



MUSEUM LOAN PROGRAM AT THE MORRIS MUSEUM



SCIENCE EXHIBITS

- Life Sciences
- Earth Sciences
- Physical Sciences
- Mathematics
- New Jersey Science
- Showcases
- Workshops
- Materials & Technology

Morris Museum Loan Program

About the Program

The Museum Loan Department has more than 1,400 portable boxed exhibits containing handling objects and interpretive materials that relate to subjects in the arts, sciences, history, and humanities. The boxed exhibits contain artifacts, models, charts, reproductions of artwork, science experiments, classroom activities, and mounted specimens of mammals, birds, and insects to enhance learning experiences. The collection also contains a number of CDs, DVDs, and a large slide collection, with slide projectors.

Hours and Location

Tuesday, Wednesday and Thursday from 9:30 a.m. to 5 p.m. In July and August, the department is open to the public on Wednesdays only. The easy-access entrance ramp is located at the rear of the museum, underneath the parking deck. The Morris Museum is located at 6 Normandy Heights Road in Morristown, New Jersey.

Borrowing

Boxed exhibits can be borrowed for two weeks and must be reserved at least seven days and up to two months in advance. Showcase exhibits, to be placed in a locked showcase, are available for a one-month loan. Workshop exhibits, which require preparation, are six-week loans. Pickup and return of exhibits are the responsibility of the borrower. Transportation must be in a closed vehicle.

Boxed Exhibit Listing

An online catalogue lists offerings and provides exhibit descriptions with related NJ Core Curriculum Content Standards to aid teachers in choosing exhibits that fit curriculum needs.

Fees and Membership

Individual Schools/Districts: See Morris Museum website's *Museum Loan Program* page for fees.

Individual Family: \$50

Public Library or Private Organization: \$375

Adult/Senior Facilities: \$375

An annual membership (September through August) is available to schools, school districts, home school families, libraries, senior facilities, and individuals. Other groups should call for additional information.

New Jersey Core Curriculum Content Standards

1. Visual and Performing Arts
2. Comprehensive Health and Physical Education
3. Language Arts Literacy
4. Mathematics
5. Science
6. Social Studies
7. World Languages
8. Technological Literacy
9. Career Education and Consumer, Family and Life Skills

Exhibit Codes

	Exhibit Box with a variety of items
	Pictures
	Chart
	Slides

**For more information or to become a Museum Loan member,
please call 973.971.3709
or email slboxreserves@morrismuseum.org.**

SCIENCE EXHIBITS

I. LIFE SCIENCES

A. ECOLOGY



Critical Habitats of New Jersey Chart

Biodiversity of animal life and ecological landscape of habitats of NJ



Ecological Problems Pictures

Man-made problems of our Earth



Energy Sources

Renewable and non-renewable resources and their hope for the future



Endangered Earth Charts

National Geographic, Time, and Environmental Defense Fund Charts



Endangered Animal Species Chart



Endangered Species Pictures

Pictures, folders, booklets and activities



Go Green!

Recycling materials and activities



Environmental Education Pictures

From Silver Burdett



Lewis and Clark Animals of Discovery Pictures

Illustrating the land explored and animals studied in the American West by Lewis and Clark from 1802-1804; maps, labels, glossary; pictures



Man and Ocean

Slides with typescript from the National Wildlife Federation



Pond Life

Animals and plants from the pond; booklet, habitat diagram, and pictures



Rainforests: Tropical and Temperate

Two boxes containing maps, charts, games, and books pertaining to the rainforests



Tropical Rain Forests

Maps, charts, animal models, products and pictures of the tropical rain forest



Understanding Your Environment – Pictures

Pictures illustrating our environment from Silver Burdett with teacher's guide



The Water Cycle Chart

How nature recycles water



Water, Wonderful Water Pictures

Investigations about water with charts, and pictures



Web of Life Chart (38" X 35" from McGraw-Hill)

Food web and energy, carbon, and nitrogen cycles



What Ecology Is and Is Not

20 slides with typescript from Rex Educational Resources Co.

B. CELL AND MOLECULAR BIOLOGY



Animal Cell Model

Generalized animal cell model and labels



Atoms and Molecules

Construct your own elements and compounds! Includes: models and charts.



DNA Model and Activities

Assembled a DNA model! Includes: DNA construction kit, chart, books, articles, and activities for various ages

C. PLANT LIFE



Ferns of New Jersey

13 common New Jersey ferns, pressed along with a fern life cycle chart



Flower Pictures

Flowers of grasses, shrubs, vines, trees; pollination; COMPLEMENTS: **What is a Flower?** Box



Plant Life

Examples from algae, through flowering plants, with a chart of relationships



Plant Charts

Roots, leaves, flowers, and fruits



Poisonous Plants of the Northeast

40 native and introduced poisonous plant species, with two Charts



Rainforests: Tropical and Temperate

Two boxes containing maps, charts, games, and books



Seeds and How They Travel

Seeds that spread by water, air, hitch-hiking, exploding, and planting, by animal or man



State Trees and Leaves Charts

Charts from the US Forest Service



Trees: 22 Native Deciduous Trees of New Jersey

Leaf, bark, seeds, and other objects outline drawings of 22 deciduous New Jersey trees



Trees, Leaves, and Twigs

From 27 deciduous trees of New Jersey



Tree Pictures (From St. Regis Paper Co.)

