comprised of breathtaking footage, this outstanding program follows the annual migration of an elk herd providing fascinating information about the physical and behavioural traits of these magnificent animals.

Ages 9-14
20 minutes, order 1-8457-IN

Evolution / Strange And Unusual Animals: Adaptation Of Envir

Video Laserdisc

Evolution

A fascinating introduction to the theory of evolution.

Explores the forces that drive evolution, including mutations, human intervention, and natural disasters. Compares natural selection with artificial selection. *This title also available on CD-ROM and VHS*

Strange and Unusual Animals
This title also available on VHS

Ages 12-18
17 minutes, order 1-75191-IN

Evolution (Natural Selection Of Plants And Animals)

Examine the fascinating process of evolution compared to the artificial selection process. Illustrates how living things get their characteristics, the role of mutation in evolution, and how some mutations prove to be an asset in subsequent generations.

Ages 9-14
17 minutes, order 1-8558-IN

A First Look At African Animals Series

Grade 2: Basic concepts: 1) Classify a variety of animals; 2) Identify and describe the major physical characteristics of different types of animals.

Presents the social structures, physical characteristics, and lives of several of the earth's most wondrous creatures.

Hyenas, Jackals and Lions

Order 1-8632, 15 minutes

Rhinos and Elephants

Order 1-8637, 15 minutes

Zebras, Wildebeests and Impalas

Order 1-8638, 15 minutes

Ages 6-11
minutes, order 1-86320-IN



Learning Resources

A First Look At Birds/all About Birds

Laser Videodisc

Meet a variety of different bird species in their natural habitats.

Get to know the different species better to determine their unique characteristics, features, movement and survival methods.

Each title is also available separately on CD-ROM and VHS

Ages 6-11
10 minutes, order 1-75271-IN

A First Look At Birds

Grade 1: Basic Concept: 1) Describe the different ways in which animals move; 2) Identify and describe common characteristics

Describes the anatomical features and behaviours which make these creatures truly unique, pointing out which enable birds to fly, swim, run fast or hover in the air. Explains migration, breeding and feeding habits, from hummingbird to ostrich.

Available in VHS, CD-ROM and Laser Videodisc

Ages 6-11
15 minutes, order 1-8503-IN

A First Look At Farm Animals

Grades 1 and 2: Growth and Changes in Animals

Visit a beautiful farm in country surroundings to meet farm animals and learn animal terminology, what the male, female and baby of each species is called, plus interesting facts about farm animals.

Ages 6-11
14 minutes, order 1-8560-IN

A First Look At Horses

Grade 2: Basic Concepts: 1) Identify and describe the major physical characteristics of different types of animals; 2) Identify constant traits, and compare appearance of young and mature animals of same species

A concise overview of the horse: it's history, it's remarkable qualities, and how it lives. Includes beautiful footage of horses galloping, playing, and nurturing their young.

Once hunted for food, horses changed the world forever when people learned to tame and ride them - and enjoy their company.

Ages 6 to 8, Ages 9 to 11
14 minutes, order 1-8756-IN

A First Look At Horses

Laser Videodisc

A concise overview of the horse: it's history, it's remarkable qualities, and how it lives. Includes beautiful footage of horses galloping, playing, and nurturing their young.

Once hunted for food, horses changed the world forever when people learned to tame and ride them - and enjoy their company.

Also available in video cassette format (order 1-87561).

Ages 9-14
14 minutes, order 1-87561-IN

A First Look At Mammals/all About Mammals

Laser Videodisc

Identify common mammals including their features, characteristics, care of their young and methods of survival.

Pinpoint the characteristics, movement, shelters and offspring of both familiar and exotic mammals.

Ages 6-11
10 minutes, order 1-75211-IN

A First Look At Mammals

Grade 2: Basic Concepts: 1) Classify a variety of animals; 2) identify and describe the major physical characteristics of different types of animals

Explores the common characteristics of mammals...their warm, even body temperature, body hair, and the nursing of and caring for their young. Illustrates what these characteristics do for mammals.

Note: The video is available in two versions: one with a primary level narration and the other with an intermediate level narration. The laser videodisc version contains both narrations and features and additional program. All About Mammals

Ages 6-11
13 minutes, order 1-8596-IN

A First Look At Trees

Grade 3 - Growth and Changes in Plants: Basic concept: identify the major parts of a plant; describe changes they undergo in a life cycle.

Beautiful photography highlights this explanation of what a tree is, how it grows and the benefits they bring to the planet. Presents a powerful message on the importance of environmental concern.

Ages 6-11
12 minutes, order 1-8383-IN



Learning Resources

Food Chain

Grade 4 - Habitats and Communities; Basic concepts: demonstrate an understanding of a food chain as a system. Classify organisms according to their role in a food chain.

Illustrates how each part of the chain depends on and nourishes other parts. Beginning with algae, shows how energy is passed up the chain; also how scientific classification methods work.

Ages 9-14
20 minutes, order 1-8581-IN

Frogs And How They Live (Revised)

Animals And How They Live Series

Extreme close-up photography and graphics reveal the life cycle of the frog and the unusual ways frogs see, hear, taste, and smell; also highlights specialized adaptations like tongues, webbed feet, hibernation, and "breathing" skin.

