

Strolling through the Park
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Overview

Strolling through the Park is a broadly focused approach to the study of the four “Great Parks” of Pittsburgh. Highland Park, Frick Park, Schenley Park and Riverview Park each take up more than 250 acres of city property. Lessons in this unit deal with each park’s history, current resources and future plans. The audience for this curriculum is made up of gifted students from grades three to five. The unit is designed as an interest course for the second semester of the school year. Interest courses are electives for students. After reading a class description students choose the class in which they would like to participate. There are approximately fifteen classes of one hour sessions. Three sessions are devoted to each park and the sessions cover the history of that park, the uses of the park today and the future plans involving each park. The remaining two sessions are for introduction time and wrap-up time. The classroom activities are broken down into four sections, one for each park.

Rationale

The purpose of the curriculum is to present both a historical and a contemporary overview of Highland Park, Frick Park, Schenley Park and Riverview Park. A secondary purpose is to encourage students and their families to get out into the parks to exercise and learn. The lessons on the history of the park explain how the park came to be a park and what that designation means. Lessons include a look at the structure and function of the Pittsburgh Zoo and Aquarium, the Allegheny Observatory, the Phipps Conservatory and the Frick Art and Historical Center. Activities dealing with the uses of the park today encompass learning the rules and techniques of golf, bocce, aerobic exercise and playground physics. Class sessions about the future of the park focus on biodiversity, restoration and preservation.

Objectives

- The behavioral objectives of this unit are:
- The student will be able to identify the four great parks of Pittsburgh.
- The student will be able to explain how each park was formed and who was responsible for the formation.
- The student will be able to discuss the highlights of each park.
- The student will be able to increase his/her knowledge of recreational opportunities in the parks.
- The student will be able to generate ideas about how to restore and preserve parts of each park.
- The student will be able to use the information about each park to create a project explaining one facet of the park.

Strategies

The teaching strategies for this curriculum are designed to integrate classroom experiences and activities with the experiences and activities that students can participate in at the parks in our city. Therefore, this unit is a way to get students and their families to exercise more, to spend quality leisure time together and to perhaps get involved with keeping the parks in good shape. The classroom activities will incorporate movement and physical involvement as students learn the roles and techniques of various sports.

The classroom activities are designed to have students actively participate in skits, role-playing and oral presentations in order to learn about the history of our parks. The classroom will evolve into a visual representation of the four great parks as we discuss stewardship of these resources.

Classroom Activities

Introduction

The four great parks of Pittsburgh are Highland, Frick, Schenley and Riverview. They were conceived during the time of the Industrial Revolution, when machines began to do the work formerly done by hand. The Industrial Revolution changed the way in which products were made and distributed to consumers. It changed the way in which working people lived. Starting in Great Britain in the 18th century this wave of significant and rapid change led to the formation of cities and the formation of a working class of people living in those cities. The Industrial Revolution spread to the United States and by the 1800's Pittsburgh was a city of industry. The working population in Pittsburgh toiled in places such as steel mills, coke factories and glass manufacturing plants. City planners and wealthy

business owners tried to provide places for workers and their families to go to in their leisure time. In 1888 Edward Bigelow was appointed Director of Public Works for the City of Pittsburgh and he remained in that position for the next thirty years. During that time he secured land and money to build the four great parks. He used funds to hire landscape architects to design ornate entrances and detailed gardens for the parks. For many years the parks grew and flourished. It was after World War I that a decline came. City dwellers began moving to the suburbs and the city parks became less important to residents and law makers. Funds for the parks' upkeep were cut back. Today there is a movement to restore the parks to their original beauty. The Pittsburgh Parks Conservancy is working with volunteers and the government to clean up, rebuild and renew interest in the four great parks.

Park Identification #1

Have students use city maps to locate each of the four great parks. Use markers or highlighters to outline each park. Study the map scale to determine the size of each park. Discuss the neighborhoods that use these parks. Have the class begin to develop a chart that lists each park, its location, its size and who in the class has ever visited the park. Display the **Park Chart** for students to be able to indicate a visit to that park over the course of the unit.