Illustrating various types of trees



Tropical Rain Forests

Products, animal models, maps, charts and pictures



What is a Flower? (For Grades K-2)

Pressed, dried, or plastic flowers; scents; flower cross-section as a jigsaw puzzle;

COMPLEMENTS: **Flower Pictures** Box

 **What is a Tree?** (For Grades K-2)
Leaves, flowers, seeds, bark, cutout root of a tree

 **Woodland Plants from New Jersey Woods (Three Related Boxes):**

 **Flowering:** Vines, shrubs, herbaceous plants

 **Non-flowering:** Fungi, lichens, mosses, horsetails, and ferns

 **Woodland Seasons:** Pictures of spring, summer, and winter

 **Woodland Flower Pictures**
Various types of woodland flowers and insects photographed by Jeanette Klute

D. SEA LIFE

 **Big and Little From the Ocean**
Big conch, starfish, and lobster specimens with smaller relatives

 **Crabs: How Many Kinds?**
Examples and pictures of dozens of different kinds of crabs

 **Horseshoe Crab**
Large, mounted specimen

 **Horseshoe Crab Folder**
Articles, Internet facts and figures, and instructions for making a model Horseshoe Crab;
COMPLEMENTS: the **Horseshoe Crab** Box

 **Lobster**
Large claws, figure of lobster-man and pictures

 **Marine Mammals of the Western Hemisphere Chart and DVD**
Whales, dolphins, seals, sea otters, and a walrus to scale from the US Dept. of Commerce; Includes:
Miracle in the Pacific DVD

 **Marine World Chart**
Fishing areas of the world, ocean currents, ocean floor, life zones, and chain of life

 **New Jersey Sea Life**
Things you find at the New Jersey shore, identified

 **Sea Life**
Variety seen in coral, sponge, sawfish, sea turtle and more

 **Sea Life in Estuaries Chart** (From the *US Environmental Protection Agency*)
Scenes with labels of transition between ocean and river from the Northwest, California, Gulf Coast,
Mid-Atlantic, Southeast, and Northeast

 **Sea Life Forms**
Sea life specimens classified with a chart of relationships

 **We Live in the Ocean** (For Grades K-2)
Puffer fish, sea turtle shell, starfish, coral, crabs and plant life from under the sea.

 **Whaleboat and Whales**
Model with whale figures, baleen, sea chantey music CD and pictures

 **Whales and Dolphins Charts** (From *Arti Grafiche Recordi* and *National Geographic*)
Charts on whales and dolphins from around the world

 **Whales and Sharks Charts** (From *National Geographic*)
Two charts on whales, and one on sharks of the world

 **Whales and Whaling**
Whale tooth, baleen, harpoon head, booklets, sea chantey music CD and pictures

See also — HUMAN ENVIRONMENTS: Sea Coast Life, *Social Studies*, page 25
VERTEBRATES: Fishes, page 8
SHOWCASES: Sea Life, page 23; Shells, page 23
WORKSHOPS: *Charles W. Morgan* (Early American Whaling), *Social Studies*, page 28

E. ANIMAL LIFE, GENERAL

 **Animal Cell Model**
Generalized animal cell model and labels

 **Animal Evolution Chart** (From *Smithsonian*)
1991, evolution of animals chart

 **Animal Families Figures**
Small plastic animals in family groupings, ex: Lion Family, Giraffe Family, Giant Panda Family etc., word list, pictures of habitats

 **Animal Families Pictures** (For Grades K-2)
Illustrating black rhinoceros, hippopotamus, tiger and cub, zebra and foal, etc.

 **Animal Homes Pictures** (For Grades K-2)
Animals in their habitats, in a forest, in a desert, in a prairie

 **Animal Homes** (*Oxford Scientific Films, Ltd.*)
Slides of homes ranging from ants to ospreys

 **Animal Protective Coloration** (From *Oxford Scientific Films, Ltd.*)
Slides of animals ranging from sea slugs to zebra

 **Animal Tracks Chart**
A chart containing a variety of animal tracks

 **Endangered Animal Species Chart**

 **Endangered Species Pictures**
Illustrating the endangered species. Includes: US Fish and Wildlife Service Booklet, 1982 and questions and answers from the Environmental Defense Fund

 **Lewis and Clark Animals of Discovery Pictures**
Illustrating the land explored and animals studied in the American West by Lewis and Clark from 1802-1804; maps, labels, glossary and pictures

