Thermometer Subtraction: Number Line Adventures

Second Grade | *Math*

by Ginger Bruster | August 7, 2015

Practicing subtraction using a thermometer for a number line makes math fun! In this lesson, your students will get more comfortable with subtracting two digit numbers.

Learning Objectives

Students will be able to subtract two digit numbers from each other. Students will be able to identify hot and cold temperatures.

Materials and preparation

- Thermometer Subtraction worksheet
- Hot or Cold? worksheet
- Pencils
- Red crayons or colored pencils
- Paper

Key terms

- thermometer

Attachments

- Hot or Cold? (PDF)
- Thermometer Subtraction (PDF)

Introduction *(5 minutes)*

- Tell your students that they will be practicing subtraction using a **thermometer** (a device that measures temperature) number line.

Explicit Instruction/Teacher modeling *(5 minutes)*

- Ask your students if they are familiar with thermometers. Potential discussion questions include: *Where have you seen a thermometer? What does it do? Why do you think the red line on the thermometer moves?*
- Make sure that your students know that when the temperature is hot, the red line on the thermometer goes up. When it gets cooler, the red line goes down.

Guided Practice *(10 minutes)*

- Hand out the Thermometer Subtraction worksheet.
- Go over the worksheet together as a class.
- Direct your students to color in the high temperature on each of the three problems with a red crayon or colored pencil.
- Have your students write number sentences to go with each of the three thermometer math problems.
- Ask your students to write down the correct temperature to the subtraction problem.
- When your students are finished, pass out the Hot or Cold? worksheet for students to complete on their own.

Independent working time *(5 minutes)*

- Have your students complete the Hot or Cold? worksheet on their own.
- Direct them to determine what kind of temperature goes with each picture.
- Refer to personal experiences of wearing lots of clothes in cold weather to illustrate temperature.

Differentiation

- **Enrichment:** Have your students create their own thermometers on paper, and instruct them to label the lines of temperature. They may use their thermometers as number lines for future math activities.
- **Support:** Pair your students up during the independent worksheet time. Have one student identify the numbers on the thermometer, and have the other subtract.

Assessment *(5 minutes)*

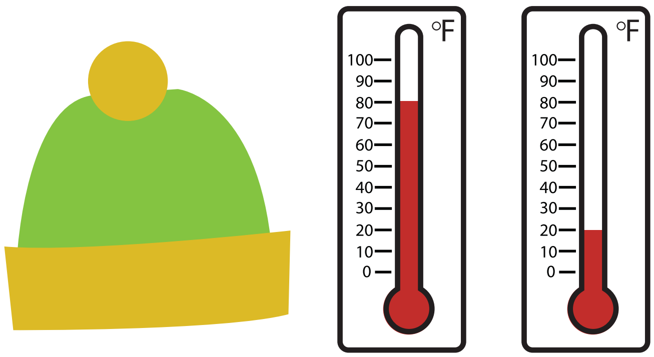
- As your students are working on the two worksheets, walk around and make sure that they are completing them accurately.

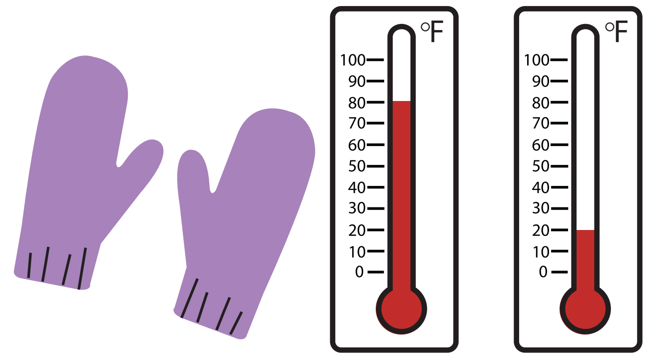
Review and closing *(5 minutes)*

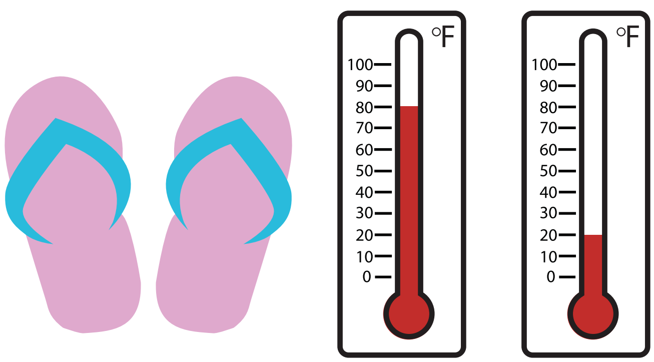
- Go over the Hot or Cold? worksheet together to make sure your students understand the concept of temperature.
- Ask them to come up with other hot and cold situations.

