

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 1,300 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 may be reserved 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 (Standards 5.1, 5.4, 5.5, 5.8, 5.10; 6.6)

-  **Critical Habitats of New Jersey Chart**
Biodiversity of animal life and ecological landscape habitat of NJ
-  **Ecological Problems Pictures**
Man-made problems of our Earth
-  **Energy Sources** (also Standards 5.6, 5.7)
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
-  **Environmental Education Pictures**
From Silver Burdett
-  **Lewis and Clark Animals of Discovery Pictures** (also Standards 5.2; 6.1, 6.3, 6.4)
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 National Wildlife Federation
-  **Pond Life**
Animals and plants from the pond; booklet, habitat diagram, pictures
-  **Rainforests: Tropical and Temperate** (also Standard 6.6)
Two boxes containing maps, charts, games, book
-  **Tropical Rain Forests** (also Standard 6.6)
Maps, charts, animal models, products; pictures
-  **Understanding Your Environment – Pictures**
With teacher's guide; from Silver Burdett
-  **The Water Cycle Chart**
How nature recycles water
-  **Water, Wonderful Water Pictures** (also Standard 5.6)
Investigations about water; charts, pictures
-  **Web of Life Chart** (38" X 35")
Food web; energy, carbon, nitrogen cycles; from McGraw-Hill
-  **What Ecology Is and Is Not**
20 slides with typescript from Rex Educational Resources Co.

B. CELL AND MOLECULAR BIOLOGY (Standards 5.1, 5.4, 5.5, 5.6, 5.10)

-  **Animal Cell Model**
Generalized cell model, label
-  **Atoms and Molecules** (Standards 5.1, 5.5, 5.6)
Models, charts; construct your own elements and compounds
-  **DNA Model and Activities** (also Standards 3.1; 4.1-4.5)
Assembled DNA model, DNA construction kit, chart, books, articles, activities for various ages

C. PLANT LIFE (Standards 5.1, 5.5, 5.10)

-  **Ferns of New Jersey**
13 common New Jersey ferns, pressed; 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, chart of relationships
-  **Plant Charts**
Roots, leaves, flowers, fruits
-  **Poisonous Plants of the Northeast**
40 native and introduced poisonous species, 2 Charts
-  **Rainforests: Tropical and Temperate** (also Standard 6.6)
Two boxes containing maps, charts, games, book
-  **Seeds and How They Travel**
Seeds that spread by water, air, hitch-hiking, exploding, or 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 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.
-  **Tropical Rain Forests** (also Standard 6.6)
Products, animal models; maps, charts, 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, cut-out of a tree
-  **Woodland Plants from New Jersey Woods (3 Related Boxes):**
 -  **Flowering:** Vines, shrubs, herbaceous plants
 -  **Non-flowering:** Fungi, lichens, mosses, horsetails, ferns



Woodland Seasons: Pictures of spring, summer, winter



Woodland Flower Pictures

Photos by Jeanette Klute

D. SEA LIFE (Standards 5.1, 5.5, 5.10)



Big and Little From the Ocean (also Standard 5.6, 5.7)

Big conch, starfish (seastar), 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, instructions for making a model Horseshoe Crab; complements the **Horseshoe Crab** box



Lobster

Large claws, figure of lobsterman; pictures



Marine Mammals of the Western Hemisphere Chart and DVD

Whales, dolphins, seals, sea otters, walrus to scale; from the US Dept. of Commerce; *Miracle in the Pacific* DVD



Marine World Chart (also Standard 6.6)

Fishing areas of the world, ocean currents, ocean floor, life zones, chain of life



New Jersey Sea Life

Things you find at the shore, identified



Sea Life

Variety seen in coral, sponge, sawfish, sea turtle



Sea Life in Estuaries Chart

Scenes with label of transition between ocean and river from the Northwest, California, Gulf Coast, Mid-Atlantic, Southeast, and Northeast; from the US Environmental Protection Agency



Sea Life Forms

Sea life specimens classified with chart of relationships



Sea Life Transparencies

Sea creatures, evolution, etc., for use with overhead projector; *Scholastic Magazine*