Available in VHS, Laser Videodisc and CD-ROM
Ages 12 to 14, Ages 9 to 11
14 minutes, order 1-9984-IN

Gila Monsters Meet You At The Airport

The Reading Rainbow Series

Grade 2 - Growth and Changes in Animals: Basic concept: describe ways in which animals respond and adapt to their environment.

The best way to dispel fears about the unknown is to find out the truth about someone or something.

Moving can give a person the jitters, whether it's from one part of the country to another, or even from one grade to another. In the feature book, a little boy has some pretty unusual ideas about the life he'll lead when he moves to the left of the map – "Out West". LeVar takes an inquiring look at these myths with the help of a biologist in Arizona who shows us an amazing foot-long lizard, a Gila (heela) monster. Program Number 8.

Review Books: *Peter's Chair* by Ezra Jack Keats; *Mitchell is Moving* by Marjorie Weinman Sharmat, illustrated by Byron Barton; *The Big Hello* by Janet Schulman, illustrated by Illian Hoban.

Ages 6-11
30 minutes, order 5-1017-IN

Giraffes And How They Live

Animals And How They Live Series

Examines their lofty world showing predators, traveling companions, and their daily struggle to survive on Africa's Serengeti plains. Includes live birth sequence.

Ages 6-11
19 minutes, order 1-8760-IN

Grasshoppers And How They Live

Animals And How They Live Series

Spectacular close-up photography documents the brief cycle of grasshoppers both in a field and a homemade terrarium.

Also available in laser videodisc.

Ages 9 to 11, Ages 12 to 14
16 minutes, order 1-8394-IN

Grasshoppers And How They Live

Laser Videodisc

The brief life cycle of grasshoppers is examined in this program. The insects are studied both in a field and in a homemade terrarium. Spectacular close-up photography clearly documents the various phases of grasshopper development. Grasshoppers are observed in the three stages of development they experience: egg, nymph, and adult. The insects sing by rubbing their back legs against their forewings. Their distinct, individual songs often aid in their identification. Produced by VATV Productions.

Ages 9 to 11, Ages 12 to 14
16 minutes, order 1-83941-IN

Grizzly Bears And How They Live

Animals And How They Live Series

Follows a grizzly bear mother and cubs in the Northern Alaskan mountains from mid-summer through early autumn, illustrating the traits and habits of these magnificent creatures.

Ages 6-11
16 minutes, order 1-8524-IN

NEW RELEASE

Habitats

The Real World Science Series

Live-action footage of animals and colourful animation help students discover why habitats are important. Viewers explore the tundra, desert, grasslands, forests and waterways of the world and learn about the plants that live there.

Ages 9 to 11
minutes, order 1-2283-IN

Hummingbirds And How They Live

Animals And How They Live Series

Focuses on the ingenious methods by which these miniature, high performance machines cope with their environment. Ultra slow-motion photography allows viewers to observe feeding, nest building, establishing their territory, bathing and evading snakes.

Ages 6-11
25 minutes, order 1-8764-IN



Learning Resources

Humphrey The Lost Whale

The Reading Rainbow Series

Grade 2 - *Growth and Changes in Animals; Basic concept: identify and describe behavioural characteristics that enable animals to survive.*

Grade 4 - Habitats and Communities.

Learning about whales enables us to help them survive in our environment.

Based on a real story of a California humpback whale that gets lost, by Wendy Tokuda and Richard Hall. Follow the amazing journey of "wrong-way" Humphrey as he finds his way back to the sea with the help of some friends. Humphrey's story, read by Jane Pauley, inspires LeVar to spend a day at sea on a whale-watching adventure where he uncovers some of the mysteries of the majestic whale. Program Number 56.

Ages 6-11
30 minutes, order 5-2003-IN

Insects And How They Live

Animals And How They Live Series

There are more kinds of insect on Earth than any other group of animals. Witness the wonders of their world through brilliant macrophotography. Illustrates the main body parts of insects, each stage of metamorphosis, the quality of their sight and hearing, and how they communicate. Features bees, beetles, butterflies, grasshoppers, and many other species.

Ages 9 to 11
24 minutes, order 1-8599-IN

Insects: Reproduction And Metamorphosis

Growth and Changes in *Animals: Basic concepts: Describe the changes in the appearance and activity of an animal as it goes through a complete life cycle.*

Documents the life cycles of various insects, from reproduction to adult, and shows how the insects adapt at each stage.

In vivid detail, the reproduction and metamorphosis of the large diving beetle, swallowtail butterfly, fruitfly, locust, and dragonfly are shown. The segment on the swallowtail butterfly is particularly remarkable. Also explored are the changing food requirements and common habitats of each of the insects. The quickly evolving physical

characteristics of each insect at each stage of development are expertly depicted and thoroughly discussed.

Also covers the development of insects' pigmentation; the formation of a caterpillar's cocoon; and each stage of metamorphosis. Defines and discusses the purpose of the ovipositor in the fruitfly and locust, as well as "incomplete metamorphosis" and the completion of metamorphosis as the beginning of a new reproductive cycle. From FWU Productions.

