Grade Level/Course: Grades 2 and 3

Lesson/Unit Plan Name: Time on a Number Line

Rationale/Lesson Abstract: Students will see how a number line is an efficient tool for calculating elapsed time.

Timeframe: 2 days

Common Core Standard(s):

2.MD.7
Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m. **Know relationships of time (e.g., minutes in an hour, days in a month, weeks in a year). CA**

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.

Instructional Resources/Materials:
Clock template, brads, number lines

Pre Activity/Lesson:

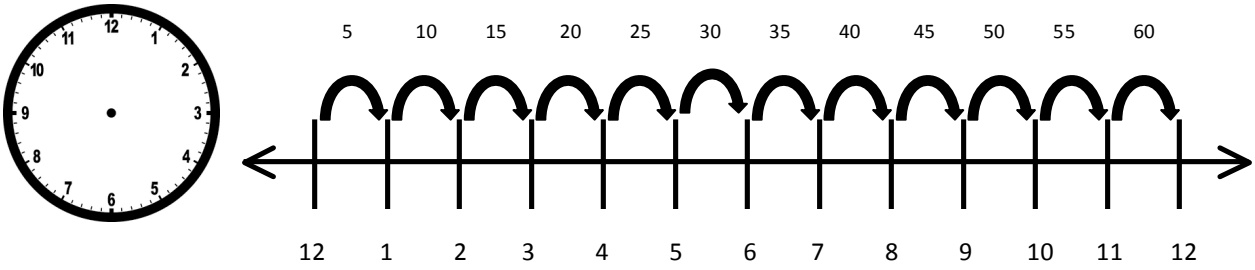
Students use circle clock templates. As a class, students practice counting by 5s and moving the minute hand.

Questions: What does it mean when the minute hand points to the 1? [It is five minutes after the hour.] What does it mean if the minute hand points to the 7? Count by fives unit you reach the 7. [If the minute hand is at the 7, it is 35 minutes after the hour.]

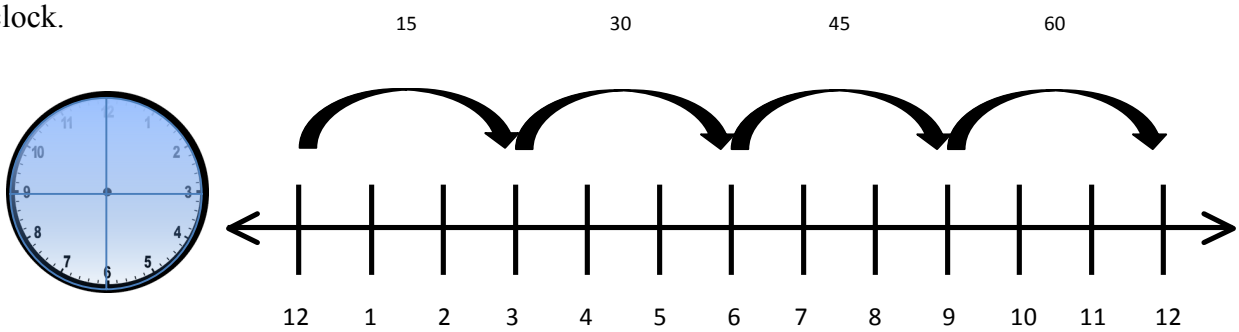
Next students practice counting by 15s while moving the minute hand.

Questions: What does it mean when the minute hand points to the 3? [It is 15 minutes or quarter after the hour.] What does it mean if the minute hand points to the 6? [It is 30 minutes after the hour.]

Show students a number line numbered 1-12. Students practice counting by 5s and 15s on the number line.



Remind students that it takes 5 minutes for the minute hand to move from one number to the next on the clock face. If necessary, have students count the minutes between each number on the clock.



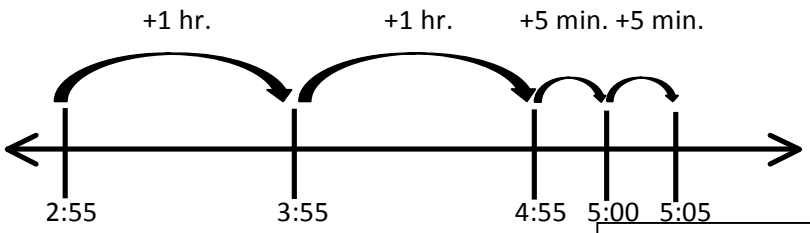
Have student practice showing time on their clocks. Students hold up their clocks while teacher checks for understanding.

Activity/Lesson continued:

Once students have a good understanding of telling time to the nearest minute, quarter hour, and half hour, have students work on elapsed time problems.

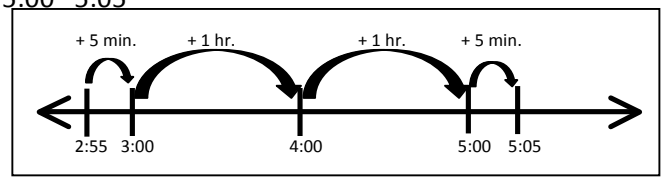
Example 1) *What time is on the clock?*

What time will it be in 2 hours and 10 minutes?