Park Identification #2

Obtain maps of each park from the City of Pittsburgh website. They are available to download. Have students study each map and expand the **Park Chart** to include the places of interest in each park as shown on the map. Lead a discussion about what the students already know and have experienced about these places of interest. Talk about what the class wants to learn more about as they study each park. Add this information to the chart.

Highland Park

The 380 acres that now make up Highland Park were once farmland that belonged to the Negley Family. The land for the park was obtained piece by piece by Edward Bigelow who was the Director of Public Works at the time. It was purchased from the great-grandson of Alexander and Mary Burstresser Negley after their deaths. Alexander died in 1809 and Mary died in 1829. Both are buried in Highland Park where a marker can be seen near Memorial Grove behind the zoo. The park was designed around its first structure, the reservoir, in 1879. By 1893 the rest of the park was completed for an official opening. Seventy-seven acres were then set aside for the Pittsburgh Zoo which opened to the public in 1898. The first zoo design gave visitors a chance to see exotic animals in cages organized in a display format popular at the time. Over the years the zoo has changed into a "naturalistic habitat and resource for conservation, education and

research.” The first change took place in 1937 when the outdoor bear exhibits were built. Then came the Children’s Zoo in 1949. In 1967 the AquaZoo opened. It was the second largest aquarium in the country at that time. From 1980 to 1990 major renovations took place at the zoo. Animal habitats were designed and the animals were no longer kept in cages. They were able to roam in areas such as the Asian Forest and the African Savanna. The Tropical Forest Complex was opened in 1991. It provides five acres of an indoor tropical climate and houses primates and plants. Another indoor and underground exhibit of reptiles and amphibians was renovated in 1992. The 90’s also saw the construction of classrooms, a library and a large lecture hall. Kid’s Kingdom and the Discovery Pavilion completed the education component of the zoo plan. In 2000 the aquarium was redone and the zoo was renamed to include it in that name. Highland Park is now home to the Pittsburgh Zoo and PPG Aquarium. Though the zoo is the main attraction in Highland Park the park has other resources. There are many picnic areas throughout the park. The swimming pool, wading pool and sand volleyball courts provide opportunity for exercise. Lake Carnegie is used for fishing and the Super Playground structure is used by children from the neighborhood.

Lake Carnegie was designed as a reservoir to hold some of the water supply for the growing city of Pittsburgh in the late 1800’s. It was partially financed by Andrew Carnegie and is just one of the many Pittsburgh sites that bear that name. It was never used for its original purpose. Instead, upon completion in 1894, the lake was redesigned as a recreational resource. It was to be used for swimming, boating and ice skating. During this time the lake was bigger than it is today and was able to hold many row boats and swimmers. In 1932 part of Lake Carnegie was filled in and formed into two swimming pools. The swimming pool that is used today was once part of Lake Carnegie. Lake Carnegie is now used primarily for fishing programs. In 1999 the Highland Park Community club received a grant of \$2500 to stock the lake as part of an educational program for children. Eight hundred fish of various species were placed in the lake in the winter in preparation for fishing in the early spring. Some of the types of fish that were released into Lake Carnegie included bass, perch and catfish.

The Super Playground is the newest addition to Highland Park. It was built in five days by community volunteers in 1991. One hundred and twenty thousand dollars was raised through community efforts to pay for the design and materials needed for the structure. It is primarily made of wood and contains catwalks, climbing ropes and tires, swings, slides and moveable parts for children to manipulate. Its upkeep is the responsibility of the community and volunteers periodically sand, repair and paint when needed. Imagination and fantasy play are fueled by the design of this play area. Principles of physics are seen throughout

the design so it is a resource for learning that can be used by many different age groups.

Pittsburgh Zoo and PPG Aquarium

Biomes Lesson

Biomes are life zones of the world. They combine animal life, plant life and geographic features in a common area. The biomes include: tropical rainforest, tundra, desert, grassland, savanna, marine and chaparral. The Pittsburgh Zoo and PPG Aquarium has sections that parallel the biomes of the world. The biomes and zoo sections that are related are as follows:

| Zoo Section | Biome |
|---------------------|----------------------------|
| Bears | Northern Coniferous Forest |
| Discovery Pavilion | Tundra |
| Niches of the World | Desert |
| The Asian Forest | Grasslands |
| The Tropical Forest | Tropical Rainforest |
| Cheetah Valley | Chaparral |
| African Savanna | Savanna |
| PPG Aquarium | Marine |

Have students choose a zoo section and its parallel biome. Using the zoo website (<http://zoo.pgh.pa.us>) and a biome website (<http://www.nceas.ucsb-web/kids/biomes>)

have students locate images of the animals and plants that are found in that biome. Using the pictures and information develop a collage for each zoo section/biome. Display the collages in the classroom.