Ages 6-11
20 minutes, order 1-8393-IN

Kangaroos And How They Live

Animals And How They Live Series

Two common grass eating species, the forest dwelling Grey and the Red, from Australia's dry inland plains, are featured in this beautifully photographed program which details their physical makeup and unique life patterns. Smaller marsupials are also shown along with paintings from the 1830s illustrating species that have become extinct.

Ages 9 to 11, Ages 12 to 14
16 minutes, order 1-8502-IN

Learning About Ecology

Grade 4: *Habitats and Communities; Overall Expectation: demonstrate an understanding of; investigate the dependency of plants and animals on their habitat and the interrelationships of the plants and animals living in a specific habitat.*

Illustrates, with beautiful footage, the relationship between animals and their environment. Stresses the interrelationship of all elements in an ecosystem and the balances necessary to maintain and continue life.

Students learn that they too are part of an ecosystem, with specific responsibilities for its improvement and protection.

Also available in CD-ROM and Laser Videodisc format

Ages 9 to 11
13 minutes, order 1-8786-IN



Learning Resources

Learning About Science: Flowers

Grade 3 - *Growth and Changes in Plants; Basic concepts; Identify the major parts of a plant; classify plants according to visible characteristics; describe changes that plants undergo in a complete life cycle.*

We all enjoy smelling and looking at flowers, but not everybody recognizes that trees, grasses and even weeds have flowers.

Students will learn how a variety of plants, including broccoli, snapdragons, blackberries, apple trees, corn and many others, grow flowers to reproduce.

Vivid close-up photography shows the male and female parts on a variety of flowers with a good explanation of how pollination and fertilization occur.

Available in CD-ROM and VHS format

Ages 9 to 11
15 minutes, order 1-8598-IN

The Life Cycle Of The Honey Bee

The Reading Rainbow Series

Grade 2 - *Growth and Changes in Animals; describe changes ... complete life cycle; compare life cycles*

Learning about honeybees shows how important working together in a community can be.

Where does honey come from? And how is it made? These are just some of the questions explored here. LeVar's curiosity is satisfied when he visits a real-life beekeeper and examines a beehive close up. Viewers will learn how honey is extracted from combs and how important the queen bee is to a well organized hive. Program Number 36.

Ages 6-11
30 minutes, order 5-1243-IN

Life Of A Red Blood Cell

Humorous animated film introduces children to the circulatory system as a new red blood cell is made in the bone marrow and joins others in a vein, ultimately travelling through the heart to the lungs to take up oxygen to deliver to the body.

Also available in laser videodisc

Ages 9 to 11
10 minutes, order 1-8017-IN

The Life Of A Red Blood Cell (Revised)

Laser Videodisc

Witness the creation of a new red blood cell and travel with it as it joins others in a vein, makes its passage through the heart and lungs, through an artery and finally meets white blood cells.

Ages 6-11, Ages 12 to 14
10 minutes, order 1-80171-IN

Lifetimes Of Change: Development And Growth

Dissolves show the changed appearance of a person from infancy to old age, then the lifespan of a toadstool, a frog, and a flowering plant are condensed to pass in minutes to make the point that as the years go by every living thing changes. Making it clear that change is a normal part of growth, this gentle, sensitive film's ideas of birth, growth, change, and decay are relevant to many areas of study.

Also available in laser videodisc.

Ages 9 to 11, Ages 12-18
17 minutes, order 1-8012-IN

Literacy & Science Grade 5

Literacy & Learning Series

One of the biggest challenges facing content area teachers is making sure that students really understand what they are reading.

It's not enough just to be able to read the words on the page—students really need some guidance from the teacher to read effectively. While they're reading, students must be able to make connections between the new material they're encountering and what they already know about the topic. And after they read, they must be able to explain, in their own words, what they've gained from the reading.

"Literacy and Science" features two literacy strategies. *SQ3R* gives students five steps to develop effective study habits. *Concept Mapping* allows teachers and students to organize concepts and determine the relations between concepts. Both *SQ3R* and *Concept Mapping* take the students to higher levels of thinking.

Although the strategies are demonstrated in a science setting, they can be used in any content area across the curriculum—and with any grade level.

Ages 6-11, Professional
19 minutes, order 5-4940-IN

The Living Reef

Grade 4: *Habitats and Communities; Basic concept: animals and plants live in a specific habitat because they are dependent on those habitats and have adapted to them.*

An underwater "mountain" of coral built up over countless centuries by the exo-skeletons of tiny animals called polyps, Australia's Great Barrier Reef is not only one of the ocean's wonders, but a laboratory for the study of marine habitats and life. Many kinds of corals and the fish that live in and around them are examined and named.

Also available in laser videodisc.

Ages 12-18 Ages 9 to 11
22 minutes, order 1-8025-IN



Learning Resources

Living Soil

Grade 3 - Soils in the Environment: Basic concept; the various components within soil.

Grade 4 - Rocks, Minerals and Erosion.

Special photographic techniques reveal activities of nature that human senses cannot normally perceive...the powerful and subtle natural processes that create the fragile few inches of soil that sustain life on this planet.

