Introducing Architecture

A series of worksheets and activities for classroom use

Drawings by Eric Nicklaus, 1996

Compiled by the Pittsburgh History & Landmarks Foundation
PITTSBURGH HISTORY & LANDMARKS FOUNDATION

Founded in 1964, the Pittsburgh History & Landmarks Foundation is a non-profit historic preservation group serving Allegheny County. It is dedicated to identifying and preserving the architectural landmarks, historic neighborhoods, and historic designed landscapes of Allegheny County and to educating people about this region’s architectural heritage and urban and landscape design history.

Through its Preservation Loan Fund, bricks-and-mortar projects, architectural surveys, feasibility studies, and educational programs, Landmarks has been able to prove the economic and cultural value of historic preservation and articulate a realistic vision for Pittsburgh’s future based on an understanding of its past and an appreciation of its built environment.

Landmarks’ offices and reference library are located on the fourth floor of The Landmarks Building at Station Square. For further information about our preservation services, educational programs, or membership benefits, please call (412) 471-5808 or visit our website at: www.phlf.org
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Warm-up Exercises:

PERCEPTION

Goal: to encourage people to start noticing what is around them

A perception game for students
1. Find a partner and take about 10 seconds to observe how he/she is dressed and how he/she looks.
2. Have one partner (A) turn his/her back on the other partner (B).
3. While partner A is not looking, partner B should change one thing about his/her appearance: tuck in a shirt; unbutton a button; put your glasses on upside down, etc.
4. Tell Partner A to turn around and guess what is different about Partner B’s appearance.
5. Switch roles and repeat the process.

Perception games in the classroom
Once a week, or once a month, change something in your classroom and see if your students notice: turn a poster upside down; hang up something new; move something out of the place where it is always supposed to be. This will help keep students alert and remind them that you expect them to be observant in the classroom.

DRAWING

Goal: to help students feel comfortable drawing and to encourage expression and creativity

Sketching your hand
Each student must have a piece of paper and a pencil.
1. Ask your students to hold the hand they do not write with in front of them, in any position.
2. Tell them to look at that hand during the whole drawing exercise.
3. Without looking at their paper, ask students to draw their hand in 30 seconds. Challenge them to use one line to draw the whole hand.
4. Hold up the drawings so everyone can see.

Usually, students laugh and comment on the drawings. They rarely feel embarrassed because they were not allowed to look at their paper and they were only given 30 seconds. But, point out that in spite of these constraints, the drawings look like hands. Congratulate your students on being able to reveal the basic shape and purpose of a hand with one line, in a limited amount of time.

Repeat this exercise once a week, or once a month.

Quick sketches of objects/people
For variation, you might ask students to draw a particular object in the classroom, or the person seated next to him/her! Remember: students must not look at their paper while drawing and the drawings must be completed within a time limit.
Comparing Aspects of a Building to the Human Anatomy

<table>
<thead>
<tr>
<th>Building Term</th>
<th>Human Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Facade</td>
<td>Face</td>
</tr>
<tr>
<td>2. Door</td>
<td>Mouth</td>
</tr>
<tr>
<td>3. Windows</td>
<td>Eyes and ears</td>
</tr>
<tr>
<td>4. Outside walls</td>
<td>Skin</td>
</tr>
<tr>
<td>5. Structural framework</td>
<td>Skeleton</td>
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<tr>
<td>6. Electrical system</td>
<td>Nervous system</td>
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<td>7. Plumbing system</td>
<td>Digestive and Excretory systems</td>
</tr>
<tr>
<td>8. Ventilation</td>
<td>Respiration</td>
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</tbody>
</table>
Constructing a Human Building

1. Obtain two volunteers and have them stand in front of the class.

2. Explain how their bodies and bones represent structure. And just as one bone supports another, one brick or one stone supports another in the wall of a building.

3. Point out how the volunteers are dressed differently. They are ornamented in different ways. Parts of the buildings are also ornamented or dressed in different ways.

4. Add additional students to make a row. They represent a structural wall, ornamented in different ways.

5. Is this a building yet?

6. What else is necessary for a building? Add more students to form four walls (leaving a doorway).

7. Is this a building yet?

8. Have students extend their arms to meet and form a roof. Walls support the roof. The walls and roof together represent enclosure and a completed building.

9. Have a student enter and leave the building through the doorway. Discuss function--how a building is used.

10. Discuss possibilities for change to the building. Add students to make an addition to the building. Alter someone’s clothing to change “ornamentation.”

