



Suggested Activities to Complete While In New York and at the NY SKYRIDE

Activities with a Focus on Visual Literacy/ the Building Arts

One Important Observation
New York City Streetscapes
Design Your Own Section of New York City
Reading the Empire State Building
Two Looking Challenges (Includes walking tour)
The Empire State Building's Neighbors, Let's Take A Look
* What's the View From Here?
The New York Shape of Things
Imagined Sites
A Bridge to the World
Get Ready! It's A Bird's Eye View of Everything!
Picture This
Words That Paint Pictures
New York City Streetscapes (Includes walking tour)
* What's This Building Made Of?
The Chrysler Building Full View
Hunt for Neighborhood Treasures (Is a walking tour)



Activities

Get Ready! It's A Bird's Eye View of Everything!

The purpose of this activity is to enhance students' visual attention skills and visual literacy. The NY SKYRIDE will take them diving and winding through and among New York City's tallest buildings. This activity will prepare students to be aware of what they are seeing on the SKYRIDE. We don't want them to miss this opportunity to get an up-close view of things! Careful observation will give students a hint about life in the city below.

Activity

Before the NY SKYRIDE, have students discuss what they expect to find in Manhattan and how similar to their home community they think Manhattan will be.

Discuss the items on the list below with your students --- perhaps en-route to the NY SKYRIDE experience --- making sure it's clear what each is. These are all parts of Manhattan that students will see on the NY SKYRIDE. **Let students know that when they are on the NY SKYRIDE they should be prepared to notice as many things on this list as possible:** (The items in *italics* are for your discussion after the experience.)

Apartment buildings --- *How did you know this was an apartment building?*
Office buildings --- *How did you know this was an office building?*
Where in New York do you see tall buildings?
Where in New York do you see shorter buildings?
Buildings that look like they might have offices **and** apartments
Buildings with setbacks
Zagurats
Old buildings
New buildings
Rivers --- *How many did you see?*
The harbor
Bridges --- *How many did you see?*
Churches
Water tanks --- *Where did you see them?*
Parks
Towers on the top of buildings
The street grid --- *What does it look like?*
Street life --- *What's going on down here?*

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Myron D. Baer, Director of Business Development, mbaer@skylinenyc.com
Direct 212/299-4901



After students observed the city via the NY SKYRIDE discuss with them how many of the items on the above list they observed. It will be interesting to see how close to reality their initial speculations were.

Discuss how similar or different Manhattan is to students' home community.

Pose these questions to your students:

If you had a SKYRIDE in your community, would it look the same as the one you experienced in New York City?

How might it be the same?

How might it be different?

Materials Needed

List of Manhattan *things/items* that will be seen on the NY SKYRIDE



One Important Observation

In this activity students observe the built environment to discover and experience New York City History. Along the way they will be introduced to some aspects of city planning. This activity enhances visual literacy and temporal concepts.

Background Information:

Zoning laws define how large buildings in a city can be and how these buildings can and cannot be used. In 1916 New York City was the first city in the United States to create a city-wide Zoning Resolution. This was done as a reaction to the construction of the Equitable Building (at 120 Broadway). The building was so much taller and bigger than its neighbors that it blocked the windows of these buildings, diminishing the availability of sunshine and fresh air for the people who lived and worked in them.

The **Zoning Resolution of 1916** established height controls and required that New York buildings have setbacks (sort of like a wedding cake) to allow sunlight and air to reach the street below). It also divided the city into *use districts* (residential, business, retail, and unrestricted), *area districts*, and *height districts*.

In 1961 the city changed these zoning regulations and setbacks were no longer required. Newer construction materials and methods meant that buildings constructed were able to have more open space inside. After 1961 buildings constructed in New York City could be the same size from street to roof.

Activity:

Discuss the general concept of zoning laws with your students:

- What are some of the reasons zoning regulations were created?
- What do they tell us about a city?
- Does every city have them?
- Are there reasons we might not want them?
- What are some of the zoning regulations in their community?

Before the NY SKYRIDE experience read the parts of the **1916** Zoning Resolution that apply to buildings in Manhattan. Define and discuss **setbacks** with your students. Then read the parts of the **1961** Zoning Resolution that apply to buildings in Manhattan. Discuss **setbacks** once again.

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As students experience the NY SKYRIDE have them look specifically **for skyscrapers with setbacks.**

After the NY SKYRIDE experience have students discuss their findings. Did they discover any buildings with setbacks? What do they know now about New York City --- Manhattan that they did not know before? (Among other things - the buildings with setbacks were built after 1916 and before 1961. There are exceptions to this, of course.)

