

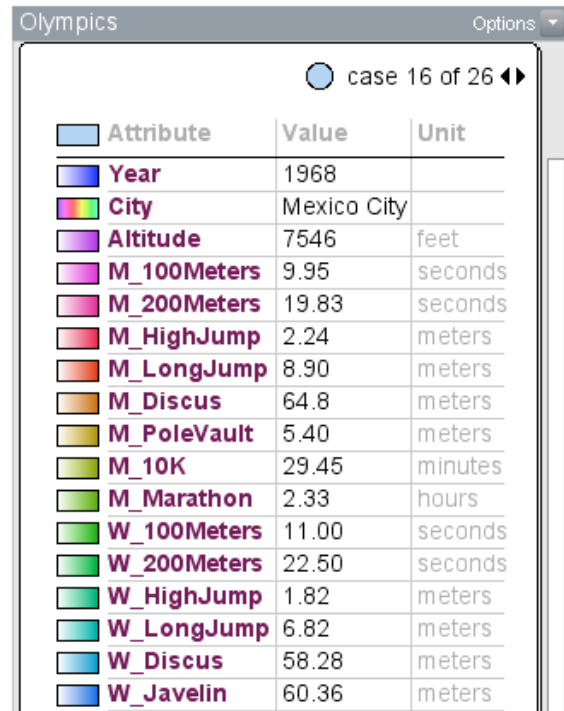
## Men's 100-Meter Dash at the Olympics

Name(s): \_\_\_\_\_

The first Olympic Games of modern times were held in Athens, Greece, in 1896. They have been held every four years since, with three exceptions. They were not held in 1916, 1940, or 1944 because of World Wars I and II.

In this activity you'll explore the winning times for the men's 100-meter dash from all the Olympics from 1896 to 2008. You'll also look at how these times have changed over the years.

Here is a data card from the 1968 Olympics, which were held in Mexico City. The names of the attributes are in the left column. Most of them are track-and-field events. The names of women's events begin with a *W*, and the men's events begin with an *M*. So the attribute *M\_100Meters* is the men's gold-medal time for running the 100-meter dash. From the data card you can see that the gold-medal time for the 100-meter dash in the 1968 Olympics was 9.95 seconds. The **Unit** column shows the units of time or distance for the event.



The screenshot shows a window titled "Olympics" with a table of data. The table has three columns: Attribute, Value, and Unit. The data is as follows:

Attribute	Value	Unit
Year	1968	
City	Mexico City	
Altitude	7546	feet
M_100Meters	9.95	seconds
M_200Meters	19.83	seconds
M_HighJump	2.24	meters
M_LongJump	8.90	meters
M_Discus	64.8	meters
M_PoleVault	5.40	meters
M_10K	29.45	minutes
M_Marathon	2.33	hours
W_100Meters	11.00	seconds
W_200Meters	22.50	seconds
W_HighJump	1.82	meters
W_LongJump	6.82	meters
W_Discus	58.28	meters
W_Javelin	60.36	meters

### Think About It

Before you look at data, think about what you expect to see. You probably already have some ideas about what these data look like.

1. Today, how many seconds do you think it would take the fastest man to run 100 meters? (100 meters is about 109 yards, which is about the length of a football field.)
2. Do you think this time is different from times 50 or 100 years ago? Longer or shorter? Why?

**Plot and Investigate**

Now you'll look at the data to see what they say.

- Open the document **Olympics 100 Meter.tp**. You should see a stack of data cards like the one on the previous page.

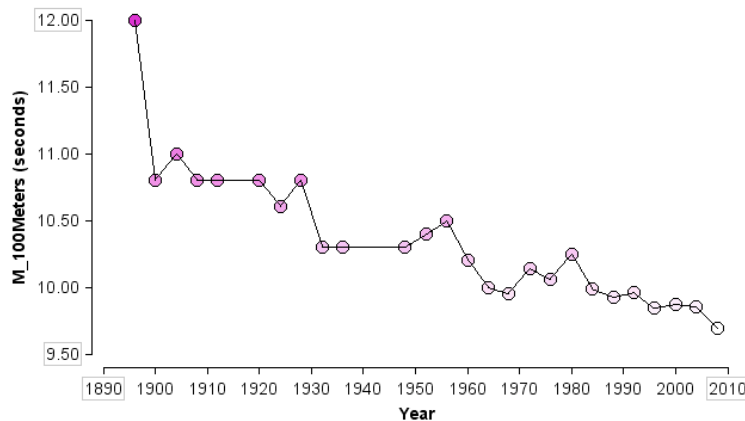
First you'll make a graph to see the gold-medal times of the men's 100-meter dash for all the Olympics.

- In the data cards, click the *Year* attribute to select it.
- Click a case icon in the plot and drag it to the right until the *Year* attribute is *fully separated*—until there are no bin lines and the axis is a continuous number line.
- In the data cards, select the attribute *M\_100Meters*.
- Click one of the case icons in the plot and drag it all the way up, until *M\_100Meters* is fully separated.

- Click the **Connecting Lines** button in the upper plot toolbar:



Your graph should look something like the one below. This kind of graph is often called a *time series graph* because it shows how something has changed over time.



- Between which years was there the greatest change in the gold-medal time of the men's 100-meter dash?
- Describe what the time series graph tells you about the winning times over the years in the men's 100-meter dash.