We Live in the Ocean (For Grades K-2)

Puffer fish, starfish, coral, chart with activities



Whaleboat and Whales (also Standard 5.2)

Model with whale figures, baleen, sea chantey music CD; pictures



Whales and Dolphins Charts

Charts from *Arti Grafiche Recordi* and *National Geographic*



Whales and Sharks Charts

Two on whales, one on sharks of the world; *National Geographic*



















Whales and Whaling







Whale tooth, baleen, harpoon head, booklets, sea chantey music CD; pictures

See also — **HUMAN ENVIRONMENTS:** Sea Coast Life, page xx
VERTEBRATES: Fishes, page xx
SHOWCASES: Sea Life, page xx; Shells page xx
WORKSHOPS: *Charles W. Morgan* (Early American Whaling), page xx















E. ANIMAL LIFE, GENERAL (Standards 5.1, 5.5, 5.10)

-  **Animal Cell Model**
Generalized cell model, label
-  **Animal Evolution Chart**
From *Smithsonian*, 1991
-  **Animal Families Figures**
Small plastic animals in family groupings, word list, pictures of habitats
-  **Animal Families Pictures** (For Grades K-2)
-  **Animal Homes Pictures** (For Grades K-2)
Animals at home in a forest, in a meadow, in a pond
-  **Animal Homes**
Slides of homes ranging from ants to ospreys; from Oxford Scientific Films, Ltd.
-  **Animal Protective Coloration**
Slides of animals ranging from sea slugs to zebra; from Oxford Scientific Films, Ltd.
-  **Animal Tracks Chart**
-  **Endangered Animal Species Chart**
-  **Endangered Species Pictures** (also Standards 5.4; 6.6)
US Fish and Wildlife Service Booklet, 1982; questions and answers from Environmental Defense Fund
-  **Lewis and Clark Animals of Discovery Pictures** (also Standards 5.2; 6.1, 6.3, 6.4)
Illustrating the land explored and animals studied in the American West by Lewis and Clark from 1802-1804; maps, labels, glossary; pictures
-  **Make Animal Tracks**
Casts of mammal feet to make prints; complements **Animal Tracks Chart**
-  **North American Wildlife Charts**
Mammals, birds, butterflies, insects, NJ Backyard Wildlife; from US Forest Service and NJDEP
-  **Rainforests: Tropical and Temperate** (also Standard 6.6)
Two boxes containing maps, charts, games, book
-  **Tropical Rain Forests** (also Standard 6.6)
Products, animal models; maps, charts, pictures
-  **What Does an Animal Wear?** (For Grades K-2)
Chitin, shells, scales, feathers, fur

F. INVERTEBRATES (Standards 5.1, 5.5, 5.10)

-  **Invertebrates**
Examples of animals without backbones; pictures
-  **Crabs: How Many Kinds?**
Examples of dozens of different kinds of crabs; pictures
-  **Horseshoe Crab** (also Standard 1.2)
Large mounted specimen
-  **Horseshoe Crab Folder** (also Standard 1.2)
Articles, Internet facts and figures, instructions for making a model Horseshoe Crab; complements the **Horseshoe Crab** box
-  **Lobster**
Large claws, figure of lobsterman; pictures
-  **What is an Invertebrate?**
Specimens, plastic models, chart, poster, activities

INSECTS AND OTHER ARTHROPODS

-  **Beautiful Butterflies: Mounted Specimens**
Mounted specimens, poster, activities
-  **Butterflies and Moths**
Examples of each, chart illustrating differences, activities
-  **Butterflies and Their Metamorphosis**
Mounted butterflies with plastic models of the metamorphic stages of a Swallowtail Butterfly
-  **Cicada Life Cycle**
-  **Gypsy Moth and Its Insect Enemies**
-  **Gypsy Moth Life Cycle**
-  **Hornet's Nest**
Cut to show cross-section; with larva, 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; the insects that made them
-  **Insect Life Cycles**
Stages of development of dragonfly, moth, fly
-  **Insects That Eat Insects**
-  **Katydid Life Cycle**
-  **Life Cycle of the Monarch Butterfly**