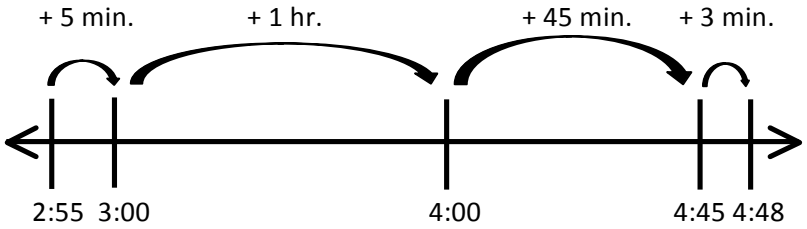
Note: These are a few examples of number lines. There are many ways to show how to add time on a number line.

or



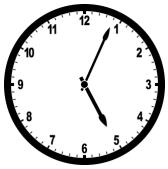
[It will be 5:05.]

What time will it be in 1 hour and 53 minutes?

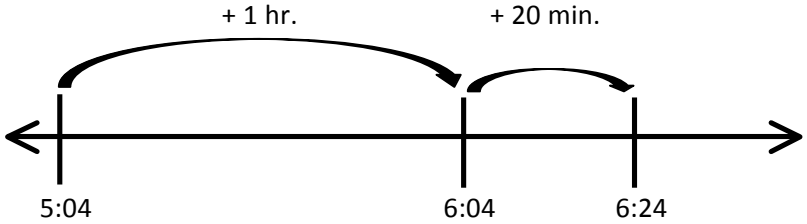


[It will be 4:48.]

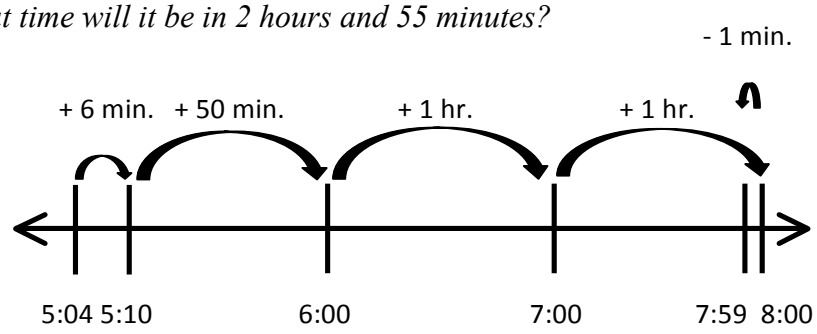
Example 2) *What time is on the clock?*



What time will it be in 1 hour and 20 minutes?



What time will it be in 2 hours and 55 minutes?



Ask: "Why would you start by adding 6 minutes? [to get the the next ten] "Why would you add 50 minutes?" [to get to the next hour]

[It will be 7:59.]

You Try 1) *What time is on the clock?*

What time will it be in 2 hours and 10 minutes?

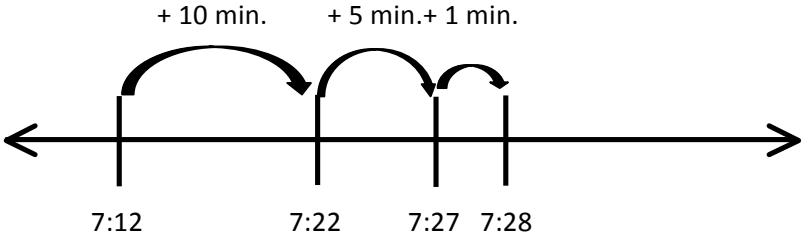
[It will be 5:25.]

Note: After completing the you try, have students look at their partner's number line. Does is look different or the same? Did both number lines help the students arrive at the correct answer?

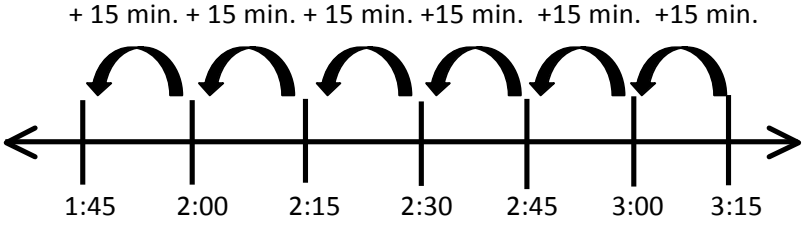
What time will it be in 3 hours and 57 minutes?

[It will be 7:12.]

Example 3) Kim puts cookies in the oven at 7:12 A.M. They need to cook for 16 minutes. What time should Jessica take the cookies out of the oven? [7:28 A.M.]



Example 4) What time does Andrea have to leave to be at her friend's house by a quarter after 3:00 if the trip takes 90 minutes?



You Try 2) Sarah rents a movie that is 1 hour and 24 minutes long. She starts watching the movie at 5:12 P.M. What time will the movie end?

[It will end at 6:36 P.M.]

Have students share the different number lines that they came up with to show how much they vary.