Lake Carnegie

Ichthyology

Ichthyology is the study of fish. Scientists working in this field deal with identifying, classifying and experimenting with fish. All fish have certain common characteristics. Three characteristics that distinguish fish from other bony animals are the lateral line, the gills and the fins. A study of the external anatomy will illustrate the parts of the fish. The lateral line is a line of pores on both sides of a fish body. These are specialized cells that are connected to the nerves of the fish. The pores actually provide openings to tiny tubes that go through the scales and into the body. The tubes connect to tiny hairs that connect to nerves. Sounds are determined by the movement of the tiny hairs when low frequency vibrations occur. This is how fish hear. The gills work like the lungs of the fish. They are delicate tissue that take in oxygen and release carbon dioxide underwater. The gills are covered by protective bony plates which can be

lifted up to see the gills which look like filters. All fish have fins but different species have different types. The fins of the fish are used for balance and propulsion through the water. Obtain fish from a local fish market or supermarket. The fish can be kept frozen to cut down on the smell. Get samples of Pennsylvania fish such as perch, smelt, or herring.

Have groups of students observe the three main characteristics of the fish. Wearing protective gear (aprons, goggles, gloves and surgical masks if needed) have students feel the scales, gill covers and fins. Using tweezers have students remove a few scales and note their shape and how they are connected to the fish's body. Have students find and trace the lateral line by pressing thin paper across the body of the fish. Have students move the fins back and forth and note which fins move easily and which do not. Talk about the function of the fins in regard to their location on the fish's body. At this point the teacher could open up one of the fish to expose the insides if students are curious and would like to do research on the internal anatomy of the fish.

Angling Lesson

Tackle and bait are the two most important aspects of fishing. Tackle refers to the piece of equipment or instrument that the fisherman uses and bait refers to the item used to lure the fish into biting on the hooks. Some fishermen use live bait such as worms, small fish, salamanders or crustaceans. Others use food such as cheese, corn or balls of dough. Many use artificial bait. In fact, many people have made a hobby out of making lures.

Lures are artificial bait used to catch fish. An angler (fisherman) must learn about the fish that he/she wants to catch and choose a lure design that will attract the fish. Have students look at books and internet sites that deal with angling. Have them notice what lures are used to attract which fish. Let each student select a Pennsylvania fish and find out what that fish likes to eat. Use paper clips as hooks by forming the clip into a "u" shape resembling a fish hook. Provide students with materials such as feathers, pipe cleaners, plastic eyes, thread, yarn and beads. Have each student make a lure that will attract the fish that they chose. The lures can be displayed along with a picture of the fish.

Super Playground Inclined Planes

At the main entrance to Highland Park the community built a wooden play structure that uses principles of physics and simple machines to provide entertainment to children. The Super Playground contains many slides. A slide is really a simple machine called an inclined plane. A machine is any object that does work or makes work easier for people. An inclined plane makes it easier to overcome resistance with minimal force. It takes less force to move an object up

an inclined plane than to lift that object. The slide works with gravity to provide an easier way to set an object down. It is easier to roll an object down an inclined plane than to place it on a surface by bending over. This simple machine is used to provide enjoyment to those who slide down. The steeper the slide the quicker the acceleration will be. Have students use corrugated cardboard strips as slides. Demonstrate how a marble will roll down the slide at different speeds depending upon the height of the top of the slide. Have students think of a problem and a hypothesis concerning the cardboard slide and the marble. A possible problem could be: Does the size of the marble affect how fast it travels down the slide? Or, Will a marble travel faster down a curved slide or a straight slide? Allow students time to form hypotheses and test them using their cardboard models. If possible visit the playground and test out these hypotheses on the slides in Highland Park.

