

Name: \_\_\_\_\_

## Investigating Weather with Google Earth Student Exploration Sheet



### Step 4: Exploring weather patterns in San Diego and San Francisco

**Navigate** to the cities of **San Diego** and **San Francisco** with Google Earth. Examine the weather patterns in these climatographs.



**Complete** the data table and answer analysis questions # 1-3 below. Focus on **seasonal patterns** in the climatographs,

Winter = December, January, and February

Spring = March, April, and May

Summer = June, July, and August

Fall = September, October, and November

Notice the **shape** of the graphs. The larger the bell shape, the greater the temperature range. Look for periods of (1) cold and warm temperatures and (2) high and low precipitation. **Record the highest and lowest monthly temperature for each city on the data table below.**

City	Seasonal Temperature Pattern <i>How much does the temperature change during the year? What pattern do you observe?</i>	Seasonal Precipitation Pattern <i>Is the seasonal precipitation the same or different throughout the year? What pattern do you observe?</i>
<b>San Diego</b> Elevation: 13 Feet Latitude: 32° 44' N	<i>High temp:                  Low temp:</i>  <i>Change:</i>  <i>Pattern:</i>	<i>Pattern:</i>
<b>San Francisco</b> Elevation: 8 Feet Latitude: 37° 37' N	<i>High temp:                  Low temp:</i>  <i>Change:</i>  <i>Pattern:</i>	<i>Pattern:</i>

### Analysis Questions:

1. For each city, which month has the highest temperature?

**San Diego:**

**San Francisco:**

2. Look at the climatographs. Which city has a colder overall temperature pattern and a greater amount of precipitation?
3. Why do think there is a difference between the temperature patterns for each city?



### Step 5: Exploring Weather Patterns in Denver and San Francisco

**Navigate** to the cities of **Denver** and **San Francisco** with Google Earth. Examine the weather patterns in these climatographs.



**Complete** the data table and answer analysis questions # 4-5 below. Notice the **shape** of the graphs. Focus on **seasonal patterns** in the climatographs. Look for periods of (1) cold and warm temperatures and (2) high and low precipitation. **Record the highest and lowest monthly temperature for each city on the data table below.**

City	Seasonal Temperature Pattern <i>How much does the temperature change during the year? What pattern do you observe?</i>	Seasonal Precipitation Pattern <i>Is the seasonal precipitation the same or different throughout the year? What pattern do you observe?</i>
<b>Denver</b> Elevation: 5286 Feet Latitude: 39° 46' N	<i>High temp:</i> <i>Low temp:</i>  <i>Change:</i>  <i>Pattern:</i>	<i>Pattern:</i>
<b>San Francisco</b> Elevation: 8 Feet Latitude: 37° 37' N	<i>High temp:</i> <i>Low temp:</i>  <i>Change:</i>  <i>Pattern:</i>	<i>Pattern:</i>

#### Analysis Questions:

4. For each city, which month has the highest temperature?

**Denver:**

**San Francisco:**

5. Look closely at the climatographs. Why do you think the patterns of these two cities are different from each other?



### Step 6: Exploring Weather Patterns in New York, Chicago, and San Francisco

**Navigate** to the cities of **New York**, **Chicago**, and **San Francisco** with Google Earth. Examine the weather patterns in these climatographs.



**Complete** the data table and answer analysis question # 6 below. Notice the **shape** of the graphs. Focus on **seasonal patterns** in the climatographs. Look for periods of (1) cold and warm temperatures and (2) high and low precipitation. **Record the highest and lowest monthly temperature for each city on the data table below.**

City	Seasonal Temperature Pattern <i>How much does the temperature change during the year? What pattern do you observe?</i>	Seasonal Precipitation Pattern <i>Is the seasonal precipitation the same or different throughout the year? What pattern do you observe?</i>
<b>New York</b> Elevation: 11 Feet Latitude: 40° 47' N	<i>High temp:</i> <i>Low temp:</i>  <i>Change:</i>  <i>Pattern:</i>	<i>Pattern:</i>
<b>Chicago</b> Elevation: 658 Feet Latitude: 41° 59' N	<i>High temp:</i> <i>Low temp:</i>  <i>Change:</i>  <i>Pattern:</i>	<i>Pattern:</i>
<b>San Francisco</b> Elevation: 8 Feet Latitude: 37° 37' N	<i>High temp:</i> <i>Low temp:</i>  <i>Change:</i>  <i>Pattern:</i>	<i>Pattern:</i>

#### Analysis Questions:

6. These three cities have similar latitudes. What other factor might account for the differences in the weather patterns at these locations?  
**Hint:** Note other physical features near these cities.



### Step 7: Exploring Weather Patterns in Las Vegas and Philadelphia

**Navigate** to the cities of **Philadelphia** and **Las Vegas** with Google Earth. Examine the weather patterns in these climatographs. **Click** on the camera icon at both locations to observe the skyline pictures associated with these 2 cities. This will be helpful in your analysis.



**Complete** the data table and answer analysis question # 7 below. Notice the **shape** of the graphs. Focus on **seasonal patterns** in the climatographs. Look for periods of (1) cold and warm temperatures and (2) high and low precipitation. **Record the highest and lowest monthly temperature for each city on the data table below.**

City	Seasonal Temperature Pattern <i>How much does the temperature change during the year? What pattern do you observe?</i>	Seasonal Precipitation Pattern <i>Is the seasonal precipitation the same or different throughout the year? What pattern do you observe?</i>	Mountain Range (Y/N)
<b>Las Vegas</b> Elevation: 2127 Feet Latitude: 36° 05' N	<i>High temp:                  Low temp:</i>  <i>Change:</i>  <i>Pattern:</i>	<i>Pattern:</i>	
<b>Philadelphia</b> Elevation: 5 Feet Latitude: 39° 52' N	<i>High temp:                  Low temp:</i>  <i>Change:</i>  <i>Pattern:</i>	<i>Pattern:</i>	

#### Analysis Questions:

- How do mountain ranges affect precipitation?