20 slides with typescript, flipbook, puzzle



Lunar Moth with Cocoon



Monarch Butterfly Adventures

Slides of the life cycle of the Monarch Butterfly with typescript, mounted specimens



New Jersey Butterflies Pictures



Praying Mantis

In diorama, with egg case and young



Praying Mantis Life Cycle



What is an Insect? (For Grades K-2)

Large plastic insect, real specimens; activities, pictures



What is a Spider? (An arachnid, not an insect) (For Grades K-2)

Specimens, webs; chart, activities, pictures

G. VERTEBRATES (Standards 5.1, 5.5, 5.10)



Vertebrates

Examples of animals with backbones from fish to man, chart of relationships

FISHES



Fishes

Different types shown by their scales, bones, chart of relationships; activities, pictures

AMPHIBIANS



Amphibians

Stages of frog metamorphosis, toad, salamander; pictures



Amphibians and Reptiles Charts

Charts, activities



Amphibians and Reptiles of New Jersey

Slides with typescript of salamanders, frogs, toads, turtles, snakes, lizards



Frogs and Toads

Toad, frog, frog development; charts, activities, pictures

REPTILES



Amphibians and Reptiles Charts

Charts, activities



Box Turtle (also Standard 1.2)

Turtle shell, hatchling, eggshells; pictures



Eastern Diamondback Rattlesnake (also Standard 1.2)

Mounted specimen behind glass



Fake Snakes (also Standards 1.2; 3.1)

Collection of fake snakes, real snakeskin, storybook; glossary, pictures to compare to real snakes



Reptiles (also Standard 1.2)

Specimens from turtle, snake, alligator, lizard orders; pictures



Snapping Turtle (also Standard 1.2)

Shell, skull, cutout



Turtles of New Jersey (also Standard 1.2)

Specimens, shells of Wood, Box, Painted, Bog, Spotted, Mud, Musk, Snapping Turtles; pictures



What is a Snake? For Grades K-2

Snake backbone, skin, skull, rubber snake, food chart of snakes; booklets, pictures



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

Sample shells, skulls, skutes, eggshell samples, plastic model; pictures

MAMMALS



Animal Tracks Chart

From National Audubon Society; complements the **Make Animal Tracks** box



Beaver

Skin, skull, wood chips, house diagram



Black Bear Diorama

Two adults and two cubs



Black Bear of New Jersey Chart

Chart shows a year in the life of the largest mammal in our forest; *The Star Ledger*



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



Common Wild Animals Pictures

Pictures from General Educational Services, Inc.



Early Man: Ice Age Mammals (also Standard 6.3)

Eight silhouettes including Mammoth, Giant Sloth, Camelops, and Man; pictures



Early Man: Ice Age Mammals in Alaska (also Standard 6.6)

Chart from *National Geographic*



East African Animals Pictures (also Standard 6.6)

Pictures from General Educational Services, Inc.



Fossil Mammal Diorama (also Standard 6.3)

From the Pleistocene Epoch



Make Animal Tracks (also Standard 1.2)

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 walrus drawn to scale; *Miracle in the Pacific* DVD



Timber Wolf Diorama



Whales and Dolphins Charts

Charts from *Arti Grafiche Recordi* and *National Geographic*



Whales and Sharks Charts

Two on whales, one on sharks of the world; *National Geographic*



Whales and Whaling (also Standard 5.2)

Whale tooth, baleen, harpoon head, booklets, sea chantey music CD, pictures



Whaleboat and Whales (also Standard 5.2)

Model with whale figures, baleen, sea chantey music CD; pictures



White-tailed Deer

Real feet, skull, plastic models

See also—

ANIMAL LIFE, page xx

WORKSHOPS: *Charles W. Morgan* (Early American Whaling), page xx

SHOWCASES: Mammal Skulls, page xx

Mounted Specimens (also Standard 1.2)