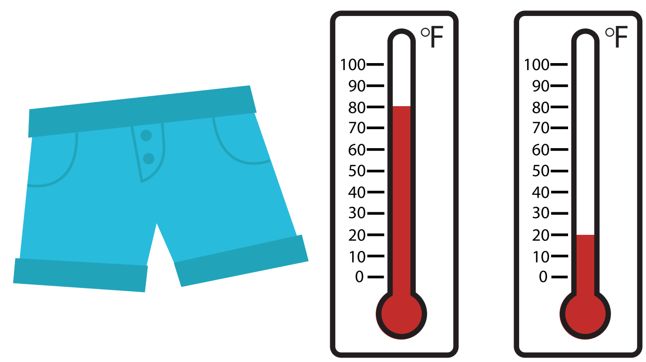
Hot or Cold?

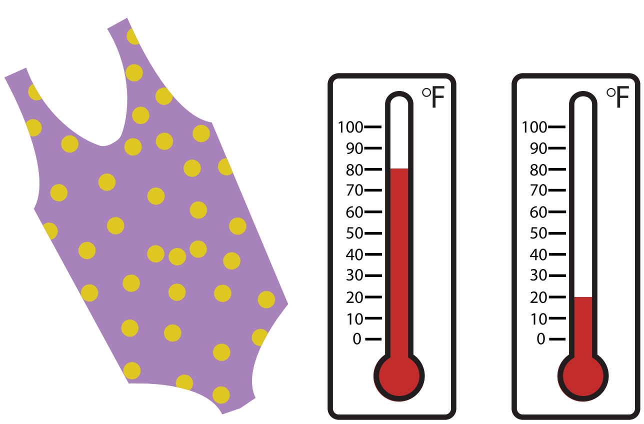
What should you wear? Circle the thermometer that goes with each item of clothing.

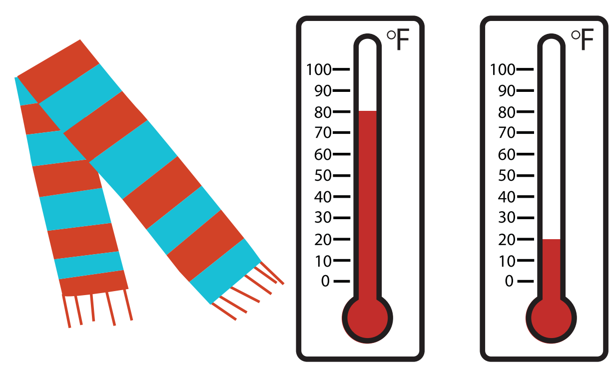










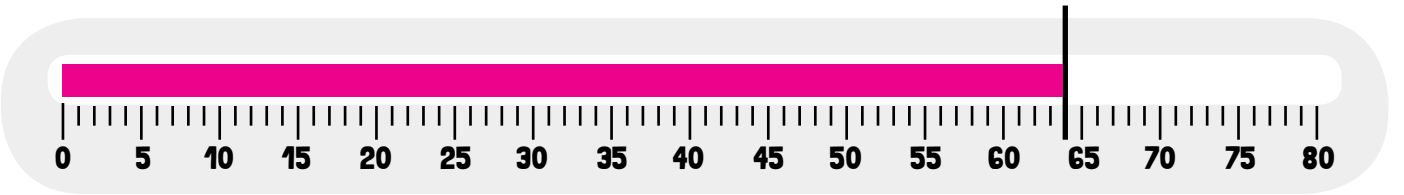


USING A THERMOMETER TO SOLVE TEMPERATURE PROBLEMS

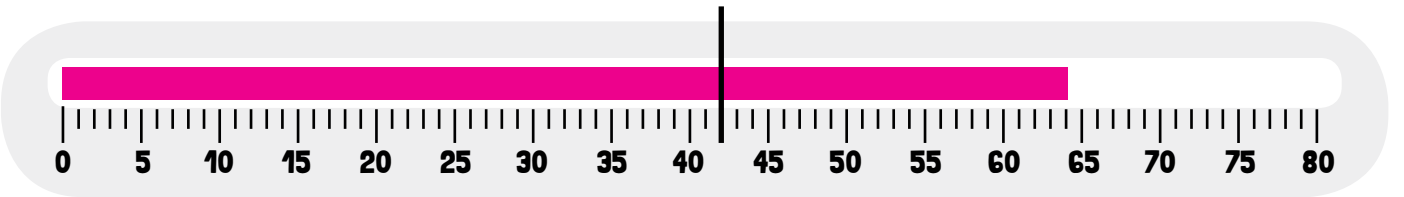
Subtraction

Directions: Use the thermometer to help solve the problems about temperature.