Frick Park

Frick is the largest of the four great parks of Pittsburgh. It was bequeathed to the city of Pittsburgh by Henry Clay Frick because of a promise he had made to his daughter at her coming out party at age seventeen. Helen Frick told her father that she wished for a park where the children of Pittsburgh could enjoy nature. The Frick family left the land and a trust fund for its upkeep that has helped to maintain Frick Park for many years.

Mr. Frick had made his fortune by producing coke from coal and therefore providing the steel industry with the essential ingredient for production. He was a millionaire by age 30. He was a partner with Andrew Carnegie for a time and his name has always been associated with industry in Pittsburgh. Henry Clay Frick was also a collector. He amassed works of art, cars and real estate. He put his art collection on display for the public to enjoy. His family home, called Clayton, is still standing at one of the many entrances to Frick Park. This mansion is the site of the *Frick Art and Historical Center*.

The center is open to the public. Tours of the restored rooms are given daily. Visitors can roam through the greenhouses and gardens. The car and carriage house museum is filled with antique cars and horse drawn buggies once owned by the Frick families. Within the park itself there are many trails and pathways for jogging and walking. Most of this part of the park was left in its original state with hilly areas and pathways. Little landscaping was done to change the natural look of the park. The park contains wildflower and herb gardens that are tended by volunteers. It also houses a nature center where classes and camps are held for community residents. This area of the park is the Frick Woods Nature Reserve and it occupies 150 acres of park land lush with native plants. Another section of the park has a playground, ball field, basketball court and an area for lawn bowling. The lawn bowling green is maintained by an active lawn bowling

society that has been in existence for many years. The Frick Lawn Bowling Club began in 1938 and still exists today as a privately funded group. The lawns are adjacent to the Frick estate and are carefully cared for by a special groundskeeper. The club is active and encourages new members, provides lessons and holds lawn bowling tournaments.

The Frick Art Museum Giovanni de Paolo

Giovanni de Paolo was an Italian painter whose work hangs in the Frick Art Museum along with other paintings collected by the Frick family. His paintings deal mostly with religious ideas. His subjects are usually elongated figures with exaggerated features. He uses harsh colors in his works instead of rich or creamy shades. Have the students look at the painting entitled *St Claire Saving a Child from a Wolf*. It can be viewed online at ARTCYCLOPEDIA.com. This painting is a good example of de Paolo's style. Discuss how the artist used color and how he drew the people and animals. Let students brainstorm about the meaning or message of the painting. Give students time to work in groups to talk about what the characters in the painting might be saying. Have each develop a short skit or presentation about their thoughts on the painting. Each group can then present their work to the whole class. Have the class note the different interpretations that each group had about the painting.

Frick Woods Nature Reserve

Herbs and Spices

Near the main entrance to Frick Park there are several gardens that are tended by volunteers from the community. One of these gardens contains herbs that can be used for a variety of purposes. Herbs have been around for more than 5,000 years. Herbs are plants that are valued for their smell, taste and healing qualities. People use herbs for eating and cooking as well as for medicine, cosmetics and crafts. Obtain dried samples of herbs and spices from the grocery store. Use plastic film canisters and fill them half full with samples of 10 to 15 herbs. Review with the students the proper way to smell an unknown substance. Open the lid and wave one hand across the top of the canister wafting the smell toward the nose. Have students smell each sample and try to identify it. Have each student list whether they like, dislike, or had no reaction to the smell. Make a classroom chart of herbs or spices. Indicate the name, whether it was liked or disliked and what the students know about it. Visit the McCormick website to find out about herbs and spices. Encourage students to go home and find out if they have the spice in their house and what it is used for at home.

Lawn Bowling

The rules of Lawn Bowling are very similar to Bocce. Bring in a few Bocce sets to teach the lesson about lawn bowling. Lawn bowling has been played since the 13th century. The equipment consists of four “bowls” for each player and one jack for the game. A bowl is a ball that is slightly flattened on one side so that it will not roll straight. The jack is a small white ball. The game begins by rolling the jack. The object of the game then becomes rolling the bowls as close to the jack as possible to earn points for yourself or your team. Opposing players or teams alternate rolls and may try to knock bowls away from the jack as well as roll their bowl close to the jack. After all bowlers have taken a turn the player or team with the bowl closest to the jack gets a point. Have students play using the bocce sets. They can choose teams and play to a score of 10 points to win.