– Many include photos, tracks, 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, finished plates of 16 birds
-  **Bird Migration in the Americas Chart**
From *National Geographic*
-  **Birds' Nests Chart**
From the US Forest Service
-  **Fossil Bird: Archaeopteryx**
Pictures of first fossil bird; *New York Times* article
-  **Resident New Jersey Birds Pictures**
-  **Some Birds of New Jersey**
Slides with typescript
-  **The Songbird Connection**
Temperate and tropical forests posters, map of migration
-  **Spring and Summer New Jersey Birds Pictures**
-  **Winter New Jersey Birds Pictures**

Mounted Specimens (also Standard 1.2) – 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**
-  **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 (Standards 5.1, 5.5, 5.10)

THE HUMAN BODY (also Standard 2.1)

-  **Anatomy of the Human Eye Poster**
Poster
-  **DNA Model and Activities** (also Standards 3.1; 4.1-4.5)
Assembled DNA model, DNA construction kit, chart, books, articles; activities for various ages
-  **Early Man: Peking Skull** (also Standard 6.3)
Life-size skull (reproduction), map, pictures; from Carolina Biological Supply
-  **Early Man: Steinheim Skull** (also Standard 6.3)
Life-size skull (reproduction), pictures; from Carolina Biological Supply



Human Body Charts from Johns Hopkins Anatomy Service

Skeleton, lungs, heart, nervous system, head, neck; five senses, nose, ear, eye



Human Body Flip Charts

Charts of the human body, sticker puzzle



Human Child Skeleton and Body Chart (50" high)

Child-sized set with suggested activities



Human Digestive System

Plastic model, chart, glossary



Human Ear

Plastic model, diagrams



Human Eye

Plastic model, diagrams



Human Families Pictures (also Standard 6.6)

Family groups from kings to cave dwellers



Human Heart

Plastic model with stethoscope



Human Kidney

Plastic model, diagrams



Human Lungs and Respiratory System

Plastic model, chart



Human and Monkey Bones

Arm and leg bones for comparison



Human Skeleton

Small plastic model



Human Skeleton

Cardboard cutout, life-size, modeled on 7-year old girl



Human Brain and Skull

Plastic model, diagrams



Human Skull

With lower jaw and teeth, real bones, reproductions



Human Skull Dissected (for Grades 4 and up)

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

HUMAN NUTRITION (also Standards 2.1, 2.6)



Cereal Grains

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







Indian Corn Chart

Shows 30 varieties of corn grown by American Indians






The Food Pyramid

Model, charts, activities; complements **The Food We Eat** box







-  **The Food We Eat**
Guide to basic nutrition, food models, booklets, charts, game, activities; complements **The Food Pyramid** box
-  **New World Food Plants** (also Standards 6.3, 6.4, 6.6)
Corn, beans, squash, peanuts, pineapple, avocado; charts, booklets, maps
-  **Spices** (also Standards 6.1-6.6)
From the Spice Islands: nutmeg, ginger, pepper, vanilla; booklet
-  **Spices and Herbs** (also Standards 6.1-6.6)
From the tropics and the garden

HUMAN SENSES





Touching

-  **Handling Material** (For Grades K-2)
Items selected for different textures, shapes, surfaces
-  **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

Hearing

-  **American Indian Musical Instruments** (also Standards 1.1, 1.2, 1.5; 6.1-6.4, 6.6)
Drums, rattles, pipes; glossary, pictures
-  **Communications for the Deaf, for the Blind** (also Standard 3.5)
Braille material with slate for writing for the blind, sign alphabet for the deaf
-  **Drums and Rattles** (also Standards 1.1, 1.2, 1.5; 6.6)
Instruments from around the world
-  **Human Ear** (also Standards 2.1)
Plastic model, diagram
-  **Music Makers** (also Standards 1.1, 1.2, 1.5; 6.2, 6.3, 6.6)
Instruments from around the world
-  **Sound: What Do We Hear?** (also Standard 2.1; 5.7)
Tuning forks, gong, bell, whistle; charts, activities

