READING MATERIAL

Read About Measuring Elapsed Time

WHAT IS ELAPSED TIME?

Elapsed time is the amount of time that passes between a starting time and an ending time.

To better understand measuring elapsed time...

LET'S BREAK IT DOWN!

Basketball Time

Elapsed time can help you find how many hours you spend at a basketball game. Let's say you arrive at the game at 2:00 p.m. You leave the game at 3:30 p.m. We can use a number line to help find the difference between the two times. We can start at 2:00 p.m. and jump one hour to 3:00 p.m. Then, we can jump another half hour to reach 3:30 p.m. Try this one yourself: **You arrive at a volleyball game at 9:30 a.m. You leave the game at 11:00 a.m. How long were you at the volleyball game?**

Travel Time

A number line can help you find the length of time you travel. Let's say your plane takes off at 9:30 a.m. and lands at 3:15 p.m. We can draw a number line with 9:30 a.m. marked as a starting point and 3:15 p.m. marked as an ending point. We can jump from 9:30 a.m. to 2:30 p.m. in 5 one-hour jumps. Then we jump 30 more minutes from 2:30 to the next hour, 3:00. From 3:00, jump another 15 minutes to 3:15. You travel for 5 hours and 30 + 15 = 45 minutes. Try this one yourself: **Your bus leaves your city at 1:50 p.m. It arrives in your aunt's town at 5:20 p.m. How long is the bus ride from your city to your aunt's town?**

Ready for School

When you know how long it takes you to get ready for school, and what time your bus comes, you can use elapsed time to help you figure out when you need to get out of bed. Let's say it takes you 10 minutes to shower, 15 minutes to get dressed, and 13 minutes to eat breakfast. That's a total of 10 + 15 + 13 = 38 minutes. Your bus comes at 6:55 a.m. We can use a number line and jump back 38 minutes from the time your bus comes. From 6:55, jump back 30 minutes to 6:25. Then, jump back 5 more minutes to 6:20. We still need to jump back 3 more minutes, to 6:17. You need to get out of bed at 6:17 a.m. Try this one yourself: **School starts at 7:22 a.m. It takes you 16 minutes to walk to school, 25 minutes to get ready for school, and 9 minutes to eat breakfast. What time do you need to wake up?**

The Movies

Elapsed time can also be used to find when a movie will be over. Let's say a movie starts at 6:50 p.m. The movie is 1 hour and 55 minutes long. We can find what time the movie ends using a number line. Label the start time at 6:50. Jump forward 1 hour to 7:50. Then jump 10 minutes to the next hour, 8:00, which leaves 55 – 10 = 45 minutes. The movie ends at 8:45 p.m. Try this one yourself: **A movie starts at 4:15 p.m. and it lasts 2 hours and 10 minutes. What time will the movie be over?**

MEASURE ELAPSED TIME VOCABULARY

Elapsed time	The amount of time that passes between a start time and an end time.
O'clock	Means 'of the hour' and is used to tell that the current time is exactly on a given hour.
Number line	A straight line that is used to show the relationship between values. Points on the line indicate the relative position of numbers or values.
Hour	A unit of time that is equal to 60 minutes.
Half-hour	A unit of time that is equal to 30 minutes, which is half as long as one hour.
Minute	A unit of time that is equal to 60 seconds. There are 60 minutes in one hour.

MEASURE ELAPSED TIME DISCUSSION QUESTIONS

How can you find the elapsed time between 9:30 a.m. and noon, in hours?

Noon is the same as 12:00 p.m., so I can use a number line and hop 2 hours from 9:30 to 11:30, then

another half hour to noon, for a total of 2 ½ hours.

One day, Joe started walking at 4:00 p.m. and walked for half an hour. What do you do to find out what time he finished his walk? The next day, Joe walked for half an hour and finished at 5:00 pm. What do you do to find out when he started walking?

Use a number line. Given the start time, you hop forward to add the elapsed time and find the end time. 4:00 plus half an hour is 4:30 p.m. Given the end time, you hop backward to subtract the elapsed time and find the start time. 5:00 minus half an hour is 4:30 p.m.

Jason's guitar lesson starts at 1:30 on Saturday. It takes him 30 minutes to drive to the guitar studio. Should you count forward or backward to decide when he should leave?

Jason must leave before the start of his lesson, so I need to hop backward on the number line to find out what time he should leave: 1:00 p.m.

You start a project that takes 1 hour and 40 minutes at 8:10. You can jump an hour, a half-hour, and 10 more minutes on a number line to find the project end time. What is another way you could use a number line to find the end time?

You could jump one hour, then jump in 5-minute intervals, like on a clock, to find the end time. Or, you could jump two hours, then jump back 20 minutes, because 40 minutes is 20 minutes less than one hour.

Kari has a pottery class at 8:10 p.m. It takes her 37 minutes to get from her home to class. She said she needs to leave no later than 7:40 p.m. Is she correct? Explain how you know.

Kari is not correct. Start at 7:40 and count forward 37 minutes on a number line to find 8:17 p.m. This is after Kari's class starts, so she will be late.
