

CHAPTER 4**REAL-WORLD LAB****Careers in Science**

Cool Climate Graphs

You are a land-use planner who has been hired by a company that builds recreational facilities. Your company is considering buying land near at least one of four cities, all at about the same latitude. Your job is to decide which of the cities would be the best place to build a water park and which is the best place to build a ski-touring center.

◆ Problem

Based on climate data, which city is the best place for each type of recreational facility?

◆ Skills Focus

graphing, interpreting data, drawing conclusions



◆ Materials

calculator

ruler

3 pieces of graph paper

black, blue, red, and green pencils

climate map on pages 124–125 of text

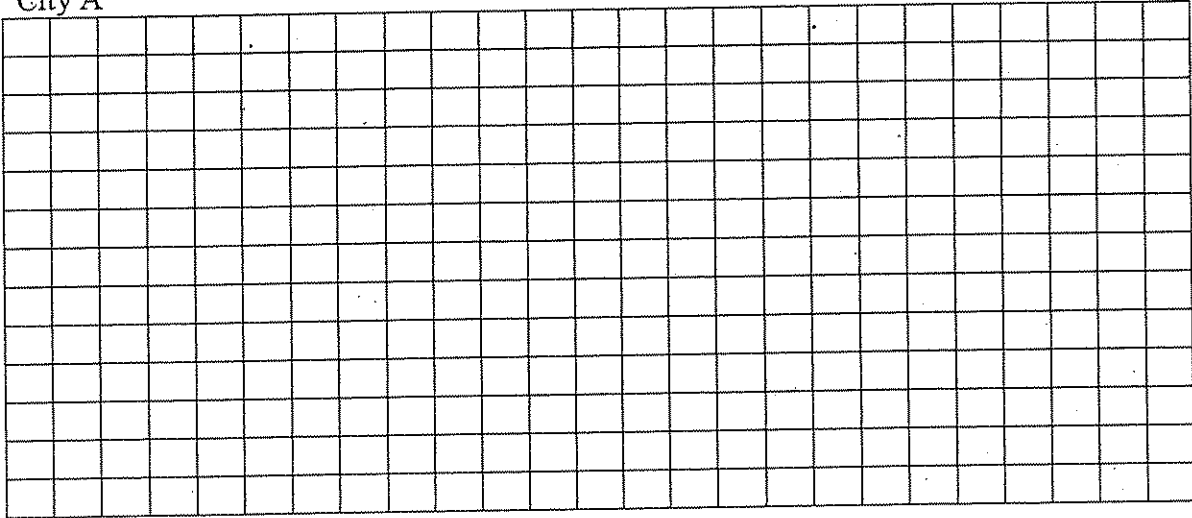
U.S. map with city names and latitude lines

◆ Procedure

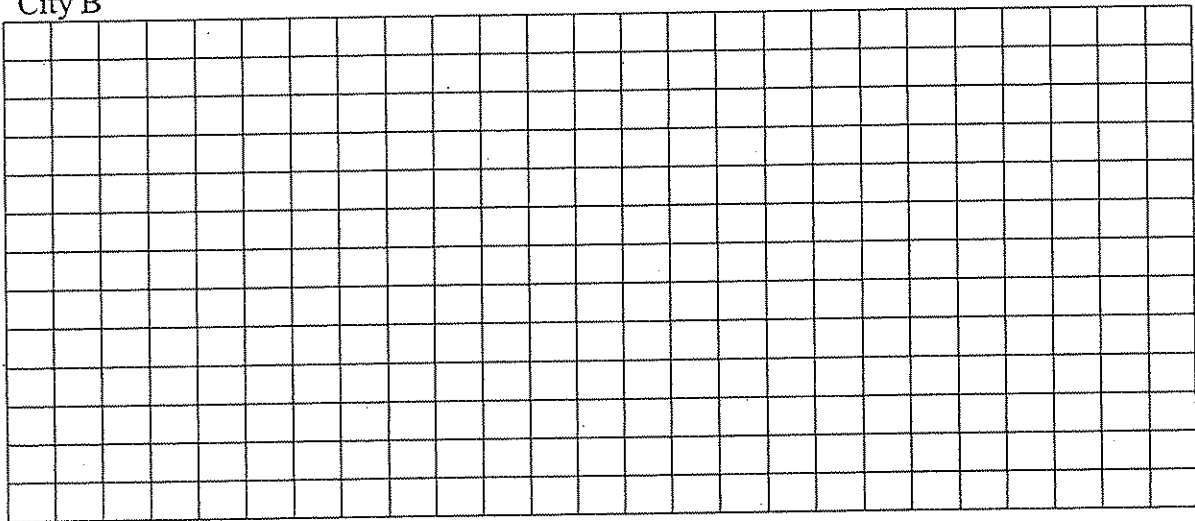
1. Work in groups of three. Each person should graph the data in your text on page 133 for a different city, A, B, or C.
2. On graph paper, use a black pencil to label the axes as on the sample climate graph shown in your text. Title your climate graph City A, City B, or City C.
3. Use your green pencil to make a bar graph of the monthly average amount of precipitation. Place a star below the name of each month that has more than a trace of snow.
4. Use a red pencil to plot the average monthly maximum temperature. Make a dot for the temperature in the middle of each space for the month. When you have plotted data for all 12 months, connect the points into a smooth curved line.
5. Use a blue pencil to plot the average monthly minimum temperature for your city. Use the same procedure as in Step 4.
6. Calculate the total average annual precipitation for this city and include it in your observations. Do this by adding the average precipitation for each month and dividing by 12.