Seeing

-  **Color and Light for Beginners** (also Standards 5.7)
Charts, prisms, transparencies; activities
-  **Color: What Is It?** (also Standards 5.7)
Charts of light, pigments, hue
-  **Communications for the Deaf, for the Blind** (also Standard 3.5)
Braille material with slate for writing for the blind; sign alphabet for the deaf
-  **Human Eye** (also Standards 2.1)

Plastic model, diagram



Optical Illusions Pictures (also Standards 3.5; 4.2)



What Can We See? (also Standards 5.6, 5.7)
Magnifiers and things to study

Smelling



Spices (also Standards 2.1, 2.6; 6.1-6.6)
Nutmeg, ginger, pepper, vanilla from the Spice Islands; booklets



Spices and Herbs (also Standards 2.1, 2.6; 6.1-6.6)
From the tropics and the garden

II. EARTH SCIENCES

A. ASTRONOMY AND OUTER SPACE (Standards 5.1, 5.8, 5.9)



Comet Halley, 1986
Chart from Science Kit and Boreal Labs



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
Map of physical features of both hemispheres; *National Geographic*



Fly the Shuttle
Models, ice cream, *Fly the Shuttle Operator's Manual*



History of Man in Space Chart (also Standards 6.3, 6.4)
Chart from Tull Graphic Ltd., 1984



Hubble Space Telescope
Chart, pictures



Journey into the Universe Pictures
Charts, pictures of stars, nebulae, galaxies, quasars; *National Geographic*



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



Lunar Exploration
Lunar module and rocket models; booklets, pictures



Lunar Exploration Chart
Apollo Lunar Mission, 1969

















Lunar Exploration Pictures
Apollo program reaches the moon



Lunar Globe
Globe showing the moon's surface







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

-  **Solar System Chart**
Showing orbits and sizes
-  **Solar System Model**
Sun with earth and moon on moveable arms, book of instructions
-  **Solar System Model with Planets**
Model, labels, booklet, glossary
-  **Solar System Pictures**
-  **Solar-Terrestrial Environment Chart from NASA**
Magnetic links of sun and earth
-  **Space Exploration** (also Standards 6.3, 6.4)
Rocket, moon shot models, Apollo booklets
-  **Space Exploration Charts: 1958-2004**
Oversized charts
-  **Space Pictures**
Pictures of earth, moon, sun, stars, galaxies
-  **Space Shuttle**
Models, space food, booklets
-  **Space Shuttle — First Flights, 1981**
Slides with typescript; from the Holiday Film Corp.
-  **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 sun, planets, comets, galaxies, nebulae
-  **Space: Universe from Big to Small** (also Standards 5.5)
Pictures from core of atom to distant galaxies
-  **Telstar Model**
1962 communications satellite (1/3 size), with large picture; 2 boxes

B. THE EARTH'S CRUST

ROCKS AND MINERALS (Standards 5.1, 5.6, 5.8)

-  **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 test, streak test
-  **Minerals of New Jersey** (also Standard 6.6)
Specimens with locations marked on geological map of New Jersey
-  **The Minerals of the World**
Colorful chart



Mineral Ores and Their Metals

Aluminum, chromium, copper, iron, lead, zinc



Minerals and Their Uses

From ceramics to roadways



Mineral Pictures



Minerals That Fluoresce

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



Rock Types

Igneous, Sedimentary, and Metamorphic examples; diagrams, pictures



Rocks and Minerals of New Jersey



Volcanic and Igneous Rocks

Real specimens with charts about volcanoes



Volcanoes

Slides with typescript



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

What does it look like and how does it feel? How was it made?