Students can reinforce their observations at the Empire State Building Observatory and as they walk along the streets in Manhattan.

Have students photograph or sketch the different buildings with setbacks that they locate.

Visit the Equitable Building at 120 Broadway, if possible.

Materials Needed

- 1916 New York Zoning Regulations
- 1961 New York Zoning Regulations
- A map of New York City
- Drawing/sketching supplies for each student

Websites for Information About Zoning

1. <http://www.nyc.gov/html/dcp/html/zone/zonehis.shtml> --- This is the Website of the New York City Department of City Planning. I6's chocked full of information!
2. http://www.tenant.net/Other_Laws/zoning/zontoc.html --- This site provides a handbook for understanding New York City zoning.
3. <http://www.nytimes.com/2007/03/14/realestate/14GH-Home.html?ex=1331524800&en=ad739d7664c2dc40&ei=5088&partner=rssnyt&mc=rss> --- This is a link to an interesting article about zoning variances that appeared in the New York Times in March, 2007. It gives some zoning issues to ponder.
4. <http://www.nyc-architecture.com/LM/LM059.htm> -- This website has photographs of the Equitable Building at 120 Broadway.
5. <http://www.greatgridlock.net/NYC/nyc1a.html> -- This link provides information about several of Mannhattans early skyscrapers.
6. http://www.encyclomedia.com/empire_state_building.html --- This site has a really good audio and video presentation about the Empire State Building as well as printed copy.

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Picture This

The words and phrases we use to describe things are so important. They can open up new worlds and introduce us to new possibilities that we would not have thought of without them! The NY SKYRIDE does a good job of presenting words that describe. In this activity students are asked to focus on these words that describe visual and physical experiences. Then they are asked to try their hands at using words creatively on their own.

Activity

This activity involves the use of *puns*. A *pun* is defined as ---

A play on words, sometimes on different senses of the same word and sometimes on the similar sense or sound of different words.

Have students check out the following puns that they will hear and see while experiencing the NY SKYRIDE. The puns and visuals will come at them VERY **quickly** so they should be attentive! Have students listen for the phrase AND look for their accompanying visuals –

Here are the puns they should be on the look-out for:

*I'm blocked.
Anyone for a Fountain Drink?
Bear Right.
Picture that.
Watch out!*

After the NY SKYRIDE have students discuss what they saw when they heard these puns during the SKYRIDE. Ask each student what he/she noticed first, the visual or the words.

Encourage students to look for objects or situations around New York City that lend themselves to illustrated puns like the ones in the SKYRIDE.

Materials Needed

The NY SKYRIDE
Paper and pencil for recording personal NYC puns



Words That Paint Pictures

The purpose of this activity is to have students associate words, visions and motion. The NY SKYRIDE provides a rare opportunity to incorporate all three of these.

Activity

As soon as your class has completed the SKYRIDE experience, ask each student to come up with three (3) words that describe New York City! Don't wait to do this or you won't get the same, rich responses!

Record or note your students' responses and save them for use back in the classroom.

Materials Needed

A recording device for recording student responses or
Paper and pencil for noting student responses



New York City Streetscapes

New York is unquestionably one of the most vibrant cities in the world. Its streets are teeming with colors, sounds, aromas and ideas from different cultures. It is a collection of different ideas and experiences. This activity introduces students to some of these experiences. It requires students to attend to everything in the Empire State Building's neighborhood. Students will practice using their visual literacy skills to read the built environment.

Activity #1

Assign each of the following New York City streets to a team of students. All are neighbors of the Empire State Building. Have each team photograph/sketch/write about the current street scenes (streetscapes) they find on these streets:

7th Avenue between West 32nd and West 35th Streets

West 34th Street between 7th Avenue and 5th Avenue

West 33rd Street between 7th Avenue and 5th Avenue

5th Avenue between West 32nd and West 35th Streets

Encourage students to include **everything** in their streetscapes. Have them explore their assigned blocks recording what they see.

Remind students they will be recording/describing/documenting a moment in history --- the history of Manhattan in New York City, in New York State in the United States of American in the year -----
????

After students have completed the assigned task, discuss what they captured with their drawing, their photograph or their words. What was the story they wanted to tell about the city? Discuss what they chose to leave out. Discuss what they missed. What part of the city's story is missing?

When you return to the classroom display your students' work.

Have your class watch selected scenes from *West Side Story* to note the streetscapes chosen for this movie. Have students look for anything they missed when they explored the city.