Riverview Park

Riverview Park is located on Pittsburgh’s north side in an area once owned by the Watson family who had used it for dairy farming and grazing. The land was purchased from the family by residents of the area who wanted a park that would equal those in the eastern part of the city. The residents pooled their resources, bought the park and then donated it to the city of Pittsburgh. When the park was new it housed many attractions such as a merry-go-round and zoo. Today the 287 acre park is mostly woods and trails. The park contains the Allegheny Observatory. It has been owned and operated by the University of Pittsburgh since the mid 1800’s. Many famous Pittsburghers have been connected with the observatory over the years. S.P. Langley and John Brashear were both involved in scientific studies there. The observatory has actually had two locations in the park, first on Perrysville Avenue and later rebuilt on the hillside where it stands today. There are three domes containing large telescopes for use in research. The Allegheny Observatory is open to the public for tours and viewings during evening hours. Also its instruments can be used by students who are studying astronomy or related fields. Riverview Park is known for its many woods and sheltered pathways. There is also an equestrian path that winds through the park and a winding one-way road that travels the length of the park. These pathways make walking and jogging a popular and healthy pastime in Riverview.

Riverview, like all of the other great parks, has been plagued with invasive species. An invasive species is a plant or animal that isn’t native to the area but has taken up residency there and is overcoming the native life. Groups like the Pittsburgh Parks Conservancy are working to restore the park lands. This is a volunteer and privately funded group. The Conservancy educates and does field work in parks. Riverview Park has also been used by picnicking families

throughout its history. There are shelters, playgrounds and ball fields in the park but many need to be upgraded.

Allegheny Observatory Constellations

Constellations are groups of stars that astronomers organized so that the stars could be remembered. Grouping stars in a shape and giving the shape a name has helped and inspired people for ages. Ursa Major is a familiar constellation to most star gazers. This constellation helps people to identify the North Star also known as Polaris. Identifying stars and their positions was a way for farmers to determine when to plant their crops. Many constellations have legends that explain them. The story of Ursa Major, also called the Great Bear, is a familiar one:

Many years ago the Great Bear noticed that the Coyote always seemed to have lots of fish to eat. The bear asked the coyote how he was able to catch that many fish. The coyote told the bear to go to the pond and stick his tail in the cold water. When he felt a bite on the tail the bear was to pull out his tail and grab his catch. The bear did as he was told but he waited so long for a fish to bite that he fell asleep with his tail in the water. When he woke up the pond had frozen over. When he tried to pull his tail from the ice it came off! That is why bears, including Ursa Major, have no tails.

Review this story with the class. Using a set of string lights have the students create Ursa Major on the classroom floor. Have the students find the Big Dipper within the constellation of Ursa Major. The Big Dipper is actually an asterism within the constellation. An asterism is a part of a constellation that forms a shape. Using a second set of string lights have the students create Ursa Minor which is the Little Bear. It also contains an asterism called the Little Dipper. The last star in the handle of the Little Dipper is called Polaris also known as the North Star. The North Star is used by many people to determine direction or location at night. Have the class locate the North Star and change that bulb in the set of lights to a special color to indicate Polaris. Have the students view the stars on the floor from all angles. Then have them brainstorm ideas about stories like the one about Ursa Major that could be told about the stars they see.

Walking and Jogging Trails Healthy Hearts

Pedometer, small portable instrument that counts the number of steps taken and measures the approximate distance covered by a person walking or running. Each step taken by the person sets in motion a swinging weight within the instrument,

causing the mechanism to rotate, and the number of rotations are registered on the instrument face.

(Microsoft® Encarta® Reference Library 2003. © 1993-2002 Microsoft Corporation.)