See also – SHOWCASES: Minerals, page xx

FOSSILS (Standards 5.1, 5.5, 5.8, 5.10)



Fossil Bird: Archaeopteryx

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



Fossil Mammal Diorama

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



Fossils

Plant, invertebrate, and vertebrate fossils; pictures



How Fossils Are Formed

Replacements, molds, imprints; pictures



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

Plant, invertebrate, and vertebrate fossils; charts, pictures

See also — SHOWCASES: Fossils, page xx

DINOSAURS (Standards 5.1, 5.5, 5.8)



Dinosaur Fossil Reproductions

Examples of egg, bone, skin, tooth



Dinosaur Models

Labels, pictures



Dinosaur Puzzle

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



Dinosaur Silhouettes

Eight dinosaurs to scale, table of Mesozoic time



Dinosaur Time

40-foot long timeline; charts, pictures

See also — SHOWCASES: Dinosaurs, page xx

EARLY MAN (Standards 5.1, 5.2, 5.5, 5.10; 6.3, 6.6)



Cave Painting: Paleolithic (also Standard 1.5)

Reproduction on plaster



Dawn of Humans (also Standards 5.7, 5.12)

Map, chart; *National Geographic*



Early Man Ice Age Mammals

Eight silhouettes; pictures



Early Man Ice Age Mammals of Alaska

Chart; *National Geographic*



Early Man Mammoth Hunt Diorama



Early Man Peking Skull

Life-size skull (reproduction), map, pictures; from Carolina Biological Supply



Early Man Pictures

Reconstructions of Paleolithic life, cave paintings



Early Man Set

Paleolithic and Neolithic stone tool reproductions; charts, pictures



Early Man Steinheim Skull

Life-size skull (reproduction), pictures; from Carolina Biological Supply



Neolithic Cliff Painting (also Standard 1.5)

Reproduced print



Stonehenge (also Standard 5.4)

Model of English Megalithic structure, booklet

See also — SHOWCASES: Early Man Skulls, page xx

LANDFORMS (Standard 5.1, 5.8, 5.10)



Continental Drift

2 cutout continents, 2 small globes, maps, and flip books that explain tectonic plates for budding geologists; adapted from Caleb Crowell, Educational Designs, Inc.



Landforms (Coastline)

Model of coastal plain, coastline, glacier, volcanoes, cut to show cross-section of formation; lesson plan; from Hubbard Scientific Co.



Landforms (Mountains)







Model of canyon, fault block mountains, folded mountains, and volcanoes, cut to show cross-section of formation; lesson plan; from Hubbard Scientific Co.



Water, Wonderful Water Pictures (also Standard 5.6)

Investigations about water; charts, pictures




WEATHER (Standards 5.1, 5.8)

-  **120 Snowflake Photographs** (also Standard 1.2)
120 Snowflake photographs by W. A. Bentley
-  **Snowflakes** (also Standard 1.2)
16 photographs of snowflakes
-  **Understanding Our Weather Chart**
Chart and weather wheel; from Hammond, Inc.
-  **Water, Wonderful Water Pictures** (also Standard 5.6)
Investigations about water; charts, pictures
-  **Weather**
Three-dimensional weather map, weather instruments; pictures
-  **Weather: Natural Disasters of North America Charts** (also Standard 5.10; 6.6)
Two charts displaying harsh weather such as hurricanes and tornados and the disturbing trend between population growth and hazardous conditions; *National Geographic*





III. PHYSICAL SCIENCES

A. SILVER BURDETT LABORATORY KITS (Standards 5.1, 5.3, 5.4, 5.7)


Each with student cards and teacher guide


-  **Measurements**
-  **Mechanics**
-  **Wave Motion**

B. ELECTRICITY AND MAGNETISM (Standards 5.1, 5.3, 5.4, 5.7)

-  **Electricity and Magnetism for Beginners**
17 simple investigations with equipment
-  **The Electromagnetic Spectrum Chart** (also Standards 5.8, 5.9)
Shows radio waves to gamma waves
-  **Static Electricity**
Rubber, glass, plastic rods, pith balls, fabric and fur swatches, electroscope; experiments
-  **What Can Electricity Do? (For Grades K-2)**
It turns off lights, rings bells, runs motors; activities