 **Make Animal Tracks**
Casts of mammal feet to make prints; COMPLEMENTS: **Animal Tracks Chart**

 **North American Wildlife Charts** (from US Forest Service and NJDEP)
Mammals, birds, butterflies, insects, NJ Backyard Wildlife

 **Rainforests: Tropical and Temperate**
Two boxes containing maps, charts, games, and books

 **Tropical Rain Forests**
Products, animal models, maps, charts and pictures

 **What Does an Animal Wear?** (For Grades K-2)
Chitin, shells, scales, feathers, fur?

F. INVERTEBRATES

 **Invertebrates**
Examples of animals without backbones and pictures

 **Crabs: How Many Kinds?**
Examples of dozens of different kinds of crabs with pictures

 **Horseshoe Crab**
Large mounted specimen

 **Horseshoe Crab Folder**
Articles, Internet facts and figures, instructions for making a model Horseshoe Crab;
COMPLEMENTS: the **Horseshoe Crab** Box

 **Lobster**
Large claws, figure of lobster-man and pictures

 **What is an Invertebrate?**
Specimens of invertebrates, plastic models, chart, poster, and activities

INSECTS AND OTHER ARTHROPODS

 **Beautiful Butterflies: Mounted Specimens**
Mounted specimens, a poster and activities

 **Butterflies and Moths**
Examples of each, chart illustrating the differences between the two, and activities

 **Butterflies and Their Metamorphosis**
Mounted butterflies, with plastic models of the metamorphic stages of a Swallowtail Butterfly

 **Cicada Life Cycle**
Illustrates the life cycle of a cicada

 **Gypsy Moth and Its Insect Enemies**

 **Gypsy Moth Life Cycle**
Illustrates the life cycle of a Gypsy moth

 **Hornet's Nest**
Cut to show cross-section with larva, and adults

 **Insects and Their Kin**
Includes spiders and centipedes

 **Insects: Four Orders**
Several examples from four different insect groups

 **Insect Homes**
Egg cases, cocoons, galls, tunnels, nests and the insects that made them

-  **Insect Life Cycles**
Stages of development of dragonfly, moth, and fly
-  **Insects That Eat Insects**
-  **Katydid Life Cycle**
-  **Life Cycle of the Monarch Butterfly**
20 slides with typescript, a flipbook, and puzzle
-  **Lunar Moth with Cocoon**
-  **Monarch Butterfly Adventures**
Slides of the life cycle of the Monarch Butterfly with typescript, and mounted specimens
-  **New Jersey Butterflies Pictures**
Illustrating the different native butterflies of New Jersey
-  **Praying Mantis**
Includes a praying mantis in a diorama, with an egg case and its young
-  **Praying Mantis Life Cycle**
Illustrates the life cycle of a praying mantis
-  **What is an Insect?** (For Grades K-2)
Large plastic insect, as well as real specimens, pictures and activities
-  **What is a Spider?** (An arachnid, not an insect) (For Grades K-2)
Different specimens, mounted labels, pictures and chart of various spiders

G. VERTEBRATES

-  **Vertebrates**
Examples of animals with backbones from fish to man, with a chart of relationships

FISH

-  **Fish**
Different types of fish shown by their scales, and bones. Includes: a chart of relationships, activities, and pictures

AMPHIBIANS

-  **Amphibians**
Stages of frog metamorphosis, toad, and salamander, with pictures
-  **Amphibians and Reptiles Charts**
Charts and activities of amphibians and reptiles
-  **Amphibians and Reptiles of New Jersey**
Slides with typescript of salamanders, frogs, toads, turtles, snakes, and lizards of New Jersey
-  **Frogs and Toads**
Toad, frog, frog development; Includes: charts, activities, and pictures
-  **The Remarkable Frog**
Frog, frog development; Includes: charts, activities, and pictures

REPTILES

-  **Amphibians and Reptiles Charts**
Charts and activities of amphibians and reptiles
-  **Box Turtle**
Turtle shell, hatchling, eggshells and pictures
-  **Eastern Diamondback Rattlesnake**
Mounted specimen behind glass
-  **Fake Snakes**
Collection of fake snakes, real snakeskin and a storybook. Includes: glossary, and pictures to compare to real snakes
-  **Reptiles**
Specimens from turtle, snake, alligator, and lizard orders with pictures
-  **Snapping Turtle**
Shell, skull, and cutout of a snapping turtle
-  **Turtles of New Jersey**
Specimen, Box, Painted, Bog, Spotted, Mud, Musk, and Snapping Turtles with pictures and shells of wood
-  **What is a Snake?** (For Grades K-2)
Explore the backbone, skin, skull, and even eating habits of the snake. Includes: food chart, pictures, two booklets on snakes, and a laminated sheet of the “Snakes of New Jersey”
-  **What is a Turtle?** (For Grades K-2)
Sample shells, skulls, scutes, eggshell, and plastic model, pictures, booklet, pamphlet and activity sheet.