The relentless cycle of life, decay, then new life is strikingly portrayed by remarkable time-lapse footage.

Available in CD-ROM, VHS and Laser Videodisc.

Ages 9 to 11
9 minutes, order 1-8024-IN

Living Trees

Grade 3 - Growth and Changes in Plants: Basic Concepts; Identify major parts of; Describe the effects of the seasons on trees.

Live action footage of trees in all seasons and captioned graphics show the various structures of trees and their processes of growth, photosynthesis, and transpiration.

The functions performed by trees that are crucial to Earth's habitable environment are also described.

Available in CD-ROM, VHS and Laser Videodisc.

Ages 9 to 11
16 minutes, order 1-9830-IN

Louis The Fish

The Reading Rainbow Series

Grade 2 - Growth and Changes in Animals; Basic concept: identify and describe major physical characteristics of different types of animals; behavioural characteristics that enable animals to survive.

Grade 4 - Habitats and Communities.

Pretending to be someone else can be exciting and can also be a way of discovering how wonderful it is to be yourself.

Nearly everyone has longed to be an animal or bird or even a fish at one time or another. This is a whale of a tale about a butcher who yearns to be a fish and turns into a salmon. LeVar gets along swimmingly with other creatures of the deep and the New England Aquarium and meets dolphins Dixie and Dolly of the Aquacircus in Yarmouth, Cape Cod, Massachusetts. Program Number 5.

Ages 6-11
30 minutes, order 5-1014-IN

Manatees And How They Live

Animals And How They Live Series

Stunning underwater photography offers a rare glimpse into the life, habits and anatomy of this fascinating and endangered mammal; addresses the threats and some of the steps taken to protect them.

Ages 6-11
26 minutes, order 1-8663-IN

Microbes: Bacteria And Fungi

Grade 7: Interactions Within Ecosystems: Basic concept: Identify micro-organisms as beneficial and/or harmful.

Bacteria and fungi carry on all the processes necessary for life...they grow, get energy from food, move, and reproduce. In this program, the physical characteristics, the risks and benefits to humans, and the ways to impede and prevent the growth of microbes are examined. Biology and scientific method are taught in a context familiar to students...through food.

Practical everyday examples are correlated with scientific investigations at school. Common foods, such as pizza dough, mushrooms, and yogurt, illustrate the results of beneficial microbes. At school, teenagers and their science teacher grow fungi on an orange.

As Jennie and Dan prepare a meal for a friend, they learn various methods food preservation: canning, refrigeration, freezing, dehydration, pasteurization, and irradiation.

Available in CD-ROM, VHS and Laser Videodisc.

Ages 9 to 11, Ages 12 to 14
17 minutes, order 1-9775-IN

Milk From Farm To Table

Beginning with the birth of a calf, shows where milk comes from, how it is collected at a dairy farm, is pasteurized, homogenized, and bottled. Also shown is a special processing plant where milk products are made and packaged.

Ages 6 to 8, Ages 9 to 11
12 minutes, order 1-8753-IN



Learning Resources

The Milk Makers

The Reading Rainbow Series

Grade 2 - Growth and Changes in Animals: Basic concept: identify and describe the major physical characteristics of different types of animals; identify constant traits and compare the appearance of young and mature animals of the same species.

Learning how things, like milk, are made is an essential part of understanding how our world works.

It's fresh and cold, foamy and white and one of nature's most nutritious foods...milk! Thanks to this story by Gail Gibbons, everyone learns how this delicious liquid travels from a dairy cow to the neighbourhood supermarket. LeVar visits California's dairy country and gets a lesson on how to milk a cow by hand and an introduction on the modern way of milking and feeding six hundred cows. Viewers get an insider's tour through a cheese-making factory, and a tender glimpse of the special kind of motherly love necessary to take care of baby calves. Program Number 32.

Ages 6-11
30 minutes, order 5-1041-IN

Moose And How They Live

Animals And How They Live Series

Breathtaking wilderness footage provides a four season view of the lifecycle of the largest of the deer family. Distinguishing characteristics and behaviours are shown.

Ages 9 to 11, Ages 12 to 14
13 minutes, order 1-8657-IN

Moths And How They Live

Animals And How They Live Series

Impressive macro-photography captures various species of moths at different stages in their metamorphosis. Provides complete view of lifecycle and behaviour.

Also available in laser videodisc

Ages 9 to 11, Ages 12 to 14
17 minutes, order 1-8395-IN

Moths And How They Live

Laser Videodisc

“Recommended science 4-Vertebrates and Invertebrates.”

Saskatchewan Education, Training and Employment.

Chris, his mother, and his friend go moth-hunting in this delightful nature film. In their explorations, the group encounters various species of moths at different stages in their metamorphosis. One of the most impressive sequences depicts the hatching of a hawk moth caterpillar, sometimes called a hornworm. It emerges from its shell and immediately begins looking for food. These

caterpillars camouflage themselves by hiding along the veins of leaves; their pale green colouring makes them virtually undetectable. Produced by VATV Productions.