Obtain a pedometer for each student. Go over the directions that come with the pedometer. There are slight variations for setting each brand of pedometer but some general information can be reviewed as part of the lesson. Make sure the pedometer is attached to a belt or waistband in the vertical position and centered at the midline of either thigh. Attach the pedometer securely so it does not hang loose. Check it often and replace the battery if needed. The recommended daily number of steps is 8,000 to 10,000 for long term health. Have students discuss how they could increase the steps they take each day. Explain that reaching the 10,000 steps a day goal is a gradual process. Have students commit to increasing and monitoring their steps as part of a get-healthy program. Parents should be notified and asked to give permission before students are given a pedometer. Have students wear pedometers and record their steps each day. Students can report on their progress each week.

Wooded Areas Invasive Species

The Pennsylvania Integrated Pest Management Program provides teachers with a free downloadable lesson plan to introduce the facts about invasive species. A video can be purchased to accompany the activities in the lesson plan. Using this plan, first introduce the vocabulary to the students. An invasive species is an organism that adapts quickly to a new environment, reproduces and rapidly spreads usually causing harm to native organisms. The parks in Pittsburgh have had a problem with invasive species for many years. Have the students research four species that have invaded areas in our state: Asian Longhorn Beetle, Purple Loosestrife, Plum Pox and Zebra Mussel. Have students find illustrations and descriptions of these four organisms. Then give them time to create posters or a bulletin board display that explains how to identify one of the four invasive species that they researched.

Schenley Park

Schenley Park was originally called “Mount Airy Tract.” It was over 400 acres of land belonging to Mary Schenley. The land had been left to her by her grandfather. Mary had left the country and was living in England during the time that the parks movement was taking place in Pittsburgh. The land was almost bought up by real estate developers. Luckily Edward Bigelow’s representative

reached Mary Schenley before the developers did. Most of the land was given to the city with the provision that the park be named after Mary Schenley and never sold. Park developers saw the natural beauty of the park and added to it by constructing Phipps Conservatory and Botanical Gardens in 1893. Phipps was a gift to the city from Henry Phipps. He hired architects from New York to design nine display houses. At the time it opened Phipps was the largest conservatory in the United States. Today Phipps has expanded and has become a private organization. It houses spectacular collections of ferns, tropical plants, orchids, palms and succulent plants. Seasonal flower shows and a butterfly room are visited by many people each year. The Discovery Garden is a special outdoor display just for children. Also outside is the Japanese Garden and Courtyard. Phipps holds classes, conducts environmental programs and outreach education. Schenley Park is also home to two golf courses. One is a course for Frisbee golf which winds its way through the hillsides of the park. There are 18 holes (baskets) into which Frisbees are thrown as the course progresses. The Pittsburgh Flying Disc Society provides information for those who are interested. The other is a public green consisting of a 4,600 yard natural course. Golfers of all ages can utilize the facilities. Lessons are available, as are practice greens, a snack bar and an indoor practice facility. Schenley Park has other recreational facilities that include a swimming pool and skating rink. Anderson Playground is a new area for children that has a dinosaur theme. The equipment was carefully designed to encourage creative play and to teach science concepts to young children through observation and discovery. Throughout Schenley Park there are many trails for walking and jogging. However many paths have suffered from erosion and invasive species. Groups are working hard to restore the areas to their past conditions. At the north end of Schenley Park one can find the Carnegie Museums and Library which were donated to the city by Andrew Carnegie and used by many residents each day.

Phipps Conservatory and Botanical Gardens Plants from Seeds

The Phipps outreach program provides many programs for classroom teachers and this activity has been adapted from that program. Explain to students that seeds are the beginning of plants. Seeds are called cotyledons by botanists. There are two types of seeds that develop into two types of plants. Monocotyledons are seeds of one piece and they develop into plants that have one stem or blade. Corn and grass are examples of monocots. Dicotyledons are plants that have two leaves or stalks. Peanuts and lima beans are good examples of dicots. Get dried corn and dried lima beans for this activity. Soak the seeds for a few hours before using them. Explain the difference between monocots and dicots to the class. Talk about prefixes and what “mono” and “di” mean.