11. Discuss what has happened and review architectural principles (in bold face).

Source: *Pittsburgh Heritage Curriculum*, Pittsburgh History & Landmarks Foundation, 1986
Body Building

_Feel in your body the pressure, stretching, and bending that architects must contend with._

A **column** resists compression. Balance a pile of books on your head to feel compression.

A **dome** works like many arches arranged in a circle. Start to make a dome by having two people make an arch, leaning their hands against a large rubber ball. Keep adding pairs until there is no more room. What would happen if someone took the ball away?

A **cantilever** balances weight on one side of a beam with weight on the other side. The beam must be strong enough to resist bending or it will break. To feel this bending force, try to hold the same pile of books at arm’s length.

A **catenary**, often seen in suspension bridges, is almost the opposite of an arch. Only steel cables are strong enough to resist this kind of tension. You can feel the tension of a catenary bridge and the compression on the piers that hold it by having two people pick up a third by the wrists and ankles. Is there more tension when the “piers” stand closer together or further apart? Is there ever a happy medium?

An **arch** uses compression to balance its own weight and the weight piled on top of it. Build an arch with two people leaning against each other’s hands. How far apart can you and your partner stand before your arch begins to collapse? Where in your body do you feel the most pressure?

Acting Out Structures

column  arch  post and lintel

column and beam  dome  cantilever

flying buttresses  load and support  tension  compression

Building Types

Churches
Churches usually have tall pointed parts such as windows, roofs and spires which point upward toward heaven and symbolize people's aspirations for God.

Schools
Schools usually look boxy and have groups of large windows because they have large boxy classrooms, auditoriums and gyms on the inside.

Commercial Buildings (Stores)
Stores used to have large open areas to display merchandise. Stores have large windows so people will see the merchandise from the street and want to come into the store and buy something.

Office Buildings
Office buildings are tall because they are built in the city on expensive land: builders want to build as many offices as they can on as little land as they can. Tall office buildings were built only after steel beams and the elevator were invented. They have small windows because there are many small rooms inside.

Factories
Factories have large low buildings so that they can have complicated manufacturing processes in one place without transporting things from floor to floor or building to building. Large windows and skylights let in light. Smokestacks take smoke away from the building and release it into the air.

Public Buildings
Public Buildings are designed to look formal and dignified so people will respect the government and other official organizations housed within.

Houses
Houses are the most common building type. There are many different types of houses. They look different from each other and have different relationships with each other.

1. What type of building are you in now?

Source: *Pittsburgh Heritage Curriculum*, Pittsburgh History & Landmarks Foundation, 1986
Building Materials

Buildings are constructed of many different materials. Materials determine a building’s structure and its exterior color and texture. Most buildings are constructed of wood, stone, or brick. What material or materials is your house constructed of?

WOOD

Wood is the most easily found and inexpensive building material. It is also easy to work with. Early houses were made of logs or thick boards slotted together. The development of manufactured nails and mechanical saws led to wood framing with thin boards nailed together. Wood weatherboard siding or shingles can also be used as an outside covering.

STONE

Stone is easily found in some places, but is difficult to work with. A stone wall combines structure and covering in one. Stone can be laid in irregular pieces (rubble) or cut into blocks. It can be rough surfaced (rusticated) or cut smooth. “Coursed” stone is stone laid in rows. Stone is very strong and makes a building appear solid.

BRICK

Brick is manufactured from clay. It is easier to work with than stone and is stronger than wood. Brick became popular in cities because a brick house does not catch on fire as easily as a frame house. Brick is laid in rows and held together with mortar. It is laid in different patterns or “bonds.” Can you see the difference between these two brick patterns?

Some buildings are built of other materials.

METAL

Metal is often used for the structure of a building. Strong steel beams support skyscrapers. Cast iron, steel, and aluminum are also sometimes used to cover buildings.

CONCRETE

Concrete buildings are made of concrete blocks, pre-cast and laid in rows, or of cement poured at a building site and left to harden.

GLASS

In most buildings, glass is only used for windows. Some modern buildings, however, are entirely covered by sheets of glass.

Source: Pittsburgh Heritage Curriculum, Pittsburgh History & Landmarks Foundation, 1986
What Is It Like To Be a Building?