MAMMALS

-  **Animal Tracks Chart** (From National Audubon Society)
A chart of various animal tracks; COMPLEMENTS: the **Make Animal Tracks Box**
-  **Beaver**
Skin, skull, wood chips and a house diagram
-  **Black Bear Diorama**
Two adults and two cubs
-  **Black Bear of New Jersey Chart** (From *the Star Ledger*)
Chart shows a year in the life of the largest mammal in our forest
-  **Black Bears of New Jersey**
Diorama of mother and cub in suburban backyard with informative label on safety in the suburbs
-  **Cold Land Animals Pictures**
Pictures illustrating cold land animals
-  **Common Wild Animals Pictures** (From *General Educational Services, Inc.*)
Pictures illustrating common wild animals
-  **Early Man: Ice Age Mammals**
Eight silhouettes including Mammoth, Giant Sloth, Camelops, and Man; pictures

-  **Early Man: Ice Age Mammals in Alaska** (From *National Geographic*)
Chart illustrating ice age mammals
-  **East African Animals Pictures** (From *General Educational Services, Inc.*)
Pictures of East African animals
-  **Fossil Mammal Diorama**
From the Pleistocene Epoch
-  **Make Animal Tracks**
Casts of mammal feet to make ink prints; COMPLEMENTS: the **Animal Tracks Chart Box**
-  **Marine Mammals of the Western Hemisphere Chart and DVD**
Whales, dolphins, seals, sea otters, and a walrus drawn to scale. Includes: *Miracle in the Pacific* DVD
-  **Timber Wolf Diorama**
-  **Whales and Dolphins Charts** (From *Arti Grafiche Recordi* and *National Geographic*)
Charts of whales and dolphins
-  **Whales and Sharks Charts** (*National Geographic*)
Two charts on whales, and one on sharks of the world
-  **Whales and Whaling**
Whale tooth, baleen, harpoon head, booklets, sea chantey music CD and pictures
-  **Whaleboat and Whales**
Model with whale figures, baleen, sea chantey music CD and pictures
-  **White-tailed Deer**
Real feet, skull, and plastic models of the white-tailed deer

See also— **ANIMAL LIFE**, page 6
WORKSHOPS: *Charles W. Morgan* (Early American Whaling), *Social Studies*, page 28
SHOWCASES: Mammal Skulls, page 23

Mounted Specimens

– Many include photos, tracks, and activities

-  **Bat**
-  **Chipmunk**
-  **Mole**
-  **Mouse, Meadow Jumping**
-  **Mice, White-footed**
-  **Muskrat**
-  **Opossum**
-  **Opossum: Baby**
-  **Opossum: What Am I Stuffed With?**
Mounted by taxidermist and left open for educational purposes
-  **Otter, Young River**
-  **Rabbit: Baby**
-  **Rabbit, Cottontail: Adult**

-  **Raccoon**
-  **Shrews**
-  **Skunk, Striped**
-  **Squirrel, Flying**
-  **Squirrel, Flying: What Am I Stuffed With?**
Mounted by taxidermist and left open for educational purposes
-  **Squirrel, Grey**
-  **Squirrel, Red**
-  **Voles, Meadow**
-  **Weasel: Spring and Fall Coat**
-  **Weasel: Summer Coat**
-  **Weasel: Winter Coat**
-  **Weasel: Young**
-  **Woodchuck**
-  **Woodchuck: Baby**

BIRDS

-  **American Kestrel Chart and Activities**
Chart, activities; COMPLEMENTS: the **American Kestrel Box**
-  **Audubon Bird Prints**
Reproductions of watercolor sketches, engravings, and finished plates of 16 birds
-  **Bird Migration in the Americas Chart** (From *National Geographic*)
Illustrates the American bird migration patterns
-  **Birds' Nests Chart** (From the *US Forest Service*)
-  **Fossil Bird: Archaeopteryx**
Pictures of first fossil bird and *New York Times* article
-  **Resident New Jersey Birds Pictures**
-  **Some Birds of New Jersey**
Slides with typescript of birds native to New Jersey
-  **The Songbird Connection**
Temperate and tropical forests posters and map of migration
-  **Spring and Summer New Jersey Birds Pictures**
-  **Winter New Jersey Birds Pictures**

Mounted Specimens (Specimen are ALL taxidermy, unless noted otherwise)
– Include photos, activities, & more