Example: The temperature on a fall afternoon is 64 degrees F. The morning temperature was 22 degrees cooler. What was the temperature in the morning?



To solve this problem start by drawing a line at the 64 degrees mark.

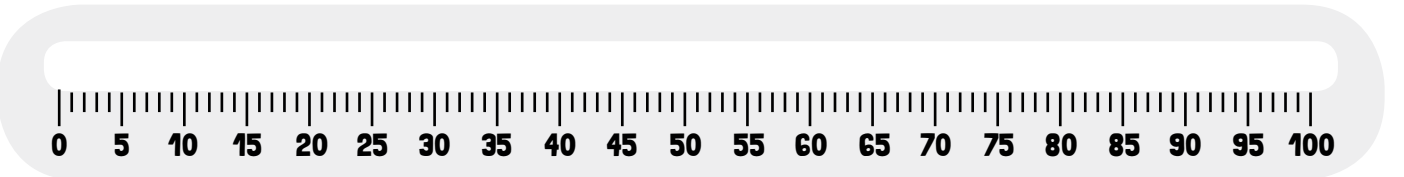


Then count down 22 spaces to get to the answer.

64 – 22 = 42 **The temperature in the morning was 42 degrees Fahrenheit.**

Now, you try. Read the problems and use the thermometers to help you solve them. Then, write a number sentence to go with each problem.

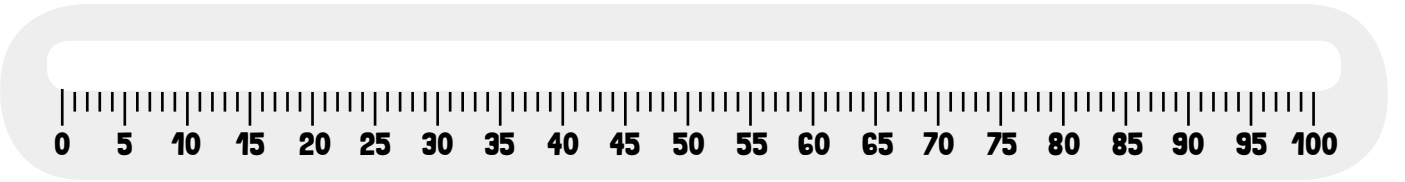
1 In September, the highest temperature was 68 degrees F and the lowest temperature was 29 degrees cooler. What was the lowest temperature in September?



Number sentence _____

The lowest temperature in September was _____

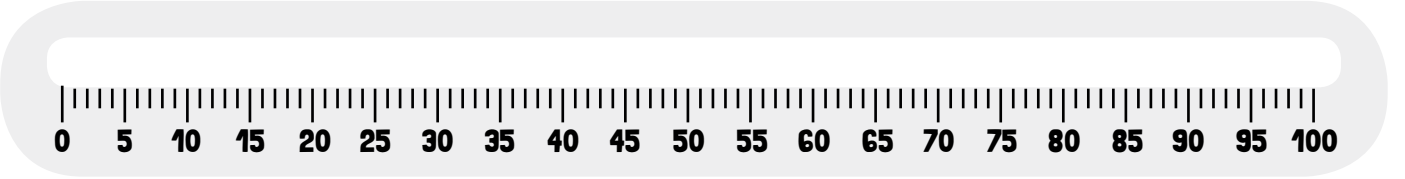
2 One summer day the high temperature was 92 degrees F. By the evening it had cooled down 15 degrees. What was the temperature in the evening?



Number sentence _____

The evening temperature was _____

3 Zelda checked the temperature at lunchtime and it was 74 degrees F. She checked the temperature again at dinner and it was 13 degrees cooler. What was the temperature at dinner time?



Number sentence _____

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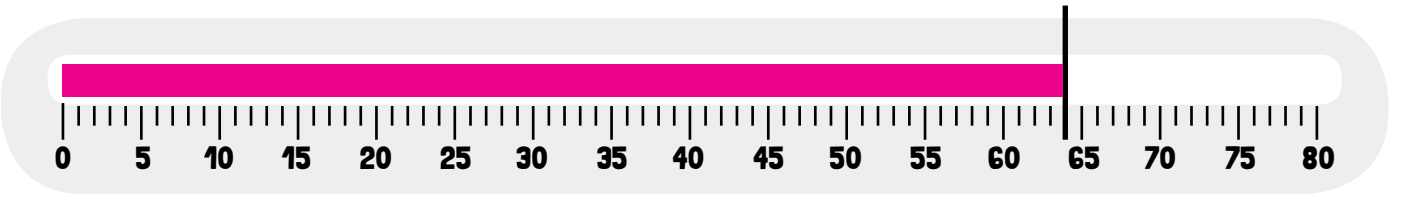