Choose a building you are familiar with. Imagine what it would be like to be that building. What was it like when you were first built? How have you changed over the years? What do you think about the people who have lived in/used/visited you over the years? What is the expression on your face? Write a brief story answering these questions and any others you might imagine.

Source: *Pittsburgh Heritage Curriculum*, Pittsburgh History & Landmarks Foundation, 1986
Reading the Urban Environment

The objective of this exercise is to increase awareness of different building types.

There are many different types of buildings. What are some of the different building types in your community? How are they different from each other? Different buildings serve different purposes. Using your visual awareness skills, can you tell what a building is used for? Has the use changed since the building was built?

In my community we have (give the number of each building type):

Houses _________________________________________________________________________________

Churches________________________________________________________________________________

Schools _________________________________________________________________________________

Stores___________________________________________________________________________________

Offices _________________________________________________________________________________

Factories ________________________________________________________________________________

Public buildings __________________________________________________________________________

Old buildings/new uses____________________________________________________________________

What type of building are you in now?______________________________________________________

Source: *Pittsburgh Heritage Curriculum*, Pittsburgh History & Landmarks Foundation, 1986
Architectural Styles

**Italianate**
1840-1880
Adapted from Italian Renaissance villas, these buildings have a square body topped by a low roof line. At the roof line are deep eaves decorated with large brackets on a wide cornice board. Window shapes vary from floor to floor, with the most common shape having a rounded top. Italianate buildings are generally painted in colors reminiscent of sandstone.

**Second Empire**
1865-1885
Borrowed from France, this style is a square box with massive ornamentation. Windows of many sizes and shapes decorate the face. The most identifiable feature is the mansard roof. A full story tall and shaped like a flat-topped pyramid, the roof is often accented by a central tower structure and dormers. Second Empire buildings are often painted in dark colors, often reds or deep greens.

**Romanesque**
1875-1900
This style is characterized by massive arched windows and doorways. The facades of these buildings are often ornamented with short columns and squat towers. Always built of brick or stone, Romanesque buildings are sometimes decorated with terra cotta. The finest example of this style in Pittsburgh is the Allegheny County Court House and Jail.

**Classical Revival**
1890-1930
Tall columns, either round or square, and railing work around the roof are the features of this style. Tall windows, often with decorative caps (pediments) are located between the rows of columns. These buildings are always made of brick, stone, or a combination of both materials, and were usually banks, libraries, or other public buildings.

**Colonial Revival**
1880-1920
This style was designed to look like buildings of our Colonial period. Large pedimented gables, bay windows, and fan-shaped windows were accented by swag and wreath style ornaments which were used to convey the feeling of Early America. Colors too were colonial: cream, light green, gold, and white.

**Art Deco**
1925-1940
A style of decoration, rather than architecture, Art Deco is characterized by its rounded shapes, parallel lines, chevrons, and streamlined look. Many Deco buildings are new fronts on old buildings. Deco buildings were made of stucco and concrete. Store fronts were often colored glass or enamel on metal. Deco colors were red, black, coral pink, and turquoise.

From the brochure: *Preserving Pittsburgh’s Historic South Side*
Sketching a Building

Here is a simple four-step process for sketching a building elevation:

1. Dimensions
   The first step is to estimate the dimensions of the building. Choose an important dimension and call it “length 1.” Notice how the other important dimensions of the building relate to length 1. For the Court House, the distance from ground to rooftop of the side sections has been labeled 1. It is estimated that the building width is $1\frac{1}{2}$ times the length of 1, and that the tower height is $2 \frac{3}{4}$ times the length of 1. When you have estimated the dimensions, mark them with short lines.

2. Shapes
   The second step is to fill in the open space which you have marked off with the building’s important shapes. Look closely at the building and see how it is made up of rectangles, triangles and other shapes. Or perhaps it is only one shape. Choose the shape or shapes that outline a building (including roofs) and those that divide a building into sections.

3. Details
   The third step is to add details. Add doors and windows first, then other important details. You will be able to add more details if your drawing is large or if the building is small. You do not have to draw every minor detail. Finally, if you want to, indicate the building material.

4. Identification
   In the lower right corner, write the name of the building you drew and the street location. Also sign your name and the date you sketched the building.

Source: *Pittsburgh Heritage Curriculum*, Pittsburgh History & Landmarks Foundation, 1986
Mainstreet Mural

What do you do with all the drawings your students have done during their study of Pittsburgh’s architectural heritage? Build a city! Group murals are a wonderful way of fostering group cooperation and pride while displaying individual efforts.