Pass out one corn kernel and one lima bean to each student. Instruct the students to try to open the seed. The lima bean will easily come apart to reveal a tiny plant inside. This is the embryo from which the plant will grow. The corn kernel will not come apart. Explain that a corn is a monocot while a lima bean is a dicot. Give each student a new kernel of corn and a new lima bean along with two small paper cups. Mark one cup CORN and one cup LIMA BEAN. Fill the cup about $\frac{1}{2}$ full of good potting soil. Have the students push their index finger into the soil up to the first knuckle. Remove the finger and place a seed into the hole. Cover the hole with dirt. Spray the soil until it is moist. Set the cups in a warm place and give them about seven days to grow. Have students note the difference between the first outgrowths. The corn will be one straight stalk while the lima bean will put forth two leaves. Students can take their seedlings home to replant in a window or outdoor garden.

Frisbee Golf

Frisbee or Disc Golf has been around since the days of the cavemen. Throwing rocks at prey was safer than close attacks with sticks. Throwing flat rocks with efficiency was the forefather of throwing the discus which resembles today's Frisbees. Frisbees were invented when college students began tossing pie pans around during leisure time on campus. The Wham-o Toy Company took the idea of throwing a plate for fun and created the first plastic Frisbee. Sports with this toy sprung up all over. There are competitions between people and dogs for catching and throwing the Frisbee. Using the Frisbee for golf started around 1975 in California. A course was designed using metal baskets on poles for the targets into which to toss the Frisbee. The poles with baskets were positioned across a hillside and pathway and numbered like holes on a golf course. The object of the game is to throw the Frisbee into the basket. Have students use small paper plates as Frisbees. Set up a golf course in the classroom using plastic baskets. Let students play nine or eighteen holes of Frisbee Golf.

Anderson Playground Explanatoids

Anderson Playground is a children's area in Schenley Park. The equipment has a medieval and a dinosaur theme throughout. This area is also the site of several Explanatoids. These are signs which explain the science behind an object or item located in the park. The Explanatoids at Anderson Playground introduce two dinosaurs that bring science to the playground. The signs present simple explanations about the science behind the twirly bar, merry go round and swings. Concepts such as centripetal and centrifugal force, gravity, speed and distance are dealt with in simplistic child friendly signs.

Have students visit the Explanatoids website. While online they can view all of the signs that are on display around Pittsburgh. Also online they will be able to design their own explanatoid. Allow students time to come up with an idea for an explanatoid for a park site. Students can work alone or in groups to decide on a park, a park site, and an explanatoid topic. Have students create explanatoids to submit to the website and to be hung in the classroom. These signs will connect science to the four great parks.

Annotated Bibliography for Students

Brubaker Bradley, Kimberly. *Energy Makes Things Happen*, Harper Trophy, 2002.

(This book is cleverly written and illustrated and makes students think about physics.)

Cole, Joanna. *The Magic School Bus Plants Seeds*, Scholastic Books, 1995.

(This book tells the story of how a seed grows into a plant.)

Encyclopedia of Fishing, Dorling Kindersley Publishing, New York, 1994

(This book provides information about tackle, bait, lures, species of fish and fishing techniques.)

Hill, Mary. *Let's go to a Park*, Children's Press, Danbury Connecticut, 2004.

(This is a very basic read-a-loud book to inspire brainstorming about parks.)

Kalman, Bobbie. *What is a Biome (The Science of Living Things)*, Crabtree Publishing, New York, 1998. (This book contains short chapters and is easy to read. It explains the interdependence of species with charts and photographs.)

Lee, Fran. *Wishing on a Star: Constellation Stories and Stargazing Activities for Kids*, Gibbs Smith Publishers, 2001.

(This book is written for 4th and 5th grades and it provides information about constellations for a beginner in astronomy.)

Tierra, Leslie. *A Kid's Herb Book*, Robert Reed Publishers, 2000.

(This is a paperback book geared to teaching children about common herbs.)

Annotated Bibliography for Teachers

Books

A Guide to Pittsburgh's Great Parks, Pittsburgh Parks Conservancy, 2001

(This booklet contains histories of the four great parks, maps and present day attractions.)

Allaby, Michael, *Biomes of the World*, Grollier Books, Danbury Connecticut, 1999.

(This is a set of encyclopedias that explain the biomes of the world.)

Ashworth, Ralph. *Greetings From Pittsburgh*, Vestal Press, New York, 1992.
(This book is a collection of postcards that show Pittsburgh through the years.)

