

## Objective

Use elapsed time to find times after.

## Common Core State Standards

- **3.MD.1** Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.

## Measurement and Data

# Finding Times After

In third grade, students expand their study of time beyond just telling time. They start to work with elapsed time to describe a more complex variety of situations. Most of the practical work that students will do with time in math and science will involve elapsed time, so students must develop the ability to work flexibly with this basic concept.

**Try It!** Perform the Try It! activity on the next page.

## Talk About It

Discuss the Try It! activity.

- **Ask:** How can you count off 15-minute intervals on the clock? How can you count off 15-minute intervals on the Time Work Mat?
- **Ask:** How many 15-minute intervals are there between 4:45 and 5:30?  
**Say:** We know that there are three 15-minute intervals. **Ask:** How can you find the total time Cheyenne has to wait? Direct discussion to include skip-counting by 15s (15, 30, 45), or multiplying  $15 \times 3 = 45$ .

## Solve It

With students, reread the problem. Have them draw a clock and show the elapsed time. Then have them write a sentence telling how they determined the number of minutes Cheyenne has to wait.

## More Ideas

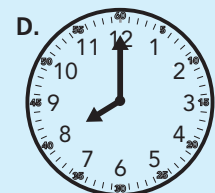
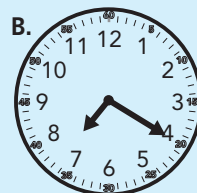
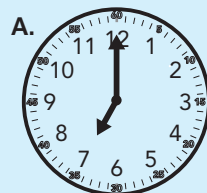
For other ways to teach about using elapsed time to find times after—

- Have pairs use Time Interval Rods and Time Work Mats. Ask one student to select a start time on the work mat and pick rods from a bag. Then have the other student place the rods on the work mat to determine the elapsed time and the end time. Switch roles and repeat.
- Have pairs use Write-On/Wipe-Off Student Clocks. Ask one student to set a time on his/her clock and allow the other student to see it. Then have the other student set a later time on his/her clock and have both find the elapsed time. Switch roles and repeat.

## Formative Assessment

Have students try the following problem.

Which shows 20 minutes after 7:20?



**Try It!** 20 minutes | Groups of 4

Here is a problem about using elapsed time to find times after.

*Cheyenne knows of a new TV show she wants to watch. The show starts at 5:30. It is now 4:45. How much time must Cheyenne wait to watch her show?*

Introduce the problem. Then have students do the activity to solve the problem. Distribute Time Interval Rods, Write-On/Wipe-Off Clocks, Time Work Mats, and markers to students.

**Materials**

- Time Interval Rods (1 set per group)
- Time Work Mats (1 per student)
- Write-On/Wipe-Off Student Clock (1 per student)
- dry erase markers (1 set per group)

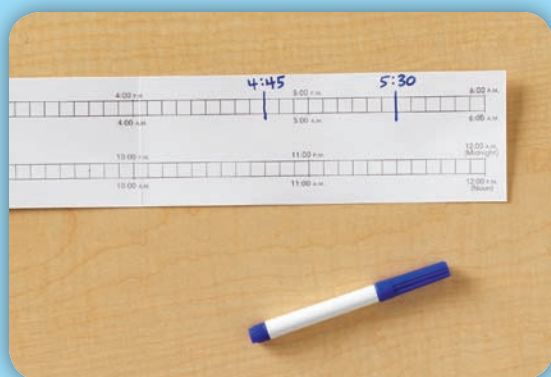


**1. Ask:** In the problem, what time is it now?

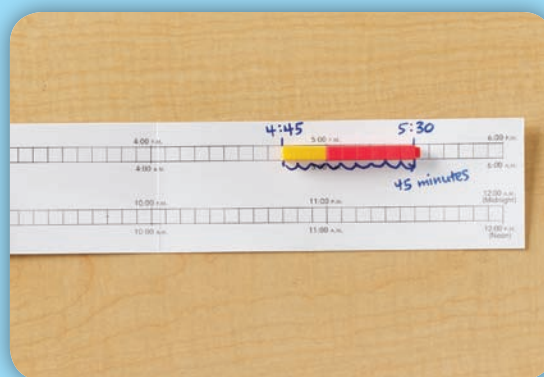
**Say:** Set the hands on your clock to show the time, and write the time in the space below the clock. Students should set the hands to show 4:45 and write the time.