C. SOUND (Standards 5.1, 5.5, 5.7)


 **Human Ear** (also Standard 2.1)
Plastic model, diagram


 **Sound: What Do We Hear?** (also Standard 2.1)
Tuning forks, gong, bell, whistle; charts, activities

D. COLOR AND VISION (Standards 5.1, 5.5, 5.7)


 **Color: What is It?**
Specimens, charts of light, pigment, hue

 **Color and Light for Beginners**
Charts, transparencies, prisms; activities

 **Communication for the Blind, for the Deaf** (also Standards 2.2; 3.1, 3.2; 5.2)
Braille material with slate for writing for the blind, sign alphabet for the deaf


 **Human Eye** (also Standard 2.1)
Plastic model, diagrams

 **Optical Illusions Pictures** (Standards 3.5; 4.2)


 **What Can We See?** (also Standards 5.6)
Magnifiers and things to study


E. OTHER


 **Archeological Dating Methods Charts** (Standards 5.1, 5.3, 5.5, 5.6, 5.8; 6.1)


 **Edison** (Standards 5.1, 5.2, 5.4; 6.1-6.4, 6.6)
Light bulbs, cylinder record; pictures


 **Edison Photographs** (Standards 1.1, 1.5; 5.1, 5.2, 5.4)

 **Energy Sources** (Standards 5.1, 5.4, 5.5, 5.6, 5.7, 5.8, 5.10; 6.6)
Renewable and non-renewable resources and their hope for the future

 **New Jersey Archaeology** (Standards 5.1, 5.4; 6.1-6.4, 6.6)
Paleo-Indian to 20th Century artifacts, timeline; pictures


 **Simple Machines** (Standards 5.1, 5.4, 5.7, 5.9)
Inclined plane, lever, screw, wheel, pulley, 14 investigations


 **Water, Wonderful Water Pictures** (Standards 5.1, 5.6, 5.8, 5.10)
Investigations about water; charts, pictures


 **What Can We Measure?** (Standards 4.2, 4.3; 5.1, 5.3, 5.5)
Ways to measure temperature, weights, volume, time

IV. MATHEMATICS (Standards 4.2, 4.3; 5.5)


 **Geometric Models: Triangles**
Shows relationships with circles


 **Metric Measurements** (also Standard 5.1)
Cubic meter, scales, cubic liter, tape measure, thermometer; charts; from Ohaus Scale Corp.


 **Metric System Chart** (also Standards 5.1, 5.3)
Booklet, converter; from National Bureau of Standards


 **What Can We Measure?** (also Standards 5.1, 5.3)
Ways to measure temperature, weight, volume, time


V. NEW JERSEY SCIENCE EXHIBITS


 **Amphibians and Reptiles of New Jersey** (Standards 5.1, 5.5, 5.10)
Slides with typescript on salamanders, frogs, toads, turtles, snakes, lizards

 **Critical Habitats in New Jersey Chart** (Standards 5.1, 5.5, 5.10)


 **Edison** (Standards 5.1, 5.2, 5.4)
Light bulbs, cylinder record; pictures


 **Ferns of New Jersey** (Standards 5.1, 5.5, 5.10)
13 common NJ ferns (pressed), fern life cycle chart


 **Minerals of New Jersey** (Standard 5.8)
Specimens; specimen locations marked on geological map


 **New Jersey Archeology** (Standards 5.4; 6.1-6.4, 6.6)
Paleo-Indian to 20th Century artifacts, time chart, pictures

 **New Jersey Butterflies Pictures** (Standards 5.1, 5.5, 5.10)

 **New Jersey Firsts** (also Standards 5.2, 5.4; 6.1-6.6)
New Jersey's renowned contributions to the world


 **New Jersey Products** (Standards 5.2, 5.4; 6.1-6.6)
Things made in New Jersey, state flag, map

 **New Jersey Sea Life** (Standards 5.1, 5.5, 5.10)
Things you will find at the shore, identified


 **Our New Jersey** (Standards 5.2, 5.4; 6.1-6.6)
Specimens, maps, pictures


 **Resident New Jersey Birds Pictures** (Standards 5.1, 5.5, 5.10)

 **Rocks and Minerals of New Jersey** (Standard 5.1, 5.6, 5.8)

 **Some Birds of New Jersey** (Standards 5.1, 5.5, 5.10)
Slides with typescript

 **Spring and Summer New Jersey Birds Pictures** (Standards 5.1, 5.5, 5.10)

 **Telegraph Key** (Standards 5.2, 5.4)
Operable key; mounted Morse code chart; pictures of Vail Factory, Samuel Morse, Alfred Vail