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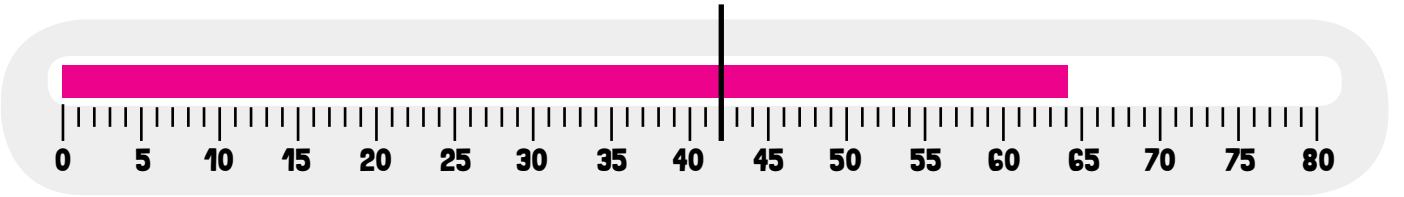

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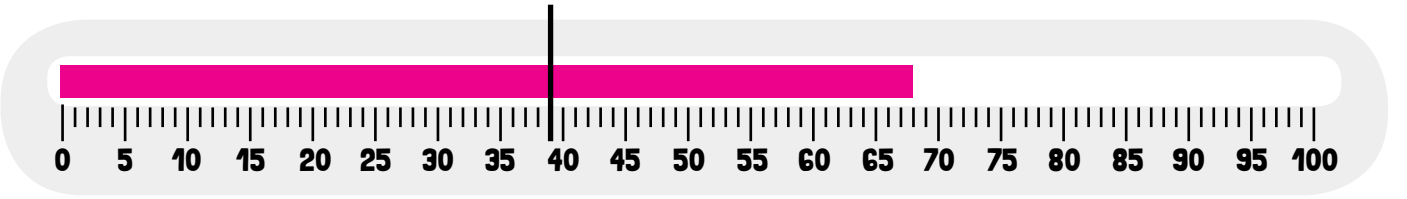

Number sentence 68 degrees F - 29 degrees F = 39 degrees F

The lowest temperature in September was 39 degrees F

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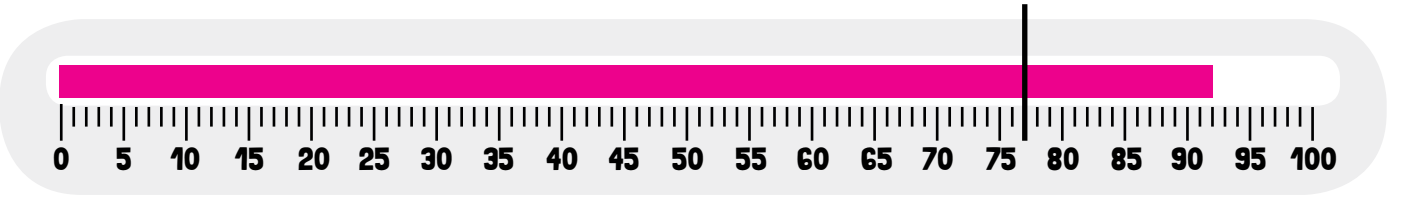

Number sentence 92 degrees F - 15 degrees F = 77 degrees F

The evening temperature was 77 degrees F

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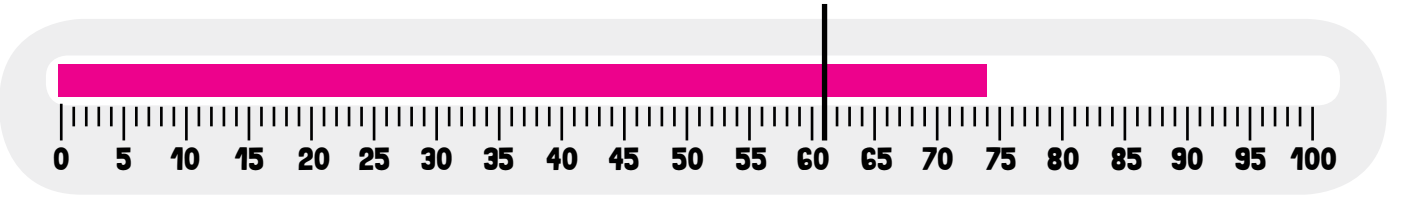

Number sentence 74 degrees F - 13 degrees F = 61 degrees F

The temperature at dinner time was 61 degrees F