Activity #2 – Alternative Activity

Divide students into small teams. Each team should choose **just one thing** found on a Manhattan street on which to focus/ document/describe --- **just this one thing** as they see it. A team might focus on:

- the pattern of the streets
- the traffic flow
- all the shops found there
- the decoration seen on buildings
- the pattern of shadows and sunshine
- the signs in the windows
- the people

(It's best if you generate your own list of things on which to focus, based on student interest and previous lessons).

Remind students they will be recording/describing/documenting a moment in history --- the history of Manhattan in New York City, in New York State in the United States of American in the year -----
????

Assign students a city block (as in Activity #1) and have them explore this assigned block recording (via writing, drawing or photographing) what they see and hear in their chosen category.

After students have completed the assigned task, discuss what they captured with their drawing, their photographs or their words. What was the story they wanted to tell about the city? Discuss what they chose to leave out. Discuss what they missed. What part of the city's story is missing? If they told the story of the patterns of the built environment, did that mean they missed the story of the people who used these patterns? If they told the story of the shops found in the neighborhood, did that mean they missed the story of the patterns of use inside these shops?

When you return to your classroom lead your students in a discussion about the streetscapes they saw and captured:

- Did they like the architecture on their assigned street?
- How did they capture the city aromas they discovered?
- Did they find lots of colors or few colors?
- What did the signs on the street look like? What did these signs direct people to do or not to do?

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Did the size and shape of the buildings they found make them feel small or big?
What were the people in the neighborhood doing?
How did they capture the city sounds they heard?
Did they like the patterns of the city?
How did life in the neighborhood compare to life in their community?
What did they not see on their assigned city street?
What they would change about the street they explored?

Materials Needed:

Sketching supplies
Cameras
New York City Maps
Compasses (not required)
Method of displaying student work
West Side Story Video



Hunt for Neighborhood Treasures

This is an old-fashioned scavenger hunt through the Empire State Building's neighborhood. By exploring this neighborhood students will use their visual literacy skills to learn about New York's history, its built environment, its people and their culture.

Activity

This scavenger hunt will send your students in search of all kinds of New York treasures. Your route for the hunt runs through the Empire State Building's neighborhood. It will lead your students from the Empire State Building to Penn Station. It will take them from West 31st Street all the way over to West 34th Street and from 5th Avenue to 7th Avenue. In other words it will take your students in a big rectangle around the Empire State Building.

There is no order to the hunt but it should begin at the entrance to the Empire State Building on 5th Avenue. Have your students read the scavenger hunt first then use a map to plan their exact route. This planning is half the fun of it all!

The items on the scavenger hunt are not related --- they do not lead students to a treasure or to one special place. You'll see that the items on the hunt appear in different forms --- rhymes, riddles, true/false questions, etc. Nothing is straight forward! And many things are not as they seem. Enjoy!

Your Empire State Building Neighborhood Scavenger Hunt

Starting at the Empire State Building On 5th Avenue (between West 34th Street and West 31st Street)

1. Find out which is on the street signs *Fifth* or *5th*.
2. Find a school that undergraduates can not attend.
3. Quick! Was the door you used to exit the Empire State Building
Automatic?
Revolving?
Just a plain old open/shut door?
4. Name the establishments on each of the four (4) corners of 5th Avenue and West 33rd Street.

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One of the buildings on this corner has beautiful arched windows. On which corner is this building --- South East? South West? North East? North West?

5. The movie, *The Godfather* featured a shop located at 314 5th Avenue, near West 32nd Street. This shop specialized in one of the following items:

- Cigars
- Leather goods
- Hats
- Trains
- Bagels

Visit the address (most recently a pizza restaurant) and find the name of the shop. Then tell us which of the above items was its specialty.

On West 34th (between 5th Avenue and 7th Avenue)

1. From one of the following corners you can see a yellow and white place to live:

- 5th & 34th
- 6th & 34rd
- 7th & 34th

Find out which corner it is and when you've located the building, draw it right here so we'll know you have the correct building:

2. There's a really weird building at 38 West 34th Street. Which of the following is the best description for this building:
- All glass, very tall and wavy
 - Low, brown, and sad-looking
 - Green and white with elegant columns
3. Look hard and think hard and locate --- *A geometric shape that will Herald your arrival.*
4. Although you can't see it or hear it yet, there is a parade on its way and it will end right here in the neighborhood. Find the famous building that's the ending point for the parade and tell us exactly where the parade ends.

(Check their basement for some great photos and memorabilia of foregone parades.)