Ages 9 to 11, Ages 12 to 14
17 minutes, order 1-83951-IN

Nature's Builders

Children will learn that animals are born builders as they observe the complex structures animals construct. This beautifully photographed nature film demonstrates building activities that serve animals in at least three ways—as a place for reproduction, capturing food, and protection. Swallows are shown gathering mud balls in their mouths and building their nests. A spider is shown building it's web in the night light to catch its prey. And a caterpillar is shown building a cocoon that provides camouflage during hibernation. Its metamorphosis as a beautiful moth is shown in the film's final sequence.

Open caption version available.

Ages 9 to 11, Ages 12 to 14
08 minutes, order 1-8009-IN

Newts And How They Live

Animals And How They Live Series

This new program provides a fascinating introduction to the life cycle of the flat tailed salamanders called newts.

Sequences filmed in the newts' wetland homes reveal how the animals have adapted to survive in their damp and shady environment. Newts, like all amphibians, are cold blooded; their body temperatures change with that of their surroundings. Their sense of smell is highly developed...important in catching insects and worms to eat and avoid their many predators, which include birds, mammals, and snakes. Since newts cannot run fast...their legs are too small and weak...they protect themselves by simply staying out of sight.

The program provides an absorbing look at the characteristics newts have in common with all amphibians, and the specific traits they've evolved to ensure their continued existence.

Ages 9-14
11 minutes, order 1-8270-IN



Learning Resources

The Nature's Way Series

Nature's Way Series

Beautiful nature photography and hands-on activities introduce students to basic scientific concepts, encouraging thought and exploration. Projects use materials readily found in classrooms and outdoors.

Nature's Way: Patterns Code 1-8633

Nature's Way: Colors Code 1-8639

Nature's Way: Textures Code 1-8640

Ages 6-11
21 minutes, order 1-86330-IN

Odyssey To Antarctic

Newton's Apple Series

Ages 12 to 14
30 minutes, order 5-5000-IN

Parasite Sleuth: Judy Sakanari, Biography

The Wonderwise Women In Science Series

Ages 9 to 11
minutes, order 5-45911-IN

Photosynthesis

Grade 3: Growth and Changes in Plants

Various aspects of photosynthesis - the process that enables green plants to use the sun's energy to live and grow - are examined.

The program shows students why whenever they see plants, animals, people working, planes flying, or cars travelling on the highway, they are seeing the results of photosynthesis.

Available in CD-ROM and VHS formats

Ages 9 to 11
12 minutes, order 1-8595-IN

Photosynthesis / Plants In Action

Laser Videodisc

Learn how photosynthesis enables green plants to use the sun's energy to live and grow, make our food, some of our clothes, and the wood in our homes.

Observe the complex activity of plants growing and responding to changes in their environments, from the opening of leaves and flowers to the sending of tendrils.

Ages 9 to 11, Ages 12-18
10 minutes, order 1-75201-IN

Plants In Action

Grade 3 - Growth and Changes in Plants: Basic concepts: describe how the growth of plants is affected by changes in environmental conditions; describe the changes that plants undergo in a life cycle.

Plant movements are quite complex, but they usually go unnoticed. Using time-lapse photography, this film allows students to view the activity of plants growing and responding to changes in their environments. Leaves open by day and close at night. Flowers open to

sunshine. Climbing plants send out tendrils in search of support. Clover leaves twist and turn in search of sunlight.

By Educational Media International in association with the Australian Academy of Science Biology Project.

Available in CD-ROM and VHS formats

Ages 9 to 11, Ages 12 to 14
10 minutes, order 1-8022-IN

Prehistoric Mammals

Take a fascinating tour of the Cenozoic Era through this vivid recreation of its environments and prehistoric mammals, including *Diatryma*, *Baluchitherium*, and saber-toothed cats.

Questions regarding our ability to adapt and survive without destroying all life on earth are raised in the program's final moments with the appearance of Neanderthals.

Ages 6 to 8, Ages 9 to 11
10 minutes, order 1-8814-IN

Raccoons And Ripe Corn

The Reading Rainbow Series

Grade 2 - Growth and Changes in Animals; Basic concept: physical characteristics; behavioural characteristics; ways in which animals eat their food, move and use their environment to meet their needs.

Grade 4: Recognize that animals live in specific habitats because they depend...

There are many stories in nature waiting to be discovered and with careful observation you can find them.

Jim Arnosky's books *Raccoons and Ripe Corn*, *Deer at the Brook* and *Come Out, Muskrats* provide the inspiration for LeVar to learn about wildlife watching. He joins Jim Arnosky for a day of exploration and finds out how to play detective in the wild. Grab your binoculars, grab your waders and you're off in search of wild animals. Teeth marks on twigs are a good sign that beavers are near by. If you look closely at the tree trunks, you might see tiny porcupine claw marks. Get a close look at raccoon paw prints and learn how to tell if they were drinking from the brook or just passing by. If you keep your eyes open and listen closely, you could become a wildlife detective yourself! Program Number 77.

