

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 (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



Go Green! (also Standards 5.6; 9.2)

Recycling materials; 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, *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 (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 6
WORKSHOPS: *Charles W. Morgan* (Early American Whaling), *Social Studies*, page 28
SHOWCASES: Mammal Skulls, page 23

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
- 
Mission to Mars
 Diorama, DVD; map, activities, pictures
- 
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 23

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 23

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 23

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 23

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
-  **Go Green!** (also Standards 5.1, 5.4, 5.6, 5.10; 6.6; 9.2)
Recycling materials; activities
-  **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 — Plant Life page 4; Insects, page 7; Mammals, page 9; Birds, page 11


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