Cool Climate Graphs

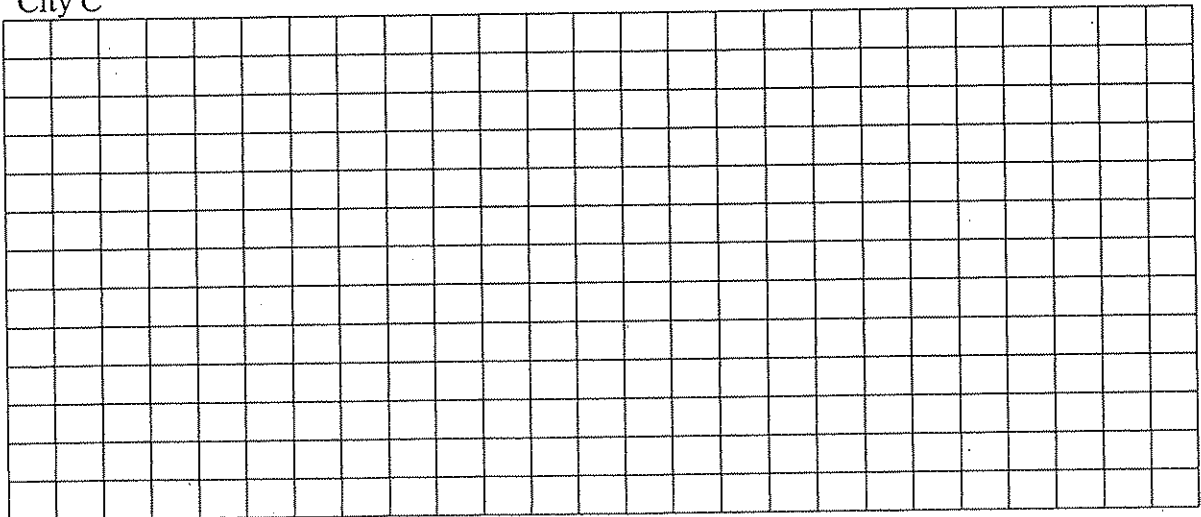
City A



City B



City C



Climate Data

Washington, D.C.	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Average High Temp. (°C)	6	8	14	19	24	29	32	31	27	21	14	8
Average Low Temp. (°C)	-3	-2	3	8	14	19	22	21	17	10	5	0
Average Precipitation (cm)	6.9	6.9	8.1	6.9	9.4	8.6	9.7	9.9	8.4	7.6	7.9	7.9
Months With Snow	*	*	*	trace	—	—	—	—	—	trace	*	*
City A	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Average High Temp. (°C)	13	16	16	17	17	18	18	19	21	21	17	13
Average Low Temp. (°C)	8	9	9	10	11	12	12	13	13	13	11	8
Average Precipitation (cm)	10.4	7.6	7.9	3.3	0.8	0.5	0.3	0.3	0.8	3.3	8.1	7.9
Months With Snow	trace	trace	trace	—	—	—	—	—	—	—	—	trace
City B	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Average High Temp. (°C)	5	7	10	16	21	26	29	27	23	18	11	6
Average Low Temp. (°C)	-9	-7	-4	1	6	11	14	13	8	2	-4	-8
Average Precipitation (cm)	0.8	1.0	2.3	3.0	5.6	5.8	7.4	7.6	3.3	2.0	1.3	1.3
Months With Snow	*	*	*	*	*	—	—	—	trace	*	*	*
City C	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Average High Temp. (°C)	7	11	13	18	23	28	33	32	27	21	12	8
Average Low Temp. (°C)	-6	-4	-2	1	4	8	11	10	5	1	-3	-7
Average Precipitation (cm)	2.5	2.3	1.8	1.3	1.8	1	0.8	0.5	0.8	1	2	2.5
Months With Snow	*	*	*	*	*	trace	—	—	trace	trace	*	*

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REAL-WORLD LAB *(continued)*

◆ Analyze and Conclude

Write an answer for each question in the space provided.

Compare your climate graphs and observations. Use all three climate graphs, plus the graph for Washington, D.C., in your text on page 132 to answer these questions.

1. Which of the four cities has the least change in average temperatures during the year?

2. In which climate region is each city located?

3. Which of the cities listed below matches each climate graph?

Colorado Springs, Colorado	latitude 39° N	_____
San Francisco, California	latitude 38° N	_____
Reno, Nevada	latitude 40° N	_____
Washington, D.C.	latitude 39° N	_____



4. Even though these cities are at approximately the same latitude, why are their climate graphs so different?

5. **Apply** Which city would be the best location for a water slide park? For a cross-country ski touring center? What other factors should you consider when deciding where to build each type of recreational facility? Explain.

◆ More to Explore

What type of climate does the area where you live have? Find out what outdoor recreational facilities your community has. How is each one particularly suited to the climate of *your* area?