-  **Bittern, Least**
-  **Blackbird, Red-winged: Female and Nest**

-  **Bluebird, Eastern**
-  **Bluebird, Eastern: Nest**
-  **Bobwhite, Eastern**
-  **Bunting, Indigo: Male**
-  **Cardinal, Northern: Male**
-  **Cardinals, Northern: Male and Female**
-  **Cardinal, Northern: Nest**
-  **Catbird, Gray**
-  **Catbird, Gray: Nest**
-  **Chickadees, Black-capped**
-  **Creeper, Brown**
-  **Duck, Black**
-  **Duck, Hybrid: Black X Mallard**
-  **Dove, Mourning**
-  **Finch, Purple: Female**
-  **Finches, Purple: Male and Female**
-  **Flicker, Northern**
-  **Goldfinch, American: Male**
-  **Goldfinch, American: Male bird changing plumage and Nest**
-  **Grosbeak, Rose-breasted: Male**
-  **Hawk, Sharp-shinned**
-  **Heron, Green**
-  **Hummingbird, Ruby-throated: Female**
-  **Hummingbird, Ruby-throated: Nest**
-  **Jay, Blue**
-  **Jay, Blue: Nest**
-  **Junco, Dark-eyed**
-  **Kestrel, American**
-  **Kestrel, American: What Am I Stuffed With?**
 Mounted by taxidermist and left open for educational purposes
-  **Kingfisher, Belted**
-  **Kinglets, Golden-crowned**
-  **Mockingbird, Northern**
-  **Mockingbird, Northern: Nest**
-  **Nuthatch, White-breasted**
-  **Oriole, Baltimore: Male**

-  Oriole, Baltimore: Nest
-  Orioles, Baltimore: Male, Female, and Nest
-  Ovenbird
-  Owl, Great Horned: Plastic model, real wing
-  Owl, Screech
-  Owl, Screech: Baby
-  Pheasant, Ring-necked: Adult
-  Pheasant, Ring-necked: Chick
-  Robin, American
-  Robin, American: Nest
-  Sandpiper, Spotted
-  Shrike, Loggerhead
-  Siskin, Pine
-  Snipe, Common
-  Sparrows Nest
-  Sparrow, Chipping: Adult and Nest
-  Sparrow, Song
-  Sparrows, White-throated, Song, Chipping, and Fox
-  Swallow, Barn: Nest
-  Tanager, Scarlet: Male
-  Teal, Blue-winged: Female
-  Thrush, Swainson's
-  Thrush, Wood
-  Warbler, Yellow: Nest
-  Warblers: Magnolia, Golden-winged, and Hooded
-  Waxwing, Cedar
-  Woodcock, American
-  Woodpecker, Downy: Female
-  Woodpecker Holes
-  Woodpecker Nest
-  Woodpecker, Red-bellied: Male, and mounted tongue
-  Woodpecker, Red-headed
-  Woodpecker Work
 - Piece of branch with woodpecker holes and insect bore holes
-  Wren, House

H. HUMANS

THE HUMAN BODY

-  **Anatomy of the Human Eye Poster**
Poster, illustrating the different parts that make up the human eye
-  **DNA Model and Activities**
Assembled DNA model, DNA construction kit, chart, books, articles and activities for various ages
-  **Early Man: Peking Skull** (From Carolina Biological Supply)
Life-size skull (reproduction), map, and pictures
-  **Early Man: Steinheim Skull** (From *Carolina Biological Supply*)
Life-size skull (reproduction) and pictures
-  **Human Body Charts** (From *Johns Hopkins Anatomy Service*)
Skeleton, lungs, heart, nervous system, head, and neck, as well as the five senses
-  **Human Body Flip Charts**
Charts of the human body and sticker puzzle
-  **Human Child Skeleton and Body Chart** (50" high)
Child-sized skeleton (reproduction) with suggested activities
-  **Human Digestive System**
Plastic model, chart, and glossary
-  **Human Ear**
Plastic model and diagrams
-  **Human Eye**
Plastic model and diagrams
-  **Human Families Pictures**
Family groups from kings to cave dwellers
-  **Human Heart**
Plastic model with stethoscope
-  **Human Kidney**
Plastic model and diagrams
-  **Human Lungs and Respiratory System**
Plastic model and chart
-  **Human and Monkey Bones**
Arm and leg bones for comparison
-  **Human Skeleton**
Small plastic model
-  **Human Skeleton**
Life-size cardboard cutout of a human skeleton modeled after 7-year old girl
-  **Human Brain and Skull**
Plastic model and diagrams
-  **Human Skull**
With lower jaw and teeth (real bones and reproductions)

 **Human Skull Dissected** (for Grades 4 and up)

See also — **SHOWCASES:** Early Man Skulls, page xx

HUMAN NUTRITION

 **Cereal Grains**

Grains and products of wheat, corn, rice, barley, oats, and rye with charts, and pictures

 **Indian Corn Chart**

Shows 30 varieties of corn grown by the American Indians

 **The Food Pyramid**

Model, charts, and activities; COMPLEMENTS: **The Food We Eat** Box

 **The Food We Eat**

Guide to basic nutrition, food models, booklets, charts, game, and activities; COMPLEMENTS: **The Food Pyramid** Box

 **The Food Chain**

A guide to the food chain, model, charts, and activities

 **New World Food Plants**

Corn, beans, squash, peanuts, pineapple, and avocado with charts, booklets, and maps

 **Spices**

From the Spice Islands: nutmeg, ginger, pepper, vanilla and booklet

 **Spices and Herbs**

From the tropics and the garden

HUMAN SENSES

Touching

 **Handling Material** (For Grades K-2)

Items selected for different textures, shapes, surfaces. Such as: a mammal skull, horse tooth and blue jay wing.