Early Years, Ages 6 to 8, Ages 9 to 11
30 minutes, order 5-2338-IN

Rainforest Ecologist: Janalee Caldwell, Biography

The Wonderwise Women In Science Series

Ages 9 to 11
minutes, order 5-45921-IN



Learning Resources

Robins And How They Live

Animals And How They Live Series

Beautiful close-up photography captures the sights and sounds of these common North American birds.

Program illustrates the life cycle of a family of robins, including their migratory patterns, nesting and mating habits, and territorial defence.

A unique segment of the program shows the complete hatching process of a new chick from start to finish.

Ages 9 to 11
18 minutes, order 1-8787-IN

The Salamander Room

The Reading Rainbow Series

Grade 2: Basic concepts: describe ways in which animals respond and adapt to their environment.

Grade 3: Describe how the growth of plants is affected by changes in environmental conditions; how features of plants help them survive.

Grade 4: Factors that affect plants and animals in a specific habitat.

In this story by Anne Mazer, viewers learn that there's more to creating an animal habitat than meets the eye.

LeVar guides us through "Jungle World," a simulated rainforest at the Bronx Zoo, and shows us how this incredible environment was created. Program Number 94.

Ages 6-11
30 minutes, order 5-4225-IN

The Science Comes Alive With Reading Rainbow Guide (1st Ed)

The Reading Rainbow Series

Your *Science Comes Alive with Reading Rainbow* Teacher's Guide has been developed especially for use with these science programs. It includes helpful background information, as well as fun and enlightening hands-on science activities. Includes a list of further resources. Science program numbers are: 31, 32, 34, 36, 38, 47, 54, 56, 61, 62. These programs and another 10 are contained in the second edition of the guide.

Professional minutes, order 5-2141-IN

The Science Comes Alive With Reading Rainbow Guide (2nd Ed)

The Reading Rainbow Series

From mammoth whales to microscopic germs... from caves beneath the earth to the heavens above it... 20 *Reading Rainbow* programs offer a perfect blend of science and reading.

Your *Science Comes Alive with Reading Rainbow* Teacher's Guide has been developed especially for use with these science programs. It includes helpful background information, as well as fun and enlightening hands-on science activities.

Science program numbers for the second edition of this popular guide are: 31, 32, 34, 36, 38, 47, 54, 56, 61, 62, 66, 67, 70, 76, 77, 83, 86, 88, 94 and 98.

Professional minutes, order 5-4346-IN

Science Multimedia Clips Cd-rom

These image files, from the award-winning AIMS Multimedia audiovisual library, may be used for teacher and student multimedia presentations. Compatible with popular authoring programs, including HyperStudio and Director. Includes mammals, reptiles, birds, fish, amphibians, insects, dinosaurs, space, biology, weather, and the human body. Licensed for non-commercial use only.

Includes 165 Quick Time Movies and 407 Still Images

All Ages
minutes, order 1-1009-IN

Seals And How They Live

Animals And How They Live Series

Rare underwater photography provides an inside view of their natural habitats. Identifies distinguishing characteristics between families of true seals and fur seals, particularly the harbour and gray seal.

Ages 9 to 11
19 minutes, order 1-8746-IN

Seashore Surprises

The Reading Rainbow Series

Grade 4 - Habitats and Communities: basic concept: identify various factors that affect plants and animals in a specific habitat;

Look closely; sandy shores are teeming with life.

In this book by Rose Wyler viewers find there's more to the beach than meets the eye. Using the book as his guide, LeVar goes beachcombing in southwestern Florida. Then he meets up with two local naturalists to explore plant and animal life at the edge of the sea, including shells, mangroves and more. Program Number 88.

Ages 6-11, Closed Captioned
30 minutes, order 5-4055-IN

Senses

Goodbodies Series

Explore the five main senses and learn how different ones allow "different parts of the world in". Visit an eye doctor to learn about vision. See some amazing animal eyes. Gain a greater understanding of how people who lack one sense are able to compensate. Sing a "senses safety" song.

Early Years, Ages 6 to 8
15 minutes, order 5-4917-IN



Learning Resources

Sharks And How They Live

Animals And How They Live Series

Sharks are fascinating creatures, surrounded by myth and misconception. Often they symbolize the very essence of ruthlessness, the ultimate savagery of the natural world.

This program takes a closer look at sharks in their own element, including their taxonomy, anatomy, and behaviour.

An incredible film sequence allows viewers to swim among sharks during a feeding frenzy and witness an actual shark attack.

Ages 6-11
24 minutes, order 1-8813-IN

Sharks And Rays: Perfect Predators

Animals And How They Live Series

Sharks are maligned as swanton man-eaters and monsters. Actually, they are highly sophisticated and intelligent hunters. Introduces viewers to sharks and their amazing senses - eyes that reflect light for nocturnal feeding; smell, taste and snout pores that can sense electricity generated by living creatures.

Ages 6-11
16 minutes, order 1-8767-IN

Snakes And How They Live (Revised)

Animals And How They Live Series

Snakes are found in all climates and environments. Close-up photography, graphics, and animation show the physical characteristics of different species of snakes.

Moulting is discussed as snakes are shown shedding their outer skins. Diagrams illustrate the snake's jaw bones both before and during the swallowing of whole prey. Snakes' life cycles are also illustrated, and hibernation and estivation are discussed. Poisonous and non-poisonous snakes are shown. The program points out that snakes are passive and will usually strike only to protect themselves.