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5. You should feel safe on 34th Street when you find the six (6) women guarding the door to this store. What is the store and what's its address? And now, describe the six women ----
6. Hotel McAlpin used to stand at 50 West 34th Street. It was the largest hotel in the city when it was built in 1913 and it had a *silent floor* for the nocturnal. Find out what's on this site today.

Wonder if they still have that *silent floor*? Why not ask and find out?

7. Find A.S. Beck.

On 7th Avenue (between West 31st Street and West 34th Street)

1. There is a lovely 46 story, Art Deco building close to the intersection of 7th Avenue and West 34th Street that was built in 1929. Here's the name of this building ---

Lnnseo Wtreo

Sorry! We forgot to mention that the name of the building is scrambled. Unscramble this name, find the building and give us the address.

Now tell us how you might guess that this building was built between 1916 and 1961.

2. Find out what used to occupy the building on the corner of West 34th and 7th Avenue, where Citibank is today. **Just read the past and you'll know.**
3. There are two buildings on 7th Avenue that are named for a state located on the East Coast. What are these buildings?

Which building is older?

4. 7th Avenue True/False
 - You can not see the entire Empire State Building from 7th Avenue.
 - 7th Avenue is a one-way street.
 - 7th Avenue is also called The Avenue of States.
 - 7th Avenue has a train terminal that services up to a thousand passengers every 90 seconds.
 - Taxi cabs are not allowed on 7th Avenue.

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On West 33rd Street (between 5th Avenue and 7th Avenue)

1. Find *Mr. Greeley* and tell us why he's here.
2. The original *Gimble's Department Store* (arch rival of Macy's Department Store ---- "Does Macy's tell Gimbel's?") is on this walk. Tell us where it used to be --- for it is no more. Hint: You'll be 100% correct if you look to the corners. But be careful that you don't get malled!
3. Find out what the hotel on the corner of 7th Avenue and West 33rd Street has to do with the Big Band Era in US history.

On West 31st Street (between 5th Avenue and 7th Avenue)

1. As you stroll down West 31st Street toward 7th Avenue, look for a lovely French mansard roof high above you. It tops a former grand hotel from the late 1890's. We want to know what occupies this grand hotel today.
2. Solve the following rhyme about a site on West 31st Street and tell us what's on this site:

6x4 is 24
There's a hook and ladder behind the door
9divided by 3 = 3 by Division
Hurry up, make your decision.
3. Go to St. Francis House between 6th Avenue and 7th Avenue. Stand on the steps facing the street. Then, look up --- count the water tanks you see from here on New York's roofs. How many do you see? Are you sure? Look again! You may be VERY surprised!

End of Your Scavenger Hunt

Discuss the results of your scavenge hunt as a group.

After your New York visit, when your class returns to the classroom, have students create a walking tour of their school neighborhood.



Materials Needed

- Map of Manhattan
- Copies of the scavenger hunt
- Pencils for recording answers
- Cameras



Design Your Own Section of New York City See Student Worksheet F

This activity focuses on the elements that make up a city and how these elements when combined, all together, affect the way residents use the city. A mural created by artists from New York's Fashion Institute of Technology (FIT) is used as the basis for this activity. Students are called upon to think through what is needed to make a city work both in terms of the built environment and in terms of public services. Students will be required to use teamwork and planning skills and think beyond their daily lives.

Activity

The FIT artists created a mural with many stories about New York City. Before (or after) experiencing the NY SKYRIDE gather students around the mural, which is located in the entryway to the NY SKYRIDE. Discuss the mural and the different information about the City that's presented here. Help students begin to think about the components that go into making a city function.

Focus your students' attention on a small section near the right end of the mural. There you will find a street grid with no names or symbols or any indication of the built environment. Your task is to design a new neighborhood in New York City using this grid. There is much to think about. To get you started we have provided some issues that must be addressed if your neighborhood is to be a good place for people to live.

Focusing on the street grid on the mural, discuss the following with your students:

- What do you want people to be able to do in this new neighborhood?
- Where on the grid will you build housing for people? What will this housing look like?
- Where on the grid will you place the school?
- Where on the grid will you allow shops and businesses to locate?
- Do you need public services like fire and rescue and a hospital in your neighborhood? Where will they be?
- Will you allow cars in your New York neighborhood? What about mass transportation?
- Do you need a traffic study?
- Where on the grid will you have a green park or will you even have a green space in your New York neighborhood? Etc.