 **What Does An Animal Wear?** (For Grades K-2)

Chitin, scales, shells, feathers, fur?

 **What Does It Feel Like?** (For Grades K-2)

Items selected for different textures, shapes, surfaces, both man made and naturally formed.

Hearing

 **American Indian Musical Instruments**

Drums, rattles, pipes, dance bells, glossary, pictures, and articles

 **Communications for the Deaf, and for the Blind**

Braille material with a slate for writing for the blind, and sign the alphabet for the deaf

 **Drums and Rattles**

Drums and rattles from around the globe including instruments from the dancing stick from Hawaii, to the hand drum from Taiwan.

-  **Human Ear**
Plastic model and diagram
-  **Music Makers**
Instruments from around the world, which include pan pipes, thumb piano, finger cymbals and more!
-  **Sound: What Do We Hear?**
Tuning forks, gong, bell, whistle with charts, and activities

Seeing

-  **Color and Light for Beginners**
Charts, prisms, transparencies, and activities
-  **Color: What Is It?**
Charts of light, pigments, and hue
-  **Communications for the Deaf, for the Blind**
Braille material with a slate for writing for the blind, and sign the alphabet for the deaf
-  **Human Eye**
Plastic model and diagram
-  **Optical Illusions Pictures**
-  **What Can We See?**
Magnifiers and things to study

Smelling

-  **Spices**
Nutmeg, ginger, pepper, vanilla from the Spice Islands and booklets
-  **Spices and Herbs**
From the tropics and the garden

II. EARTH SCIENCES

A. ASTRONOMY AND OUTER SPACE

-  **Comet Halley, 1986** (From *Science Kit* and *Boreal Labs*)
Chart on the Halley Comet
-  **Copernican Planetarium** (Large and heavy, 47" X 24" X 15")
Electrically-powered model of solar system showing relative orbits of the planets
-  **The Earth's Moon** (From *National Geographic*)
Map of physical features of both hemispheres
-  **Fly the Shuttle**
Models, ice cream, and *Fly the Shuttle Operator's Manual*
-  **History of Man in Space Chart** (From *Tull Graphic Ltd.*)
1984 chart of the history of man in space
-  **Hubble Space Telescope**

Chart and pictures of the Hubble telescope



Journey into the Universe Pictures (From *National Geographic*)
Charts, pictures of stars, nebulae, galaxies, and quasars



Jupiter and Its Moons Pictures
Photographed by Voyager I and II, 1979



Lunar Exploration
Lunar module and rocket models with booklets, and pictures



Lunar Exploration Chart
Apollo Lunar Mission, 1969



Lunar Exploration Pictures
Illustrating the Apollo program reaching the moon



Lunar Globe
Globe showing the moon's surface



Lunar: The Moon and the Stars
Star chart, and relief map of moon



Mission to Mars
Diorama, DVD, map, activities, and pictures explaining the mission to mars



Solar System Chart
Showing orbits and sizes of our planets



Solar System Model
Model with sun, earth and moon on moveable arms, with a book of instructions



Solar System Model with Planets
Model, labels, booklet, and glossary of our solar system



Solar System Pictures



Solar-Terrestrial Environment Chart (From *NASA*)
Magnetic links of sun and earth



Space Exploration
Rocket and moon shot models, with Apollo booklets



Space Exploration Charts: 1958-2004
Oversized charts of space exploration



Space Pictures
Pictures of earth, moon, sun, stars, galaxies



Space Shuttle
Models, space food, and booklets



Space Shuttle — First Flights, 1981 (From the *Holiday Film Corp.*)
Slides with typescript illustrating the first launches of the space shuttle



Space Shuttle Pictures
Pictures of shuttles, picture to study and color, biography of Terry Hart and his NASA mission



Space Slides
Slides with typescript of the sun, planets, comets, galaxies, and nebulae



Space: Universe from Big to Small

Pictures from core of an atom to distant galaxies



Telstar Model (Two boxes)

1962 communications satellite (1/3 size), with large picture

B. THE EARTH'S CRUST

ROCKS AND MINERALS



Mineral Black Light box

Long and short ultraviolet lights, with four minerals; view our specimens or yours
USE WITH ADULT SUPERVISION ONLY



Mineral Identification

Specimens with scratch tests, and streak tests



Minerals of New Jersey

Specimens with their locations marked on the geological map of New Jersey



The Minerals of the World

Colorful chart of minerals from around the globe



Mineral Ores and Their Metals

Aluminum, chromium, copper, iron, lead, and zinc



Minerals and Their Uses

From ceramics to roadways



Mineral Pictures



Minerals That Fluoresce

Fixed in with the box are both long and short wave ultraviolet lights, and booklet



Rock Types

Igneous, Sedimentary, and Metamorphic rock examples with diagrams, and pictures



Rocks and Minerals of New Jersey



Volcanic and Igneous Rocks

Real specimens with charts about volcanoes



Volcanoes

Slides with typescript on volcanoes



What is a Rock? (For Grades K-2)

What does it look like, and feel like? What is it made of? Includes a variety of different rocks and minerals with minifying glasses.

