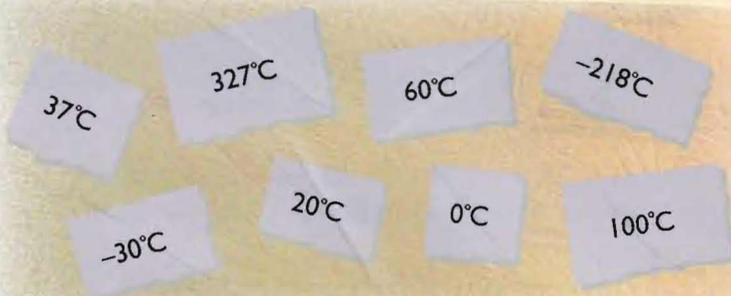


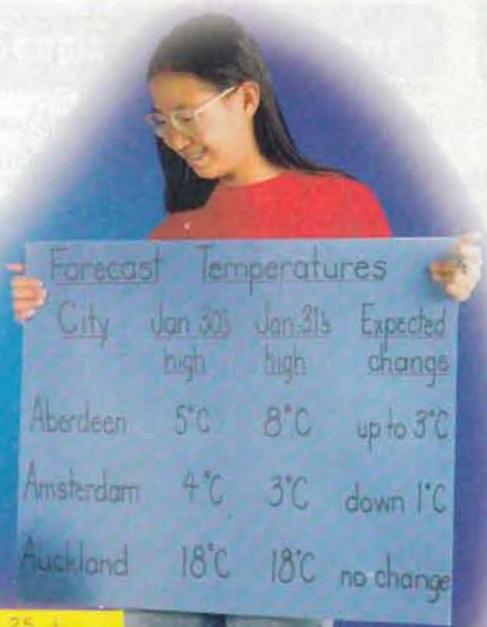
Understand and Apply

- Choose a temperature to match each item.
 - a cold winter day
 - ice
 - boiling water
 - frozen oxygen
 - molten lead
 - hot cocoa
 - normal human body temperature
 - normal room temperature
- A newspaper reported this weather forecast. Which numbers show the expected low temperatures for each day? the expected high temperatures?
- Mina compared the expected high temperatures for January 30 and January 31 to see whether the temperature was expected to go up or down in each city. Copy and complete the table for Mina.
 - Write each expected change as an integer.



Around the World Forecast high/low temperatures and weather:

		Jan. 30		Jan. 31
Aberdeen	cloudy	5/-12	clear	8/-10
Amsterdam	cloudy	4/-16	cloudy	3/-15
Auckland	cloudy	18/12	p/cloudy	18/12
Beijing	clear	2/-5	cloudy	-1/-9
Berlin	clear	-1/-11	clear	5/-8
Bermuda	cloudy	16/10	clear	16/10
Geneva	cloudy	7/-2	p/cloudy	5/-4
Jerusalem	cloudy	8/0	cloudy	8/2
London	cloudy	9/-2	snow	-2/-8
Mexico City	cloudy	12/5	clear	16/7
Moscow	snow	-12/-23	snow	-11/-19
Ottawa	clear	-15/-24	snow	-6/-15
Paris	cloudy	-1/-15	snow	-3/-14
Rome	cloudy	14/9	rain	10/2
Seoul	clear	10/1	snow	5/-3
Sydney	clear	24/18	cloudy	30/22
Tokyo	clear	7/2	snow	1/-4
Vienna	snow	0/-8	snow	-2/-10
Warsaw	p/cld	5/-12	cloudy	0/-8

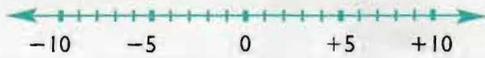


City	Jan. 30's high	Jan. 31's high	Expected changes
Aberdeen	5°C	8°C	up to 3°C
Amsterdam	4°C	3°C	down 1°C
Auckland	18°C	18°C	no change

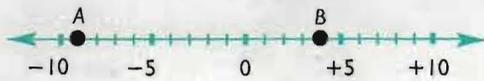


- Construct a vertical number line. Plot the temperature of the city that expects:
 - the highest temperature on January 30
 - the lowest temperature on January 31
 - the lowest high temperature on January 30
 - the highest low temperature on January 31
- Which city or cities expect:
 - the least change in high temperature from one day to the next
 - the greatest change in high temperature from one day to the next
- List the cities in order vertically from warmest to coldest, according to January 31's expected low temperature. For the cities with the same temperature, write their names beside each other.

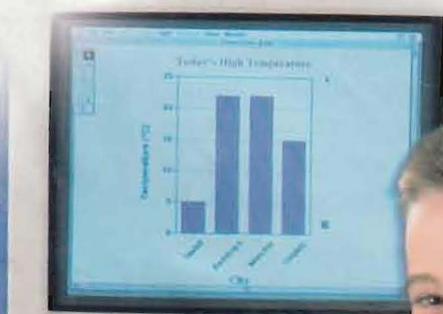
- W/E** 7. Draw a number line like the one shown to compare each pair of integers. Substitute $<$ or $>$ for \square .
- a) $6 \square 9$ b) $-4 \square -6$ c) $+1 \square -3$
 d) $-2 \square -5$ e) $0 \square -1$ f) $-7 \square 0$



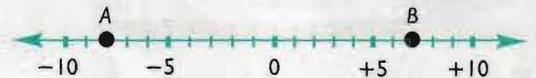
- W/E** 8. Write in order from greatest to least.
- a) $0, -2, +6, -1, -5$ b) $-3, -10, 2, 11, 0$
9. a) What integer on the number line below is at point A? point B?
 b) List the integers between A and B.
 c) List the negative integers greater than A and the positive integers less than B.
 d) Are the numbers in parts (b) and (c) the same? Explain.



Check the newspaper to find and compare today's high and low temperatures in several cities around the country. If possible use a graphics software program to record the data on a graph.



10. Restate the false statements to make them true.
- a) The greatest negative integer is -1 .
 b) Positive integers are less than negative integers.
 c) Any negative integer is always less than 0 .
 d) The greater the digit, the greater the value.
11. a) Plot $+8$ and -8 on a number line. What do you notice about their distance from zero?
 b) Why are $+8$ and -8 called **opposites**?
 c) Write 2 other pairs of opposites that lie between $+8$ and -8 on your number line.
12. a) What is the opposite of A?
 b) What is the opposite of B?



13. Does zero have an opposite? Explain.
14. Rod and Patsy were comparing integers. It was easy to compare positive integers, like $+12$ and $+9$. But when they tried comparing negative integers, they became confused. Rod said that -12 is greater than -7 because 12 is greater than 7 . Is he correct? Explain.
15. Integers are used for more than just temperatures. For example, distance above and below sea level can be shown using positive and negative numbers. List 3 other ways in which integers might be used.

In Your Journal

Find examples of unusual temperatures — such as on the sun or other planets — or boiling points and freezing points. List your data in order from coldest to hottest.