

# Negative Numbers and Temperature

## Amazing Fact

The warmest temperature ever recorded at the South Pole was a freezing  $-12.3^{\circ}\text{C}$  in December 2011, making it one of the coldest places on Earth.

## Challenge

Complete the activities using negative numbers in a temperature context.

1. Put these temperatures in order, the coldest first.

a.  $2^{\circ}\text{C}$ ,  $-8^{\circ}\text{C}$ ,  $-1^{\circ}\text{C}$ ,  $-6^{\circ}\text{C}$ ,  $-4^{\circ}\text{C}$

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b.  $6^{\circ}\text{C}$ ,  $10^{\circ}\text{C}$ ,  $-15^{\circ}\text{C}$ ,  $-11^{\circ}\text{C}$ ,  $14^{\circ}\text{C}$

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c.  $16^{\circ}\text{C}$ ,  $18^{\circ}\text{C}$ ,  $-23^{\circ}\text{C}$ ,  $-25^{\circ}\text{C}$ ,  $-13^{\circ}\text{C}$ ,  $12^{\circ}\text{C}$ ,  $20^{\circ}\text{C}$

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2. Which of these temperatures is lowest?

a.  $-4^{\circ}\text{C}$  or  $-2^{\circ}\text{C}$

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b.  $-8^{\circ}\text{C}$  or  $8^{\circ}\text{C}$

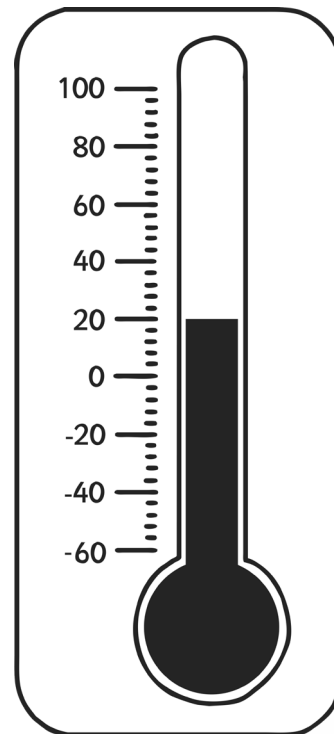
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c.  $-16^{\circ}\text{C}$  or  $-17^{\circ}\text{C}$

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d.  $-5^{\circ}\text{C}$  or  $-6^{\circ}\text{C}$

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3. Answer the questions below:

a. The temperature rises by 15 degrees from  $-4^{\circ}\text{C}$ . What is the new temperature?

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b. The temperature falls from  $11^{\circ}\text{C}$  to  $-2^{\circ}\text{C}$ . How many degrees does the temperature fall?

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c. The temperature is  $6^{\circ}\text{C}$ . It falls by 8 degrees. What is the temperature now?

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d. The temperature is  $-3^{\circ}\text{C}$ . How much must it rise to reach  $5^{\circ}\text{C}$ ?

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e. What is the difference in temperature between  $-4^{\circ}\text{C}$  and  $14^{\circ}\text{C}$ ?

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f. The temperature was  $-5^{\circ}\text{C}$ . It falls by 6 degrees. What is the temperature now?

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g. The temperature is  $-11^{\circ}\text{C}$ . It rises by 2 degrees. What is the temperature now?

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h. The temperature is  $-20^{\circ}\text{C}$ . How much must it rise to reach  $-5^{\circ}\text{C}$ ?

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You could also try to find out:

- which places, if any, are colder;
- how scientists based at the South Pole survive the cold;
- when, and for how long, the South Pole gets sunshine;
- where the hottest place on Earth is.