See also – SHOWCASES: Minerals, page 23

FOSSILS



Fossil Bird: Archaeopteryx

Pictures of first fossil bird and *New York Times* article



Fossil Mammal Diorama

Giant Ground Sloth, Dire Wolf, Saber-toothed Cat, from Pleistocene Epoch



Fossils

Plant, invertebrate, and vertebrate fossils with pictures



How Fossils Are Formed

Replacements, molds, imprints and pictures



What is a Fossil? (For Grades K-2)

Plant, invertebrate, and vertebrate fossils; chart of geological time, and pictures

See also — SHOWCASES: Fossils, page 23

DINOSAURS



Dinosaur Fossil Reproductions

Examples of egg, bone, skin, and teeth



Dinosaur Models

Labels and pictures



Dinosaur Puzzle

Resin cast of coelophysis skeleton as it was found, cut in pieces to make a jigsaw puzzle, with a small model of dinosaur



Dinosaur Silhouettes

Eight dinosaurs to scale, and a table of Mesozoic time



Dinosaur Time

40-foot long timeline with charts, and pictures

See also — SHOWCASES: Dinosaurs, page 23

EARLY MAN



Cave Painting: Paleolithic

Reproductions on plaster



Dawn of Humans (From *National Geographic*)

Map and chart of the first human species



Early Man Ice Age Mammals

Eight silhouettes with pictures



Early Man Ice Age Mammals of Alaska (From *National Geographic*)

Early man ice age mammals chart



Early Man, Mammoth Hunt Diorama



Early Man Peking Skull (From *Carolina Biological Supply*)

Life-size skull (reproduction), map, and pictures



Early Man Pictures

Reconstructions of Paleolithic life, and cave paintings



Early Man Set

Paleolithic and Neolithic stone tool reproductions with charts, and pictures



Early Man Steinheim Skull (From *Carolina Biological Supply*)

Life-size skull (reproduction) and pictures

 **Neolithic Cliff Painting**
Reproduced print

 **Stonehenge**
Model of English Megalithic structure, and booklet

See also — SHOWCASES: Early Man Skulls, page 23

LANDFORMS

 **Continental Drift** (Adapted from *Caleb Crowell, Educational Designs, Inc.*)
2 cutout continents, 2 small globes, maps, and flip books that explain tectonic plates for budding geologists

 **Landforms (Coastline)** (From *Hubbard Scientific Co.*)
Model of a coastal plain, coastline, glacier, volcanoes, and cut to show cross-section of formation. Includes: lesson plan

 **Landforms (Mountains)** (From *Hubbard Scientific Co.*)
Model of a canyon, fault block mountains, folded mountains, and volcanoes, cut to show the cross-section of formation. Includes: lesson plan

 **Water, Wonderful Water Pictures**
Investigations about water with charts, and pictures

WEATHER

 **120 Snowflake Photographs**
120 Snowflake photographs by W. A. Bentley

 **Snowflakes**
16 photographs of snowflakes

 **Understanding Our Weather Chart**
Chart and weather wheel; from Hammond, Inc.

 **Water, Wonderful Water Pictures**
Investigations about water with charts, and pictures

 **Weather**
Three-dimensional weather map with weather instruments and pictures

 **Weather: Natural Disasters of North America Charts** (From *National Geographic*)
Two charts displaying harsh weather such as hurricanes and tornados and the disturbing trend between population growth and hazardous conditions

III. PHYSICAL SCIENCES

A. SILVER BURDETT LABORATORY KITS

Each with student cards and teacher guide

 **Measurements**

 **Mechanics**

 **Wave Motion**

B. ELECTRICITY AND MAGNETISM

-  **Electricity and Magnetism for Beginners**
17 simple investigations with equipment
-  **The Electromagnetic Spectrum Chart**
Shows radio waves to gamma waves
-  **Static Electricity**
Rubber, glass, plastic rods, pith balls, fabric and fur swatches, and electroscope with experiments
-  **What Can Electricity Do? (For Grades K-2)**
It turns on lights, rings bells, runs motors; activities include, “Building a Simple Circuit” and five others.