**2. Say:** Let's count the minutes until the show starts at 5:30. **Ask:** What is the best way to count the minutes between 4:45 and 5:30? Discuss counting by hours (no), 5 minutes (best), and single minutes (yes, but not best). **Say:** Now place a finger where the minute hand is at 4:45. Count by 5s until you get to 5:30.



**3. Say:** We also can use the Time Interval Rods and Time Work Mats to find the time Cheyenne has to wait. Have students find 4:45 on the work mat. Ask them to mark and label it with their marker. Then have them mark and label 5:30.



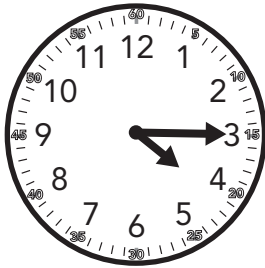
**4.** Have students fill in the time between 4:45 and 5:30 with Time Interval Rods and count the elapsed minutes.



**Use a Write-On/Wipe-Off Clock to model the start time and elapsed times. Write the end time.**

(Check students' work.)

- Taylor started her run at 4:15. She ran for 35 minutes. What time did Taylor finish running?



Start

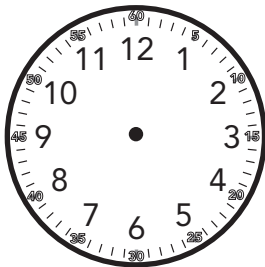


End

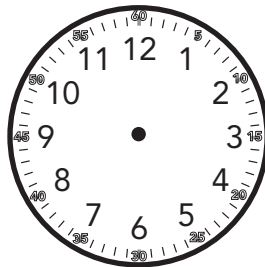
End time: 4:50

**Using a Write-On/Wipe-Off Clock, model the start time and end time. Draw the hands on the clocks. Write the elapsed time.**

- Bob started reading at 9:35. He stopped reading at 10:20. How long did Bob read?



Start



End

Elapsed time: first clock should show 9:35, second clock should show 10:20, elapsed time: 45 minutes

**Find the end time.**

- Rosa rode her bike for 50 minutes. If she started at 4:05, what time did she finish?
- Saul swam for 55 minutes. If he started at 6:10, what time did he finish?

End time: 4:55

End time: 7:05

## Answer Key

**Challenge!** Jason took a nap. When he lay down, the clock said 5:10. When he woke up, the clock said 6:25. How long did Jason nap? Write how much time passed while Jason was napping. Explain how you know.

Challenge: Jason napped for 1 hour and 15 minutes; 5:10 to 6:10 is one hour, and 6:10 to 6:25 is 15 minutes.

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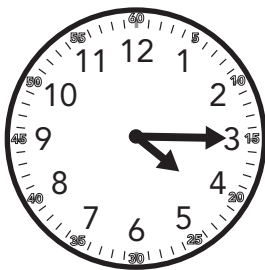
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**Use a Write-On/Wipe-Off Clock to model the start time and elapsed times. Write the end time.**

1. Taylor started her run at 4:15. She ran for 35 minutes. What time did Taylor finish running?



Start

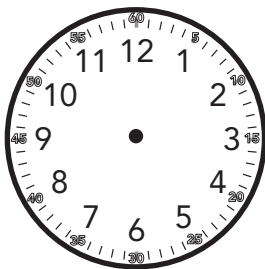


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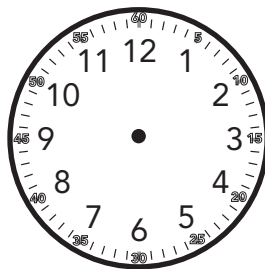
End time: \_\_\_\_\_

**Using a Write-On/Wipe-Off Clock, model the start time and end time. Draw the hands on the clocks. Write the elapsed time.**

2. Bob started reading at 9:35. He stopped reading at 10:20. How long did Bob read?



Start



End

Elapsed time: \_\_\_\_\_

**Find the end time.**

3. Rosa rode her bike for 50 minutes. If she started at 4:05, what time did she finish?

End time: \_\_\_\_\_

4. Saul swam for 55 minutes. If he started at 6:10, what time did he finish?

End time: \_\_\_\_\_

Name \_\_\_\_\_

**Challenge!** Jason took a nap. When he lay down, the clock said 5:10. When he woke up, the clock said 6:25. How long did Jason nap? Write how much time passed while Jason was napping. Explain how you know.

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