The NY SKYRIDE has prepared a space for you to sit and have discussions with your students. You will find a copy of this part of the FIT mural posted in this space for your use. Ask the NY SKYRIDE attendant to direct you to the SKYRIDE CLASSROOM and continue your discussions here.

Your students will more than likely come to the conclusion that they need to do some research on the issues presented above so we've provide you with a copy of the grid found on the mural to download and use back in your classroom. You can complete your planning then after students have completed their research.

Materials Needed:

Student Worksheet: *Make Your Own New York City Neighborhood*
--- For use back in the classroom

Good Websites For Learning About City Planning

- a. <http://www.uli.org//AM/Template.cfm?Section=Home> --- This is link to the Urban Land Institute which has as its mission to provide leadership in the responsible use of land and to help create sustaining and thriving communities.
- b. <http://www.greatstreets.org/> --- Lots of information here about good design for streets and neighborhoods.
- c. <http://www.cnu.org/> --- This is the website for the Congress for the New Urbanism which focuses on the development of cities with walkable neighborhoods as an alternative to urban sprawl.
- d. <http://www.rudi.net/> --- This is a UK organization that offers many resources about urban design.



Imagined Sites!

This activity focuses students' attention on art that can be found in public places in New York City. An exhibit of photographs showing proposals for art in public places, *Imagined Sites #6*, created by artists from New York's Fashion Institute of Technology (FIT) for the entryway to the NY SKYRIDE is used as the basis for this activity. Through this exhibit students will be introduced to the concept and historical purposes of public art and encouraged to create their own art for public spaces.

Activity

Gather students around the photographic exhibit, *Imagined Sites #6*, located in the entryway to the NY SKYRIDE and discuss the works of art presented here by the FIT artists. All the works presented are virtual. The students actually created the pieces of art that you see in the photographs then they inserted them via computer (Photoshop) into the public spaces to create the scene captured in the exhibit.

Here are a few questions to help your students focus:

1. What makes you notice the work of art in each photograph?
2. Does the piece make you think first or feel first?
3. Does the piece honor someone? If so whom does it honor?
4. Does the piece give you information?
5. Does the piece make you notice the setting around it?
6. How do you think this piece was created?
7. Do you think the piece was designed for the setting or did the artist design the piece first then look for an appropriate setting?
8. Is the piece beautiful? Why do you feel as you do?
9. When you look at this work of art can you think of additional settings for it in a city?
10. Does the piece call to mind other types of art --- music maybe?
11. How does each work of art contribute to the space in which it's located?

Have students choose their favorite work of art presented in the exhibit and explain why it's their favorite.

As you explore New York City have students point out spaces that would be enhanced by art --- and explain why.

When you return to your classroom have students discuss ideas for art in public places that would enhance their community.



Materials Needed

Student imagination!

Good Websites for Learning About Art in Public Places

6. Just go to Yahoo and enter "Art in Public Places" and you can see what cities around the world have commissioned. You will be amazed!!
7. <http://www.christojeanneclaude.net/> -- This is the website of Jeanne- Claude and Christo, the creators of the Gates in Central Park and other works of public art.
8. <http://www.nyc.gov/html/thegates/html/artists.html> --- More about Jeanne-Claude and Christo.
9. <http://www.nyc.gov/html/artcom/html/home/home.shtml> --- This is the website for the Art Commission of the City of New York.
10. <http://www.blueofthesky.com/publicart/index.htm> --- This is a link to a Public Art curriculum created by a high school teacher in Harlem.
11. <http://www.zhaosuikang.com/Hmain.html> --- This is the website of one of the FIT faculty that advises the FIT artists. He has done a number of public art projects throughout the United States.



Reading the Empire State Building

This activity requires students to use their visual literacy skills to learn from the built environment. In this case, the built environment is the Empire State Building. Students are asked to explore the Empire State Building to compare it with the built environment in their own community.

Activity

Refer your students back to the list of architectural components/details they generated while exploring their school before your visit to New York City. Go over their findings once more to make sure everyone remembers what was found.

Direct your students' attention to the Empire State Building. Now it's time to see how the Empire State Building compares to their school. Their task is to explore the Empire State Building **inside and out** ---

- Walk the lobby,
- Walk outside along the 33rd Street side of the building.
- Walk along the 5th Avenue side of the building.
- Walk along the 34th Street side of the building.

Have students explore as much of the Empire State Building as is permitted to study its architectural components and details.

Help students compare the building components/details found in/on the Empire State Building with the building components/details they preciously discovered at their own school.

