

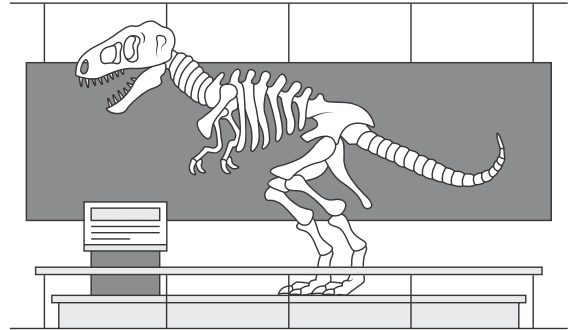
Name \_\_\_\_\_

Pick a Project

Project 5A

## Field Trip Destinations

Educational field trips can provide you with memorable learning experiences that you may not be able to easily gain inside your classroom. Such trips can also be an opportunity for you to serve different communities by doing beneficial projects or volunteer work for a day.



Some of the more popular field trip destinations include wildlife sanctuaries, museums, factories, historic sites, community centers, and government agencies, among others. In your state, there are many places that your class can visit, depending on your objectives or location. The Department of Education for your state may have a list of recommended educational field trip destinations on its website.

## Your Project Plan an Educational Field Trip

Use the internet to find three possible destinations that your class could visit. One good source may be the website for your state's Department of Education. Be sure to consider the locations of the places, the estimated travel times, and the experiences that you could gain in each place.

After deciding on the places, research the costs for transportation, food, and entrance fees. You also may include other possible expenses. Then calculate the total cost for your class to go on the field trip as well as the cost for each student.



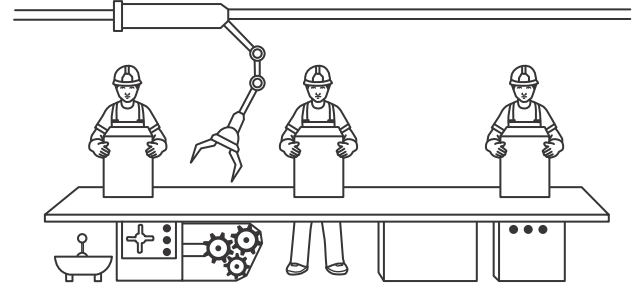
Name \_\_\_\_\_

Pick a Project

Project 5B

## The Assembly Line

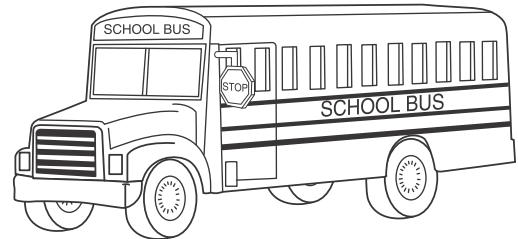
Have you visited or observed a factory that makes a product that you use regularly? Did you notice how the factory is organized into different stations of workers and machines? Usually in each of those stations only one part of the product is being processed. Then the product passes from one station to another until it is finished. Such arrangement of the workers and machines is called an assembly line.



The assembly line is one of the greatest innovations of the 20th century. In the early 1900s, Henry Ford, the founder of the Ford Motor Company, created an assembly line with moving platforms that could produce a car every 90 minutes. Because of the efficiency of his moving assembly line, his idea has been adopted by countless other industries up to this day.

### Your Project Design an Assembly Line for Toy Vehicles

You will design an assembly line that produces toy buses or cars. On a sheet of paper, draw a model of a simple toy bus or car that you can make using small boxes and other recyclable materials. Identify and list the basic parts that you need to produce separately. For example, you could list the following: (a) four tires, or five tires if you will include a spare tire; (b) two, three, or four doors, depending on your design; (c) four lights; and so on. Those parts will be built and put together in your assembly line.



Suppose a client orders 576 toy buses or cars that must be finished in 12 days. Decide on the vehicle part that will be produced in each station of your assembly line. For example, one station may be the "tire-maker" station; another may be the "light-maker" station. Then calculate the number of pieces that must be produced in each station per day in order to meet the client's requirement.

On another sheet of paper, draw how your assembly line will look. Label each station and show the number of pieces that will be produced in each station per day.

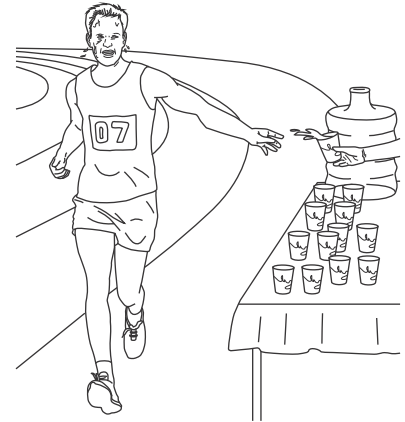
Name \_\_\_\_\_

**Pick a Project**

**Project 5C**

# What Is a Marathon?

A marathon is a running race that covers a distance of about 26.2 miles, which is nearly 380 times the length of a standard football field. The first organized marathon was held at the 1896 Olympics in Athens. It was inspired by the legend of an ancient Greek messenger who ran about 25 miles from the town of Marathon to Athens to deliver the news of the Greeks' victory over an invading Persian army. Today, there are more than 500 organized marathons around the world every year.



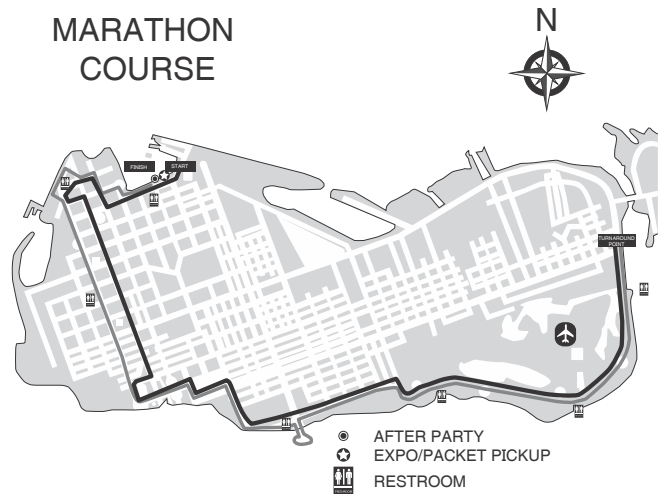
Because marathons cover long distances, it is important to monitor the health of the runners. Medical assistance must be available throughout the course in case of emergency. Also, water stations must be positioned at certain points of the course to help runners stay hydrated.

## Your Project Position Water Stations

Give the best possible measurement (in millimeters) of the marathon course in the map below. Since the course is not a straight line, think of a good strategy to measure it. Your objective is to plan how to position water stations along the marathon course. The conditions are as follows:

- The number of water stations should be any number from 11 to 15.
- The water stations should be evenly spaced.

MARATHON COURSE



How many millimeters apart should any two successive water stations on the map be? Mark the positions of the water stations on the map using a marker pen. On a sheet of paper, explain the strategies and calculations that you used to come up with the plan.