

Grade 3

Elapsed Time Strategies

Using a Time Number Line

MACCSS Standards Being Addressed:

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.*

Rationale:

Number lines are a continuous visual of the amount of time gone by. They easily represent the transition from A.M. to P.M.

Elapsed Time

Students will learn how to model time on an analog clock and use a time number line to show elapsed time.

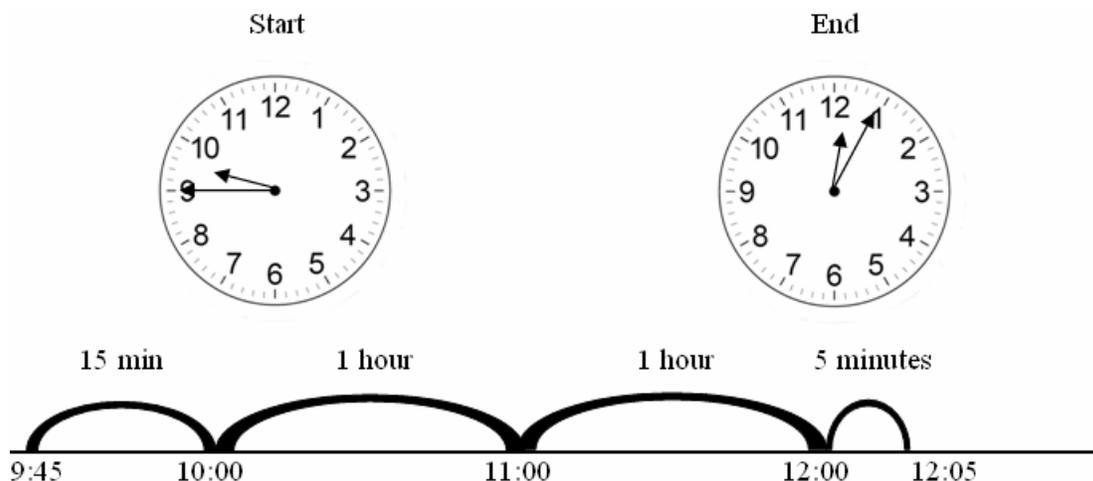
Let's say we want to find the elapsed time from 9:45 to 12:05.

Using an analog clock we would begin by setting the start time on the clock to 9:45. Then we would move the minute hand to 10:00 for 15 minutes, then 11:00 for 1 hour, 12:00 for another hour, and 12:05 for 5 more minutes to arrive at 12:05-the end time.

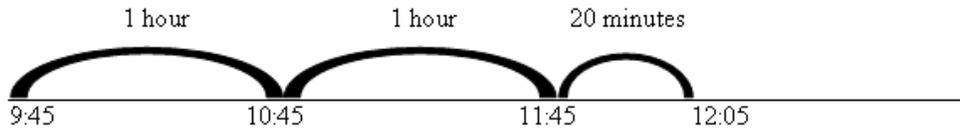
Another way model on analog clock we be to begin by making 9:45 on the clock and moving the minute hand to the next hour, 10:45, then another hour, 11:45, then 20 minutes to 12:05-the end time.

Both of these methods work, but can be confusing for students to keep track of how many hours and minutes they have moved.

Using the number line, we start by writing the start time. Next we would show a jump for the number of minutes to get to the next hour (15 min.). We then show the jump for each of the next 2 whole hours and finally the last jump of 5 minutes. Students can then easily add up the hours and minutes to find the elapsed time - 2 hours and 20 minutes. This is a visual representation that students can easily understand and use anytime without any additional equipment other than a pencil and paper.

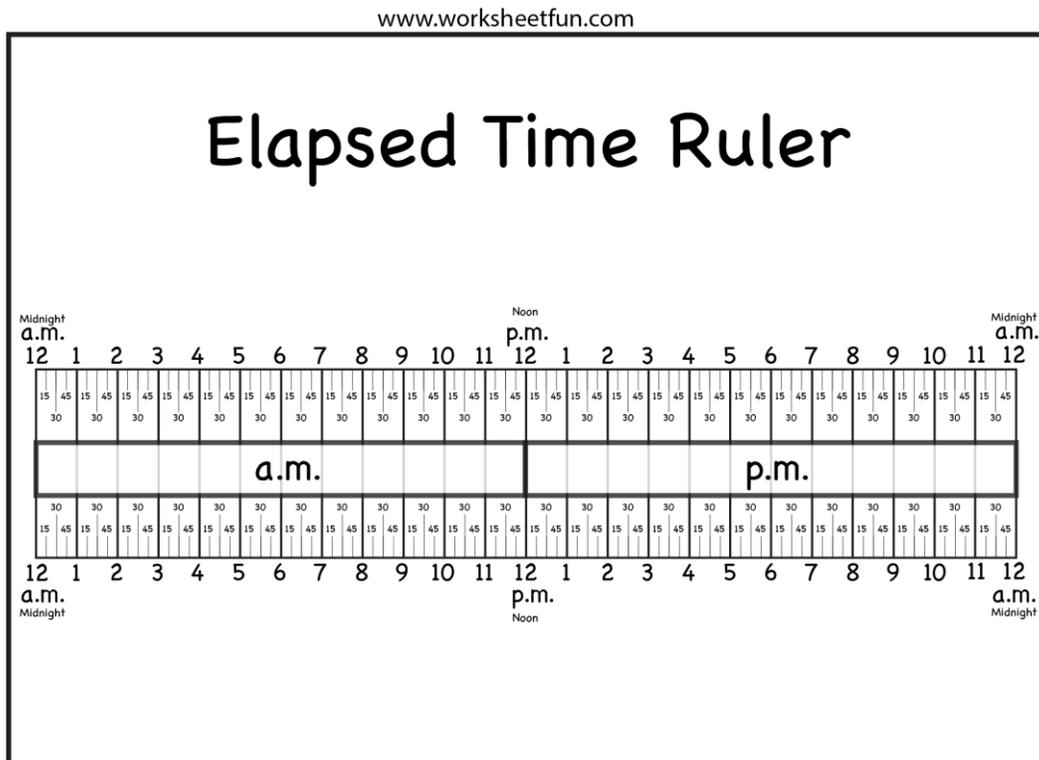


This second example shows the other method of finding the elapsed time for 9:45 to 12:05. The student jumps by the hour until they can no longer jump a full hour, and then jumps the remaining minutes to get to the desired time, showing an elapsed time of 2 hours and 20 minutes.



All of the above strategies for solving elapsed time would be acceptable solutions to the problem.

Below you will find a more detailed elapsed time ruler that also includes A.M. and P.M. This model can be wrapped around to show movement from A.M. to P.M. and visa versa.



Adapted from:
[http://www.nsa.gov/academia/ files/collected learning/elementary/geome try/elapsed time.pdf](http://www.nsa.gov/academia/files/collected_learning/elementary/geome try/elapsed_time.pdf)
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