Have students decide what they would change about the architecture of the Empire State Building and why. Have them write about these changes or draw them.

When you return to school, invite a local architect into the classroom to discuss the changes students would make to the architecture of the Empire State Building. Ask the architect to help students decide what is feasible and what is not; what is advisable and what is not.



Materials Needed

List of the architectural components/details of your school

Drawing supplies

Journals and writing supplies

An architect from your home community

Good Websites About Architectural Elements

1. www.eeri.org/lfe/pdf/Field_Guide_Section_11.pdf --- This is a field guide for evaluating architectural elements but it contains a nice list of elements.
2. <http://www.primestucco.com/exterior-architectural-trim.html> --- This is a commercial site but it has some drawings of architectural elements that might be useful.
3. <http://www.wishihadthat.com/index.asp?PageAction=VIEWCATS&Category=780> --- This is another commercial site with interesting architectural elements.



Two Looking Challenges

This is a jam-packed activity that requires students to use their visual literacy skills to attend to New York City's built environment. Students will discover some of the history of the Empire State Building, some unique features of a New York neighborhood and gather some information about life in the 1930's.

Activity

Here are two challenges to find out how well your students pay attention to the sights around them. The first challenge takes place in the lobby of the Empire State Building. The second challenge takes place on 34th Street in the Empire State Building's neighborhood.

****Please note that it is not appropriate or fair to other visitors, to have a large group explore the lobby of this highly-visited building. We strongly suggest that you divide your students into small groups to complete this challenge!**

Looking Challenge #1

We challenge your students to find the following in the lobby of the Empire State Building:

- the latitude and longitude of the Empire State Building
- a replica of the Empire State Building itself
- a tribute to the metalworkers who worked on building the Empire State Building
- a tribute to masons who worked on building the Empire State Building
- a tribute to the carpenters who worked on building the Empire State Building
- A pyramid
- Zigzags under foot
- A symbol of the United States
- An elevator that's not plain!

Discuss with your students what they found and what purpose they think each item serves. Why was it placed in the lobby of the Empire State Building?



Looking Challenge #2

(these are harder than Challenge #1)

We challenge your students to find the following outside on 34th Street --- in the Empire State Building's neighborhood:

- A small brown building that looks very out of place
- A famous parade
- At least one balcony
- A rosette
- A building with a number for it's name
- A building with a real name
- Ladies protecting a door.
- A building that can tell time
- A square that will Herald your arrival

Materials Needed

Printed version of the challenges

Street maps of New York City



What's This Building Made Of? See Student Worksheets K & O

The choice of building materials and the way they are combined and arranged are most important in not only creating a sound building but also in the way the building makes us feel. This activity is designed to help students focus on the textures and patterns and feel of New York City's built environment.

Activity

We've provided Student Worksheet: *Building Materials Discovery & Evaluation* for use with this activity. It lists building materials (not architectural components) you can find in the Empire State Building (and many of the other buildings in the neighborhood). Have students take this list with them as they explore the Empire State Building:

- Look for each material inside and outside the building.
- Note where each material is used.
- Note how each material is used.
- Draw any pattern the material creates.
- Decide if you like the way the material is used or would you like to change it. If so, how would they change it? And why?

After completing the worksheet have students discuss their findings and speculate why they think each material was used as it was.

After exploring the Empire State Building searching for the building materials have students locate the same materials on other buildings in the Empire State Building's neighborhood.

When you return to school have students complete the Student Worksheet: *Building Materials Word Search*.

Materials Needed

Student Worksheet: *Building Materials Discovery & Evaluation*

Pencil or pen

Student Worksheet: *Building Materials Word Search* – for use in the classroom

Street maps of New York City



What's the View From Here?

[See Student Worksheet L](#)

This activity is designed to help students practice their skills of observation. It's intended to be used in conjunction with a visit to the Empire State Building Observatory. Students will be asked to observe what's around the Empire State Building, giving them the opportunity to think about how the Empire State Building fits into the surrounding city, why it fits in and where in the city it would not fit.

Activity

We've provided several photographs of New York City (Photos: *Views from the Empire State Building*) for your use. Print these photos and have students bring them along on their visit to the Empire State Building Observatory. At the Observatory have students compare the photographs to the actual views before them and decide the following:

Which of the photos are views seen from the Empire State Building?

Which are views seen from other locations in New York City?

Which are views that are not found in New York City at all but are actually found in another city altogether?

In which part of New York City would the Empire State Building just not fit?

Why does the Empire State Building fit nicely into its neighborhood?