Lorant, Stefan. *Pittsburgh: the Story of an American City*, Lenox, Massachusetts, 1975.
(This is a pictorial history of the city of Pittsburgh.)

Meunick, Jim. *The Basic Essentials of Edible Wild Plants and Useful Herbs*. ICS Books, Merrillville IN, 1988.
(This book is a useful guide to common herbs.)

Pattison, Ric and Neil Sutherland. *Pittsburgh, a Picture Book to Remember Her By*, Crescent Books, New York, 1986.
(This book contains photographs of many Pittsburgh sites and is a good discussion starter.)

Rutledge, J. *Anatomy of a Park*, McGraw Hill, New York, 1971.
(This is a book about landscape architecture and construction of recreational areas.)

Sosin, Mark Angler's *Bible*, Stoeger Publishing Company, New Jersey, 1975
(This book provides facts, stories, photographs and illustrations that deal with many aspects of fishing.)

Stryker. Roy, and Mel Seidenberg, *Pittsburgh Album*, Pittsburgh Post Gazette, 1959.
(This book contains photographs and captions that provide a historical look at the city.)

Toker, Franklin. *Pittsburgh: An Urban Portrait*, University of Pittsburgh Press, 1994.
(This book contains information about famous Pittsburgh buildings.)

VanCleave, Janice. *Physics for Every Kid*, John Wiley and Sons, 1991.
(This book provides short and easy experiments that deal with every aspect of physics.)

Videos

Seback, Rick. *Something About Oakland*, Video, Pittsburgh, WQED, 2000.
(This film contains interesting information about Schenley Park.)

Seback, Rick. *Stuff That's Gone*, Video, Pittsburgh, WQED, 1994.
(This film contains historical information about Pittsburgh's parks.)

Websites

<http://www.pghbridges.com> Bridges of Schenley Park.
(This website provides factual information about the formation of Schenley Park.)

<http://www.highlandparkpa.com/history>. Highland Park History.
(This website lists the development of the park in chronological order.)

<http://www.phipps.conservatory.org/index/html>.
(This website provides information on all aspects of Phipps.)

<http://phlf.org>. Pittsburgh History and Landmarks Foundation.
(This website has historical data on the four great parks.)

<http://www.discgolfassoc.com> History of Disc Golf.
(This website explains the origin, rules and necessary equipment for Frisbee golf.)

<http://city.pittsburgh.pa.us>. City of Pittsburgh.
(This site reproducible maps of the four great parks.)

<http://www.mccormick.com> History of Spices.
(This website gives background information on most common herbs and spices.)

<http://www.bowlsamerica.org>. What is this Game?
(This website explains the history and rules of lawn bowling.)

<http://www.pittsburgh.about.com>. Clayton House- Frick Historical Center
(This website goes into detail about the life of Helen Frick and the history of the mansion.)

<http://www.pitt.edu/~aobsvtry/history/history-frame.html> The Allegheny
Observatory
(This website provides a history of the Allegheny Observatory as well as
information about its current status.)

<http://www.pbs.org/americaswalking.America'sWalking:Pedometer> Pedometers
(This website explains how to use a pedometer and how walking can increase
good health.)

Content Standards

1. All students use effective research and information management skills, including locating primary and secondary sources of information with traditional and emerging library technologies. (*Reading, Writing, Speaking and Listening*)
2. All students relate various works from visual and performing arts and literature to the historical and cultural context within which they were created. (*Arts and Humanities*)
3. All students examine and evaluate problems facing citizens in their communities, state, nation and world by incorporating concepts and methods of inquiry of the various social sciences. (*Citizenship*)
4. All students demonstrate their knowledge of the benefits associated with physical fitness and good personal health habits, including health promotion and disease prevention. (*Wellness and Fitness*)
5. All students understand and describe the components of ecological systems and their functions. (*Environment and Ecology*)

Appendix A

| Name Size Location | Student visitors | Places of Interest | Knowledge And Experiences | We want to know... | We learned... |
|-----------------------------------|-----------------------------|-------------------------------|--|-------------------------------|--------------------------|
| Highland | | | | | |
| Frick | | | | | |
| Schenley | | | | | |
| Riverview | | | | | |