C. SOUND

-  **Human Ear**
Plastic model and diagram
-  **Sound: What Do We Hear?**
Tuning forks, gong, bell, whistle with charts, and activities

D. COLOR AND VISION

-  **Color: What is It?**
Specimens, charts of light, pigment, and hue
-  **Color and Light for Beginners**
Charts, transparencies, and prisms with activities
-  **Communication for the Blind, for the Deaf**
Braille material with a slate for writing for the blind, and a sign alphabet activity for the deaf
-  **Human Eye**
Plastic model and diagrams
-  **Optical Illusions Pictures**
-  **What Can We See?**
Magnifiers and things to study

E. OTHER

-  **Archeological Dating Methods Charts**
-  **Edison**
Light bulbs, cylinder record and pictures
-  **Edison Photographs**
-  **Energy Sources**
Renewable and non-renewable resources and their hope for the future

**Go Green!**

Recycling materials and activities

**New Jersey Archaeology**

Paleo-Indian to 20th Century artifacts with timeline and pictures

**pH and Its Presence in the Natural World**

An introduction to pH, with materials and activities

**Simple Machines**

Inclined plane, lever, screw, wheel, pulley, and 14 investigations

**Water, Wonderful Water Pictures**

Investigations about water with charts and pictures

**What Can We Measure?**

Ways to measure temperature, weight, volume, and time

IV. MATHEMATICS

**Geometric Models: Triangles**

Shows triangles relationships with circles

**Metric Measurements (From *Ohaus Scale Corp.*)**

Cubic meter, scales, cubic liter, tape measure, thermometer and charts

**Metric System Chart (From *National Bureau of Standards*)**

Booklet and metric system converter

**What Can We Measure?**

Ways to measure temperature, weight, volume, and time

V. NEW JERSEY SCIENCE EXHIBITS

**Amphibians and Reptiles of New Jersey**

Slides with typescript on salamanders, frogs, toads, turtles, snakes, and lizards

**Critical Habitats in New Jersey Chart****Edison**

Light bulbs, cylinder recorder and pictures

**Ferns of New Jersey**

13 common NJ ferns (pressed) with a fern life cycle chart

**Minerals of New Jersey**

Specimens and specimen locations marked on geological map

**New Jersey Archeology**

Paleo-Indian to 20th Century artifacts, time chart, and pictures

**New Jersey Butterflies Pictures**

Illustrating the butterflies of New Jersey

**New Jersey Firsts**

New Jersey's renowned contributions to the world

**New Jersey Products**

Things made in New Jersey with state flag, and map

-  **New Jersey Sea Life**
Things you will find at the shore identified
-  **Our New Jersey**
Specimens, maps, and pictures
-  **Resident New Jersey Birds Pictures**
Our native birds
-  **Rocks and Minerals of New Jersey**
-  **Some Birds of New Jersey**
Slides with typescript
-  **Spring and Summer New Jersey Birds Pictures**
-  **Telegraph Key**
Operable key and mounted Morse code chart with pictures of Vail Factory, Samuel Morse, and Alfred Vail
-  **Turtles of New Jersey**
Specimens the Box turtle, Painted, Bog, Spotted, Mud, Mask, and Snapping turtles with pictures and model shells of Wood,
-  **Winter New Jersey Birds Pictures**

See also — Plant Life page 4; Insects, page 7; Mammals, page 9; Birds, page 11

VI. SHOWCASE EXHIBITS

These exhibits are available for one-month loans and ***are to be displayed in locked showcases only***. Large, valuable, complicated, or delicate items not suitable to be handled in a classroom are loosely packed in a large box with a simple identification list.

-  **Dinosaurs**
-  **Early Man Skulls**
-  **Fossils**
-  **Mammal Skulls**
-  **Minerals**
-  **Sea Life**
-  **Shells**

VII. WORKSHOP EXHIBITS

Workshop Exhibits go out for six weeks and require considerable teacher preparation.

-  **Sandbox Archaeology Workshop**
Clear-sided box for setting up site, tools, artifacts, sand, dirt, pebbles; teacher's guide provided. Teacher must supply garbage (27" X 27" X 14" on wheels).

VIII. MATERIALS AND TECHNOLOGY



American Inventors Pictures

With biographies from Benjamin Franklin to J. Robert Oppenheimer



American Women Inventors Pictures



Cartwright Loom Model



Civil War: *Monitor* and *Merrimack*

Models of Civil War ironclads; pictures



Clay and Its Uses

Structural, representational, special, and household uses



Early American Carpentry Tools



Edison

Light bulb, cylinder recorder and pictures



Energy Sources

Renewable and non-renewable resources and their hope for the future



Fabric Decoration

Weaving, dyeing, printing, sewing, and painting



Fabrics and Fibers

Wool, linen, silk, cotton, synthetics both raw and finished



Farming

Real and model tools, animals, and book



How a Piano Works

Model, keys, and an interior view of a piano



Lighting

Rush light, candles, oil lamps, gas, and electric lights



Maps and What They Tell Us



Mineral Ores and Their Metals



Minerals and Their Uses

From ceramics to roadways



Morris Canal (Two boxes)



Navajo Loom

Real loom model, dye chart, storybook and pictures



New Jersey Products

Things made in New Jersey, state flag, and map



Telegraph Key

Operable key, mounted Morse code chart and pictures



***Titanic* Ship Model**

Articles and undersea pictures of the wreck



Wood: What Can We Make With It?

Ships, houses, boxes...what else?



Wright Brothers

Slides with typescript, booklet about early airplane flight