Harder Question:

Which New York City photo shows the area where the city began?

Even Harder Question:

In which of the New York City photographs would you be likely to find a sunset?

Harder Still:

Have students locate on a New York City map, the general site of each of the views from the Empire State Building they have in the photographs.

Materials Needed:

Photos: *Views from the Empire State Building*
Street maps of New York City

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Direct 212/299-4901



The Chrysler Building, Full View

It is possible to see the built environment through drawings or photographs in a book. But it is not until you feel the built environment that you really understand it. And to feel it you have to be in its presence and explore it in different ways. The purpose of this activity is to have students feel the magnitude of New York's Chrysler Building. They will be asked to attend to its size and height and to feel its magnitude. This activity challenges students to see ALL of the Chrysler Building --- at the same time. This is not an easy task!

Activity

Have students attempt to photograph the Chrysler Building, **in its entirety**, from top to bottom, all in one photograph. It will be interesting to see where students must stand to capture this image! Make sure they note the address of the successful spot --- if there is one.

Later have students find their photo spots on a New York City map.

Remind students that with their photos they will be documenting how the Chrysler Building and New York City looked at the beginning of the 21st Century.

Create an exhibit at your school of your students' photographs.

Materials Needed:

Cameras for each student to use
Street maps of New York City



The New York Shape of Things

The purpose of this activity is to improve students' visual acuity for shapes in the built environment. They must first find some of the basic and most familiar shapes but then they are challenged to search for more advanced shapes and shapes combined with other shapes.

Activity

Below is a list of shapes that are found all over New York City. Find out how good your students are at recognizing them.

Have students find five (5) examples of these on New York City streets

- Squares
- Rectangles
- triangles

Have students find four (4) examples of these

- parabola
- parallelograms
- semi-circles
- cones

Have students find three (3) examples of these

- hexagons
- octagons
- trapezoids
- pentagons

Have students find two (2) examples of these

- triangular pyramids
- rectangular pyramids
- cylinders

Have students find two (2) example of each of these

- angles
- symmetry
- congruence
- tessellation

Have students photograph each shape they discover and note the address of their discovery.



Materials Needed

Paper and pencil for recording where students find the shapes
Cameras

Good Websites About Geometric Shapes

1. <http://www.mathleague.com/help/geometry/polygons.htm> --- This is a great site that has examples of lots of geometric shapes.
2. <http://www.puzzles.com/PuzzlePlayground/Stomachion/Stomachion.htm> --- You can find a Stomachion at this site.
3. <http://artchive.com/artchive/P/picasso.html> --- This site provides a good biography of Picasso and an explanation of Cubism.



Bridge to the World

This activity introduces students firsthand to the Brooklyn Bridge, one of New York City's three suspension bridges that carry people and vehicles in and out of the Borough of Manhattan. Students study first hand the concepts of suspension bridges. Students use drawing, photography and journaling to record their discoveries on this walk across the Brooklyn Bridge.

Activity

In this activity your students will walk across the Brooklyn Bridge. To prepare for their walk help them formulate questions they have about the bridge itself and its history. The Public Affairs Office of New York City's Mass Transit Authority (MTA) is available to answer questions that students might have. They can be reached at 646-252-7417. Have students call with their questions.

Background Information about the Brooklyn Bridge

The Brooklyn Bridge has often been considered the most influential bridge in American history. It opened up the island of Manhattan and made travel in and out of it doable for the average citizen. This meant that people could live outside the city and still work inside the city. This meant that business could locate outside the city and still do business inside the city.

The Brooklyn Bridge was designed by the brilliant engineer John Augustus Roebling (1806-1869) and completed by his son Washington Roebling (1837-1926). At the time of its construction in 1883 it was considered an elegant structure. At that time it was the longest suspension bridge in the world. It was the first bridge to be built of steel cables.

The Brooklyn Bridge runs across the lower East River to the Borough of Brooklyn. It consists of two neo Gothic towers and a delicate lacework of steel-wire cables.