Procedure
The basic idea of this mural-making method is more like a collage than the traditional mural where members of a class take turns crowding around one large painting.

Begin by gathering together all student drawings. Students then cut out their buildings so that no background remains.

In the meantime, prepare the background paper. Lay a large sheet of butcher paper (several colors are available) on the floor. Assign a committee as the “town planners.” They will arrange all the cut-out art work on the mural and decide if anything else is needed to complete the mural. They should be encouraged to overlap buildings or allow them to go off the page to lend some realism to the mural. If necessary, they can ask classmates to draw additional items like bridges, street lights, extra buildings, and other features. Some students may cut simple “foliage” out of green construction paper to help the town planners fill in the gaps between buildings.

Once the town has been laid out, the rest of the class should be allowed to approve the mural or offer suggestions. After the design has been approved, the town planners can glue the pieces to the background paper to complete the mural.

Some suggestions
Your mural background does not have to stay rectangular in shape—try cutting the background into the shape of a hill or adding a river with paint or colored chalk.

Use large sheets of cardboard instead of paper for the background and build your city in layers. Then, display your three-dimensional mural by standing the layers up behind each other on a table.

Source: Pittsburgh Heritage Supplement, Pittsburgh History & Landmarks Foundation, 1987
Architectural Columns

Columns are tall, slender posts made of wood, stone, or steel. They are used to hold up parts of buildings. Columns stand in a vertical direction and have three parts: a base at the bottom, a capital at the top, and a shaft in-between.

Here is some interesting history about columns:

Columns are a man-made adaptation of what a tree does. A tree spreads out a covering over people and protects them from the rain, the sun, and other elements. Man used this design and created his own protection cutting down trees and using them as columns to hold up roofs, create doorways, or to serve as monuments. Because the first columns were trees, they were simple and rested on the ground. The bottom of the column would begin to decay from the damp surface and so man started to put a base at the bottom of the columns. After some time, man began to make columns out of stone and then he even began to carve the stone so that the columns became very fancy. Can you see how many columns of today still look like the trees which gave us this building idea?

Although all columns share the same purpose, there are many different styles of columns because of the way they are sculpted. To decide what type of column you are looking at, take a close look at the capital. The columns pictured here are Greek columns: Doric, Ionic, and Corinthian.

Doric

Doric columns have a plain curved capital and no base.

Ionic

Ionic columns have elegant scrolls at the ends of their capital.

Corinthian

Corinthian capitals are very fancy with leaves and flowers used as ornaments.
Here is a famous story about the Corinthian capital:

The story was first told by Vitruvius who was a Roman architect. He wrote that the inventor of the Corinthian capital was Callimachus, a Greek sculptor of the late fifth century B.C. Callimachus saw a basket of tributes that had been placed over the grave of a girl from the city of Corinth. The basket was covered with a flat tile to protect the offerings. By mistake, the basket was placed over the root of an acanthus plant. The stems and leaves of the acanthus plant grew up around its sides and spread out beneath the tile of the basket. Callimachus sculpted what he saw and used it as a new kind of capital for a column.

The next time you ride through your neighborhood or go to the city, look around you and you will see columns everywhere! Schools, houses, churches, stores, and even ball parks use columns. If you want to know more about columns and buildings, ask your librarian to show you where the books on architecture and buildings are in your library.

Are you ready to be an architect?
To make a column you will need some simple art supplies: a cardboard tube, tape or glue, construction paper, markers or crayons, and scissors.
1. Cut each end of the tube four times and flatten the ends down.
2. Glue or tape the flattened ends to your cardboard.
3. Use the construction paper, markers, and crayons to decorate your column.

Hint #1
To make a Corinthian column, try cutting out some leaves and curling them before you attach them to the tube.

Hint #2
If you have a small cardboard jewelry box, cut a hole the size of the tube and this will make a base.
Paper-Bag Buildings

An art activity for Grade 2 and up (including adults)

Directions
Cut arm holes (4.5 inches in diameter) 1.5 inches from the top edge of the bag sides. Cut a head circle (6-inch diameter) from the flat bottom of the bag; add slits at the sides of the circle so the bag will pass over the head. If the bag is not going to be worn, do not cut holes; stuff with crumbled newspapers so your building will stand up for display.

Select your building carefully. Use either an imaginary building or a favorite building as a model; simplify details; use tempera paint or colored tape to block in big shapes; let paint dry. Add details with markers or crayons. Three dimensional details can be added using string, foil, construction paper, etc.

