



Suggested Activities to Complete Before Your Visit

Activities with A Mathematics Focus

How Much Did Things Cost

SkyScraper Statistics

Paying Attention to Airport Statistics



How Much Did Things Cost? See [Student Worksheet B](#)

The purpose of this activity is to have students understand the change in economics that occurs over time and how this change affects our daily lives. It also highlights temporal concepts and introduces information about life during the Great Depression.

Activity

The cost of goods and services has greatly increased since the beginning of the 20th Century. To begin to appreciate this difference, have students compare the cost of goods and services today to the cost in the 1920's/1930's for the same items.

We have provided a Student Worksheet: *Costs of Goods and Services* ([see Student Worksheet B](#)) for your students to use to make these comparisons. This worksheet lists items and their cost in the 1920's/1930's. There are several ways to use this worksheet.

You might select one or use them all:

Send your students to the store with the Student Worksheet: *Costs of Goods and Services* to find out what items similar to the ones listed there cost today. Then have students figure out the amount of increase in the price of each item since the 1920's/1930's.

Have students decide what they would buy from the list if they had \$3.00 to spend. How about \$5.00? Then have them figure out what the same items would cost today.

Have students use 1930's wages and prices to create a budget for their food and personal/household items for a month. Then have them compare this to the cost of purchasing the same goods at today's prices.

Have students create a collection of advertisements from the 1920's and 1930's and from today.

Discuss why there has been an increase in the cost of goods and services since the beginning of the 20th century. Based on the rate goods have increased in cost since 1930, project how much these goods might increase in the next 10 years. Don't forget to consider the effect of newer materials and technologies and changing ifestyles.



Materials Needed:

Student Worksheet B: *Costs of Goods and Services*
Newspaper advertisements from the 1920's and 1930's
Current day advertisements

Websites about Advertisements

1. <http://library.duke.edu/digitalcollections/adaccess/> ----This is the link to Ad*Access a site that provides images and database information for over 7,000 advertisements printed in U.S. and Canadian newspapers and magazines between 1911 and 1955. Ad*Access concentrates on five main subject areas: Radio, Television, Transportation, Beauty and Hygiene, and World War II. The images are preserved in one particular advertising collection available at Duke University. The advertisements are from the [J. Walter Thompson Company](#) Competitive Advertisements Collection of the [John W. Hartman Center for Sales, Advertising & Marketing History](#) in Duke University's [Rare Book, Manuscript, and Special Collections Library](#). Teachers have permission to reproduce these images for use in their classroom.
2. <http://www.squidoo.com/1920s-cars> --- This site has wonderful information about and illustrations from car advertisements of the 1920s.
3. <http://www.scribd.com/doc/170580/30-Curious-American-Newspaper-Advertisements-from-the-1920s1950s> --- This site has a wonderful collection of vintage advertisements for all kinds of products.
4. <http://clockhistory.com/westclox/company/ads/1930.htm> --- This is a collection of 1930's advertisements for clocks.
5. <http://www.adclassix.com/sitemap.htm> --- This site has vintage advertisements for just about everything dating from the early 20th Century. Within a category you have to scroll to the bottom of the page for the complete list.



Paying Attention to Airport Statistics

This activity focuses student attention on airports, an important part of a transportation system that affects life and work in a community. It uses air traffic statistic and mathematics to get a beginning idea of the extent to which the demands of air travel affect a community.

Activity

Present your students with photographs of JFK Airport, LaGuardia Airport and Newark Airport, the three airports that serve New York City and with photographs of the airport closest to your school. Locate the New York airports on a map of New York City. Locate the airport closest to your school on a local map.

Have students discuss how they think life in a community that **does not have** an airport is different from life in one that **does have** an airport.

Prepare your students to compare the three airports that serve New York City to each other and to their own, local airport. Here are some variables for comparison:

1. The number of runways in the airport.
2. The length of each runway.
3. The thickness of each runway.
4. The width of each runway.
5. The average number of departing flights in a day.
6. The average number of passengers on each departing flight in a day.
7. The number of bags each passenger is allowed to check for a departing flight.

Here are the problems to be addressed using these statistics:

- What is the total length of the runway (in feet) at each airport? What difference does this length make to the airport and to the surrounding community?
- What is the total amount of material (probably concrete) that went into constructing the runways for each airport? What difference does the amount of material used make to the surrounding community?
- What is the average number of bags checked at each airport on a given day? What difference does the number of bags make to the airport and to the surrounding community?