Typical Facts about the Brooklyn Bridge:

Type of bridge: Suspension
Construction started: January 3, 1870
Opened to traffic: May 24, 1883
Length of main span: 1,595 feet, 6 inches
Length of side spans: 930 feet
Length, anchorage to anchorage: 3,455 feet, 6 inches
Total length of bridge and approaches: 6,016 feet
Width of bridge: 85 feet
Number of traffic lanes: 6 lanes

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Number of cables: 4 cables
Height of towers above mean high water: 276 feet, 6 inches
Clearance at center above mean high water: 135 feet
Length of each of four cables: 3,578 feet, 6 inches
Diameter of each cable: 15 $\frac{3}{4}$ inches
Number of wires in each cable: 5,434 wires
Total length of wires: 14.060 miles
Total masonry in towers: 85,159 cubic yards
Weight of suspended structure: 6,620 tons
Total weight of bridge: 14,680 tons
Cost of original structure: \$15,100,000.00

Introduce your students to the following concepts of bridge design and construction:

Compression --- Tension --- Spans --- Joints --- Columns --- Beams --- Loads --- Arches
Ropes --- Cables --- Towers --- Geometric Shapes found in a bridge
(Feel free to create your own list of concepts)

Define and discuss these concepts as a class and demonstrate them in the classroom prior to your visit to the Brooklyn Bridge.

When you arrive at the Brooklyn Bridge hand each student an assignment card. Each card presents the student with **one of the concepts** discussed in the classroom. It will be this student's responsibility or explore the Brooklyn Bridge in search of the assigned concept. Each card should have the following: the concept, its definition and a series of related questions to be answered by the student while on the bridge.

Some of the questions on the cards should be easy and straightforward. For example:

*Find 6 different geometric shapes on the Brooklyn Bridge. Or ---
Measure the diameter of the cables on the Brooklyn Bridge.*

Other questions could be harder and more nebulous. For example:

*Can you feel the cables on the bridge just by standing on the bridge?
Where on the bridge can you **see** tension?*

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Ask each student to photograph and/or draw sites on the bridge where he/she finds the answer to the questions presented on the card.

Ask students to take photographs of the bridge before and after they cross it. When you return to the classroom these photographs can be used to create perspective drawings of the bridge.

Have students keep a written journal of their visit to the Brooklyn Bridge.

Have students use binoculars to see what they can see in the distance. Ask each student to describe what he/she sees through the binoculars. When you return to the classroom have students locate what they saw through the binoculars on a New York City map.

When you return to the classroom have each student report his/her findings to the class.

Repeat this activity on a bridge in your community.

Materials Needed

Assignment cards
Map of New York
Binoculars
Cameras
Measuring equipment as dictated by student questions
Drawing materials
Journals and writing implements

Good Websites About New York City Bridges

1. <http://www.pbs.org/greatprojects/> --- This is a wonderful PBS site that tells all about some of the greatest building projects in the United States. There is a separate section on building the George Washington Bridge in NYC.
2. <http://www.davefrieder.com/> --- This is Dave Freider's website. He is a photographer and bridge expert. He has some wonderful photographs of many of New York City's bridges.
3. <http://www.newyorkled.com/bridges.htm> --- This site gives photographs and videos of New York bridges. It's a very complete site with lots of good information.
4. <http://www.nycroads.com/crossings/brooklyn/> --- Go to this site for up-to-the-minute information about conditions on the Brooklyn Bridge. The site also has a very nice summary of the history and construction of the bridge along with some interesting photographs.

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5. <http://www.transalt.org/files/resources/bridges/> --- This site provides information about walking, biking or skating across New York's bridges.
6. <http://www.mta.nyc.ny.us/bandt/index.html> --- This is the official website for the Metropolitan Transit Authority. It has information about all of New York City's bridges.
7. <http://www.ci.nyc.ny.us/html/dot/html/home/home.shtml> --- This is the official website for the New York City Department of Transportation.

Good Books About Bridges

Burr, William **Report on Design and Construction of Queensboro Bridge** (New York, 1908)

Hopkins, H.J. **A Span of Bridges; An Illustrated History** (New York, Praeger Publishers, 1970)

Huxtable, Ada Louise **The Architecture of New York** (Garden City, Doubleday, 1964)

McCullough, David G. **The Great Bridge** (New York, Simon and Schuster, 1972)

New York City's MTA Brochure **Bridges and Tunnels Brochure**.

Reier, Sharon **The Bridges of New York** (New York, Quadrant Books, 1977)

Shannon, Rebecca Read **The City That Never Was** (New York, Penguin Group, Viking Press, 1988)

Steinman, David **The Builders of the Bridge: The Story of John Roebling and His Son** (New York, Harcourt Brace, 1945)

White, Norval and Willensky, Elliot, eds. **AIA Guide to New York City, Third Edition** (San Diego, Harcourt Brace Jovanovich, 1988)

Winpenny, Thomas R., **Manhattan Bridge. The troubled story of a New York monument.** (Easton PA, Canal History and Technology Press in association with the Smithsonian Institution, 2004)