Note: finished bags may be re-folded for storage.

The bags are 16 inch x 35 inch x 12 inch (30 gallon size). Several local shops carry these bags for re-cycling lawn debris. In quantity (min. 100) they can be purchased from Paper Products, Inc. (412-481-6200).

Source: Pittsburgh Heritage Curriculum, Pittsburgh History & Landmarks Foundation, 1997
Gargoyle Masks

This is a natural follow-up activity for a city safari. If a city safari is not possible, use slides or another visual source for motivation before beginning the activity. In addition to developing creative thinking, the objective in making gargoyle masks is to require students to understand and experience three-dimensional texture in the environment and in their own artwork.

Procedure
Cut 18 inch x 24 inch oaktag into 6 inch x 24 inch strips to form the base of the mask. Provide other smaller sheets, pre-cut strips, and scraps of oaktag for students to use to construct their masks. Construction paper could also be used, but the paper should all be one color—this will simulate a gargoyle more accurately and will require students to concentrate on texture, not color, to achieve their goal.

Fit a strip around the head of each student and staple at the correct size. Mark eyes on base and have the students cut out eyeholes.

Brainstorm and demonstrate with the students all the ways paper can be changed from being flat to being three-dimensional or “unflat.” Some possibilities are: folding (single or multiple folds), tearing, crinkling, rolling around a pencil, curling with scissors, cutting and bending, or scoring with scissors along a curved line and then folding.

Students can now begin to build their gargoyles on the mask base—the wilder, the better! The masks should be thought of in three dimensions—the sides and back, not just the front. White school glue is the strongest way to attach mask parts, but paper clips or staples may be helpful while the glue dries.

For inspiration as they build, have a range of animal pictures (the whole gamut from reptiles and fish to birds and mammals) and a supply of pre-cut oaktag strips, straws, styrofoam “peanuts,” and similar “junk” available.

Once the masks are finished, arrange an exhibition, either worn or arranged on a bulletin board to simulate how they would be installed on a building.

History Written in Stone

Spend some quiet time exploring the Trinity graveyard between Trinity Episcopal Cathedral and First Presbyterian Church on Sixth Avenue, downtown. This little patch of ground is all that is left of a much larger cemetery that had its beginnings as an Indian burial mound. Later it was used as a cemetery for soldiers serving at Fort Duquesne and Fort Pitt and later still for Pittsburgh’s first citizens. Most of the graves were moved to Allegheny Cemetery through the years to make way for a growing city, but the tiny graveyard remains to remind us of the first brave settlers of Pittsburgh, the pioneer outpost.

During your visit find...

...the oldest grave
belongs to ____________________________________________ who died in ________________________

...the most recent grave
belongs to ____________________________________________ who died in ________________________

...the person who died at the oldest age
was ____________________________________________ who was born in _____________ and died in ______________

...the grave with the longest epitaph
belongs to _______________________________________________________________________________

What story does it tell?
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________

...all the people buried here who had Pittsburgh places named after them (streets, neighborhoods, buildings...):
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________
________________________________________________________________________________________

Make a “rubbing” of your favorite gravestone. Attach a piece of tracing paper to the stone with masking tape. Rub over the top of the paper with the side of a soft crayon. The crayon will pick up the textures, sometimes making difficult carvings easier to read.

Source: Pittsburgh Heritage Supplement, Pittsburgh History & Landmarks Foundation, 1987
A Bridge-Building Competition

Using everything you know about building use, structure, and appearance, build a cardboard bridge to compete in one of three categories: Strongest Bridge, Best-looking Bridge, or Most-ingenious Bridge.

CONTEST RULES

Materials:
You must use only corrugated or shirt cardboard, white glue, cotton string, staples, brass fasteners, and masking tape to build your bridge.

Bridges may also be decorated with paint, markers, crayon, or construction paper if you wish.

Judging:
Vote as a class or ask an impartial judge to choose the Best-looking and Most-ingenious bridges. The simplest test for the Strongest Bridge is to carefully pile on weights (like books) until the bridge starts to sag. The bridge that holds the heaviest stack wins. A more accurate way, though, is to divide the number of pounds each bridge holds by the number of pounds the bridge weighs all by itself. The bridge with the highest number (ratio) wins, because the best designs use the least materials to gain the most strength!