 **Turtles of New Jersey** (Standards 5.1, 5.5, 5.10)
Specimens, shells of Wood, Box, Painted, Bog, Spotted, Mud, Mask, Snapping turtles; pictures

 **Winter New Jersey Birds Pictures** (Standards 5.1, 5.5, 5.10)

See also — Birds, Trees, Woodland Plants, Insects, Mammals


VI. SHOWCASE EXHIBITS (Standards 5.1, 5.5)

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** (also Standard 5.8)
-  **Early Man Skulls** (also Standards 5.2, 5.10; 6.3, 6.6)
-  **Fossils** (also Standards 5.8, 5.10)
-  **Mammal Skulls** (also Standard 5.10)
-  **Minerals** (Standards 5.1, 5.6, 5.8 only)
-  **Sea Life** (also Standard 5.10)
-  **Shells** (also Standard 5.10)













VII. WORKSHOP EXHIBITS

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

-  **Sandbox Archaeology Workshop (Standards 5.1, 5.2; 6.1-6.4, 6.6)**
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** (Standards 5.2, 5.4; 6.1-6.4, 6.6)
With biographies from Benjamin Franklin to J. Robert Oppenheimer
-  **American Women Inventors Pictures** (Standards 5.2, 5.4; 6.1-6.4, 6.6)
-  **Cartwright Loom Model** (Standards 5.2, 5.4; 6.1-6.4, 6.6)
-  **Civil War: *Monitor* and *Merrimack*** (Standards 5.2, 5.4; 6.1-6.4, 6.6)
Models of Civil War ironclads; pictures
-  **Clay and Its Uses** (Standards 5.4; 6.6)
Structural, representational, special, and household uses
-  **Early American Carpentry Tools** (Standards 5.2, 5.4; 6.1-6.4, 6.6)
-  **Edison** (Standards 5.1, 5.2, 5.4; 6.1-6.4, 6.6)
Light bulb, cylinder record; pictures
-  **Energy Sources** (Standards 5.1, 5.4, 5.6, 5.7, 5.10; 6.6)
Renewable and non-renewable resources and their hope for the future
-  **Fabric Decoration** (Standards 1.5; 5.2; 6.6)
Weaving, dyeing, printing, sewing, painting
-  **Fabrics and Fibers** (Standards 1.5; 5.2; 6.6)
Wool, linen, silk, cotton, synthetics; raw and finished
-  **Farming** (Standards 3.1; 6.5, 6.6; 9.1)
Real and model tools, animals, book

-  **How a Piano Works** (Standard 5.7)
Model, keys, interior view of piano
-  **Lighting** (Standards 5.2, 5.4, 5.7)
Rush light, candles, oil lamps, gas, electric
-  **Maps and What They Tell Us** (Standard 6.6)
-  **Mineral Ores and Their Metals** (Standard 5.8, 5.10)
-  **Minerals and Their Uses** (Standards 5.8, 5.10)
From ceramics to roadways
-  **Morris Canal** (Standards 5.2, 5.4; 6.1-6.6) Two boxes
-  **Navajo Loom** (Standards 1.5; 3.1; 6.1, 6.4)
Real loom model, dye chart, storybook; pictures
-  **New Jersey Products** (Standards 5.2, 5.4; 6.1-6.6)
Things made in New Jersey, state flag, map
-  **Telegraph Key** (Standards 5.2, 5.4)
Operable key, mounted Morse code chart; pictures
-  **Titanic Ship Model** (Standard 6.1)
Articles, undersea pictures of wreck
-  **Wood: What Can We Make With It?** (Standard 1.5; 6.6)
Ships, houses, boxes...what else?
-  **Wright Brothers** (Standards 5.4; 6.1-6.4, 6.6)
Slides with typescript, booklet about early airplane flight