Interesting Additional Research

Find out how each airport got its name.



Take a look at the future plans for each airport.

Contact the company that built each airport and ask them the hardest issue they had to deal with during the construction of the airport.

Materials Needed

- Photographs of JFK Airport, LaGuardia Airport and Newark Airport
- Map of New York City
- Map of your community
- Photographs of your local airport
- Access to the Internet or other research tools

Good Websites for Learning About Airports

1. <http://www.faa.gov/arp/> --- This is the FAA's website. It provides information about airports, airport construction, airport safety, environmental issues, useful data, etc.
2. <http://travel.howstuffworks.com/airport.htm> --- This website has great, easy to understand explanations about all kinds of things that relate to airports --- construction, traffic, passengers, managing the airport, etc.
3. <http://www.tsa.gov/index.shtm> --- This is the website of the Transportation Security Administration with the Federal Government. It has useful information about airport security, training, incidents with travelers, screening tips, etc.
4. <http://www.airnav.com/airports/> --- This site has lots of information about different airports and how they function.
5. <http://www.landings.com/landings/Pages/airports.html> --- Go to this site for aviation news.



Skyscraper Statistics

The purpose of this activity is to introduce students to skyscrapers around the world and to use common statistics as a means of making comparisons among these buildings.

Activity

The Empire State Building is just one of many skyscrapers that exist in the world today. Here are some of its most interesting statistics:

The usual statistics

- It is 1,472 feet in height to the top of the antennae.
- It is 1,250 feet to the 102nd-floor observatory.
- It has a volume of 37 million cubic feet.
- The area of the site it occupies is 83,860 square feet.
- The cost of construction of the Empire State Building was \$40,948,900.
- At 102 floors it surpasses the Chrysler Building in height.

Some unusual statistics

- There are 210 steel columns in the vertical frame.
- About seven million man-hours of labor were involved in the construction.
- 3,439 workers were employed on Thursday, April 14, 1930. This was the day the greatest number of workers were on the job.
- It requires a cleaning staff of 250 to keep it in shape.
- It takes one man a full day just to replace the burned out lightbulbs in the tower alone.
- It has 63 elevators.
- It has 75 miles of water pipes.
- It has 50 miles of radiator pipes for heating.
- It has 64 elevators.
- It has 6,500 windows.

(From *Thirteen Months to Go* by Geraldine B. Wagner)

Discuss these statistics as a class.

Present photographs of the buildings below and have your students find out some of the **usual statistic** for these buildings:

Empire State Building • 350 Fifth Avenue • New York • NY • 10118
TEL: 212/279-9777 or 888/SKYRIDE • FAX 212/299-4932
Myron D. Baer, Director of Business Development, mbaer@skylinenyc.com
Direct 212/299-4901



- Etionas Towers in Kuala Lumpur
- Jin Mao in Shanghai
- Taipei 101 in Taiwan
- Freedom Tower
- Burj Al Arab in Dubai, United Arab Emirates

Have your students graph the buildings above, along with the Empire State Building, based on their heights. Discuss the graph. Don't forget to include a discussion about why our society builds these skyscrapers.

Then have your students find some of the **unusual statistics** for the buildings above.

Materials Needed

Access to the Internet or other research tool

Graphing supplies

Photographs of

- Jin Mao in Shanghai
- Taipei 101 in Taiwan
- Etionas Towers in Kuala Lumpur
- Freedom Tower
- Burj Al Arab in Dubai, United Arab Emirates

Useful Websites for Locating Photos of & Information About Skyscrapers

1. <http://www.emporis.com/en/> -- A great site for locating buildings around the world.
2. <http://skyscraperpage.com/> --- This site has lots of information about skyscrapers all over the world. It even has up-dated information about buildings currently under construction.
3. http://www.skyscraper.org/TALLEST_TOWERS/tallest.htm --- This is the website for the Skyscraper Museum. It has lots of information about tall buildings all over the world and also about visions for and construction of skyscrapers.

Empire State Building • 350 Fifth Avenue • New York • NY • 10118
TEL: 212/279-9777 or 888/SKYRIDE • FAX 212/299-4932
Myron D. Baer, Director of Business Development, mbaer@skylinenyc.com
Direct 212/299-4901