Size:
Your bridge must span at least 12 inches between piers and have 6 inches of space below the road deck (see the diagram at right). A recommended width for the deck is 9 inches, but it is not required.
Pop-Up Engineering

Defining a City Street

Materials
Paper—for practice
Oaktag—9 inch x 12 inch filefolders work well
Clear tape
Glue—glue sticks work well
Pencils
Old travel magazines
Scissors
Markers
X-acto knives

Find several buildings or building details by searching through magazines, photographs, or your imagination.

Decide on the basic shape and size of each building. Is it a square or rectangle? Is it short, tall, wide, or narrow?

Use practice paper first, then transfer your ideas to oaktag.

Make a pop-up street scene!

A. Make a book fold (fold sheet in half)

B. Mark 2 or 4 cuts on the folded edge; cut and crease tab as shown and return to flat position. Open paper to flat position.
C. Push tab to inside of folded page (reverse the crease). Try to avoid any part of the pop-up showing beyond the edge when the paper is in the folded position.

The top of a building (dome or decoration) may also pop-up. Draw in the detail; use an X-acto knife to make a slit so scissors can cut around the shape; fold into “up” position.

D. Open page; plan decorations; flatten paper and decorate with markers, etc.

Suggestions:

1. Take a second sheet of oaktag, a different color, if desired; make one bookfold, apply glue around outer edge; position it as a cover for the pop-up, so the holes don’t show.

2. Take several streets and combine them into a Pop-up City Book.

Making a “Someplace Special” Book

The objective of this exercise is to create an original book about something relating to Pittsburgh. Think of a topic that you find special about Pittsburgh.

1. Pick a topic
   • Something you know about, have a personal interest in, or feel your students will be interested in.
   • A favorite building or landmark; your neighborhood.
   • An interesting fact (great floods?).
   • Something that makes Pittsburgh special to you.

2. Gather information
   • at the Library
   • by taking your own photographs
   • by drawing
   • by reading visitor center brochures, magazines, or newspapers
   • through interviews
   • by looking through family albums.

3. Procedure
   • Gather ideas.
   • Consider various topics.
   • Choose a book title and write a brief description of your book.
   • If you wish, make a “dummy” to confirm the layout.
   • Make the book!
   • Share the book with friends, family, or classmates.
   • Keep the book or donate it to the Pittsburgh History & Landmarks Foundation.
4. Materials

- a hardback, blank book with 12 pages (24 sides), a title page, and cover.

These books are available from:
Treetop Publishing
P.O. Box 085567
Racine, WI 53408-5567
Phone: (414) 884-0501

5. Designing your book

- Use pencils, markers, pens, watercolor, glue, tape, drawings, sketches, cutouts, photos, pop-up buildings, or whatever you can imagine!

6. Book titles of the past...

- Landmark Architecture Coloring Book
- Petey the Puppy—Lost in Pittsburgh
- Pittsburgh is Special Because...
- Ciudad Estrella
- A is for Pittsburgh
- Pittsburgh Bridges and Tunnels
- Ode to Pittsburgh
- Pittsburgh Corporations
- How Do You Spell Pixburg?
- “Jeet jet?”
- The Pittsburgh Pigeon
LANDMARK T-SHIRTS

In addition to giving a nice twist to a drawing activity, matching Landmark T-shirts are a practical way of keeping a group together on a city walking tour!

Materials
- Crayola® Fabric Crayons
- a smooth-surfaced, strong, paper-like copier paper

Procedure
1. If the class has been exploring neighborhood architecture, have students choose their favorite landmark to reproduce on a shirt. They may work from life “on location” or from a previous drawing.

2. Make your T-shirt drawing on smooth paper with fabric crayons, using as much detail as possible. To be successful, apply the fabric crayons heavily.

3. Remind students to draw letters backwards on their landmark drawings.

4. Wash the T-shirts to remove sizing. (Some polyester content is preferable with this brand of fabric crayon.)

5. After the drawings are finished, they are ready to be transferred to the pre-washed T-shirts. Place the T-shirt front-up on a thick section of newspapers. Place the drawing face-down on the T-shirt, and put a clean sheet of newspaper on top of the drawing. Iron the stack on the “cotton” setting until the drawing transfers to the T-shirt (carefully lift one corner of the drawing to check the progress).

6. Wash the finished T-shirts in cold water to keep the drawings colorfast for as long as possible.

You can also make quilts, pillows, or wall hangings using this process.