Snakes slither, swim, swallow mice whole, "taste the air" with their tongues, and crawl out of their skins...with clear narration backed by subtle music. School Library Journal

Also available in laser videodisc
Ages 9 to 11, Ages 12 to 14
12 minutes, order 1-9985-IN

Snakes And How They Live (Revised)

Laser Videodisc

Examine the physical characteristics of different species of poisonous and non-poisonous snakes, including moulting, the swallowing whole of prey, their life cycles, hibernation and estivation are discussed.

Ages 9 to 11, Ages 12 to 14
12 minutes, order 1-9985-IN

Spiders And How They Live

Animals And How They Live Series

The web is a spider's home and its hunting ground. It's also one of the clues human "hunters" like Chris, his mother and friend Paul use to find spiders to study.

While showing how to make a simple spider cage, they examine the activities of an orb web spider and discuss the body parts of spiders, the varied ways they use the silk they produce, the ways in which they eat, what they eat, and how they reproduce. A spider's cocoon hatches revealing tiny versions of the adult. The special behaviours of jumping spiders, house spiders, garden spiders, zebra spiders, and crab spiders are also examined. A Cicada Production.

Also available in laser videodisc.
Ages 9 to 11, Ages 12 to 14
16 minutes, order 1-8224-IN

Spiders And How They Live

Laser Videodisc

Join the search for various types of spiders, learning about the activities of an orb web spider, the body parts of spiders, how they use their silk, eat, and reproduce.

Ages 9 to 11, Ages 12 to 14
16 minutes, order 1-8224-IN

Trees: Evergreen And Deciduous

Grade 3 - Growth and Changes in Plants: Basic concepts: Classify plants according to visible characteristics; describe the effects of the seasons on plants; describe the changes that plants undergo in a life cycle.

Why do some trees lose their leaves in the fall, while others keep them through the year? What makes the leaves of some trees turn bright red, while others turn yellow?

Stunning time-lapse photography combines with micro photography to illustrate the similarities and differences between deciduous (cherry) and evergreen (Camellia) trees. The process of transpiration is defined and the effect of temperature, water, and seasonal change on both types of trees is explored.

Also available in CD-ROM format
Ages 9 to 11, Ages 12 to 14
17 minutes, order 1-8382-IN



Learning Resources

Trumpeter Swans And How They Live

Animals And How They Live Series

Hunted almost to extinction, these birds are now making a comeback. Film traces their continuing struggle to survive, detailing migration, mating, nest building, raising their young, and cygnets' development to adulthood.

Ages 9-14

17 minutes, order 1-8479-IN

Vie Chez Les Grenouilles

En utilisant la macro-photographie ce film montre les idées principales sur cet amphibie bien connu. De l'oeuf à sa maturité et à toutes les parties du corps, cette étude en détail encourage les étudiants.

Ages 9 to 11

15 minutes, order 1-16050-IN

Vie Chez Les Serpents

Toutes les especes utiles en venimeux de leur naissance au changement de peau. La methode d'enquête ouverte de ce film encourage les étudiants à faire plus de recherches et de découvertes. (macro-photographie)

Ages 9 to 11

13 minutes, order 1-16150-IN

The Waterhole

The changing face of a waterhole in the desert of Central Australia is artistically evoked in this film. Night falls and the rhythm of daily life at the waterhole is completed.

Ages 9 to 11, Ages 12 to 14
9 minutes, order 1-8042-IN

The Wetlands

Grade 4 - Habitats and Communities: Basic concept: Recognize that plants and animals live in specific habitats because they are dependent on those habitats and have adapted to them; Relating Science and Technology...: show the effects on plants and animals of the loss of their natural habitat.

Beautifully photographed program provides a portrait of North America's imperiled wetlands, chronicling the life in these ecologically vital areas. Today, with fifty percent of North America's wetlands drained, people are becoming aware of the importance of these delicate parts of our planet's ecosystem and working to save them.

Also available in CD-ROM and Laser Videodisc.

Ages 12-18, Ages 9 to 11, Adult
13 minutes, order 1-8234-IN

The Wild World Series

Stunning nature photography of animals in their habitats, exciting stories in verse, and brief lessons reflecting the latest research on reading skills and comprehension motivate youngsters and keep their interest. Each program begins with a live-action nature story told in verse about the adventures of a young animal.

A Good Thing About Spots

Sabu is a shy leopard cub who learns to appreciate his spots when they help him and his mother hide from poachers. After escaping capture, the two leopards are sent by rangers to live in a national park where they are free from danger.

9 minutes, order 1-8055

A Colt Called Lucky

In the desert mountains, Lucky, a wild mustang, lives with the herd. Captured by ranchers, Lucky and his friends work in a rodeo, then find refuge in a wild horse sanctuary. Fabulous nature photography.

10 minutes, order 1-8058

Nina's Strange Adventure

Stunning nature photography shows Nina, a young river otter as she travels to the "land of her dreams". But when she finds a dirty city choked with trucks and cars, she returns to her home in the clean jungle with a new appreciation.

9 minutes, order 1-8056

A Jungle For Joey

Joey is a young, happy Jorngutan until some careless humans start a fire that destroys his jungle home. Joey wanders lost and afraid until he reaches an Orangutan Project where he is reunited with his family and friends.

9 minutes, order 1-8057

Daisy Discovers The World

The curiosity of a young sea lion named Daisy takes her on an exciting but dangerous adventure. When she finally finds her way back to her islands, she happily admits that though adventure may be great, there's no place like home.

9 minutes, order 1-8059

Ages 6-11

46 minutes, order 1-80550-IN



Learning Resources

Wolves And How They Live

Animals And How They Live Series

Today the wolf is an endangered species, a rare animal that increasingly lives only in our minds and legends. Often depicted as a loner or member of a savage pack, wolves are really social animals who live in an extended family with each member playing a different role. Viewers are given a unique opportunity to observe a pack of Canadian timber wolves in their natural habitat.

Ages 9-14
15 minutes, order 1-8761-IN

The Wonderwise Series: Women In Science

Life Systems: Grade 4: *Habitats and Communities.*
Grade 6: *Diversity of Living Things.*

Science is not just knowing about the world ... it's being curious about it, and curiosity is what this fabulous series inspires!

Wonderwise: Women in Science Learning Series presents five inquiry-based videos.

Sea Otter Biologist

Brenda Ballachey, Ph.D., is the project leader for the Sea Otter Oil Spill Studies Project for the National Biological Service. She studies the impact of the Exxon Valdez oil spill on sea otter populations.

"I grew up around cattle and horses. When I took the job here in Alaska and started working with sea otters, it was a very new environment for me. All of a sudden I was in boats and we didn't have fences or gates in which we could close the animals."

Your students will learn about observation and authentic data gathering; problem solving and graphing data; ecology, ecosystems and community structure; human environment impacts; and animal communication and behaviour.

Order 5-4590, 18 minutes, CD-ROM or VHS

Pollen Detective

Margaret Bolick, Ph.D., explores pollen from many different habitats ranging from paleontology digs to Antarctic glaciers. She specializes in airborne allergenic pollen, working with both local physicians and forensic scientists.

"I guess you could compare looking for pollen with the old joke about looking for a needle in a haystack. Basically what we do in the field is pick out the likely looking haystacks."

Your students will discover paleobotany and investigating ancient environments; plant anatomy; human biology, health and allergens; ecology; and graphing and interpreting data.

Order 5-4591, 15 minutes

Rainforest Ecologist

Janalee Caldwell, Ph.D., works on the ecology of tropical amphibians. One project is concerned with the life cycle of poison frogs from Amazonian Brazil. Janalee is a member of the Cherokee Nation of Oklahoma.

"It seems like every time I figure something out there are more questions that come about. So it's really a never-ending process."

Your students will learn about ecology and community structure; camouflage and warning colouration; growth and development; human environmental impacts on natural systems; graphing data.

Order 5-4592, 15 minutes, CD-ROM, or VHS

Parasite Sleuth

Judy Sakanari, Ph.D., is a parasitologist who studies the genetics of tiny worms called nematodes that live inside fish and other animals.

"Most people think parasites are really gross and I find them really fascinating."

Your students will investigate parasite description and classification; dissecting with a purpose; growth and development; human biology, health and hygiene; science as detection.

Order 5-4593, 15 minutes, CD-ROM or VHS

African Plant Explorer

Fatimah Jackson, Ph.D., is an African-American biological anthropologist who studies the naturally-occurring poisons found in common African crops such as cassava and sorghum.

"When I look at plants, I see both food and medicine. In fact, sometimes the two are intertwined. That is, what is eaten as food can have medicinal effects, and sometimes what we're calling a medicine, is also a food."

Your students will learn about World geography, Agriculture, Graphing data, Chemistry, Plant biology, Economic development and Developing countries.

Order 5-4594, 15 minutes



Learning Resources

Student Activity Book

A Student Activity Book for each title is available on the Canadian Learning Company web page at <http://www.canlearn.com>. Contact us to obtain the PIN number you will need to view the document. Purchase of the program is required.

1997 minutes, order 5-45940
Ages 9 to 11
minutes, order 5-45900-IN

Worms And How They Live

Animals And How They Live Series

Grade 3 - *Soils in the Environment: Relating Science and Technology ...: identify things that live in the soil.*

Slender, wiggling, eyeless, earless, soft-bodied worms are the focus of this thorough exploration into the way worms eat, move, and, as hermaphrodites, reproduce.

After showing how to build a wormer, Chris, his mother, and a friend observe the natural behaviours of earthworms. Burrowing while actually eating the soil and bits of leaves, the worms mix up the soil and pull leaves down that decay and enrich it. Highly valued by gardeners and farmers, earthworms put air into the soil. They also churn the soil, bringing enriched soil to the surface and making channels through which water drains.

Worms examined include earthworms, brandling worms and the tubeflex. Available in VHS, CD-ROM and laser videodisc.

Ages 9 to 11, Ages 12 to 14
16 minutes, order 1-8223-IN

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