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This is an example of a real world application lesson that appears in Level D of Milestone Maths. Every milestone ends with a real world application lesson like this one to prove to students that the maths they are learning is relevant to the world around them transforming the, “Why do I have to do this?” into “Wow! Now I get it!”

Milestone Maths is a home-grown print based maths curriculum written by an Australian homeschooler specifically for Australian homeschoolers. Our mission is to make maths simple for Australian homeschoolers.

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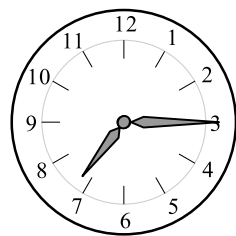


## Lesson 7.10 Real World Application

### Telling the Time

Did you know that there's probably a way to practice your five times table hanging on a wall somewhere in your house? It's not a times table poster (but good for you if you have one!). It's a clock!

Do you remember from last year how we write the time shown below on a digital clock?



Did you say “seven fifteen” or 7:15? If yes, give yourself a high five! Now, do you know WHY it is seven fifteen?

Well, a very long time ago, some people called the Sumerians decided to divide a circle into 360 parts they called degrees. Now degrees were so tiny that someone decided to group them together into bundles of 6 and call each bundle a second. Seconds were still pretty small so then they bundled 60 seconds together to make a minute.

Someone else decided that time should be divided the same way. (Which is why our clocks are mostly all circles!) If you have a clock or a watch that has a second hand, watch it tick as it goes around the clock. Depending on the clock and how careful you are, you might be able to count how many “ticks” it takes to go around the entire circle one time: you should find that it's sixty.

“But we haven't gotten to our five times table yet!” I hear you say. Just wait, you'll see it very soon. Watch the minute hand (the long hand) very closely when the second hand passes the number 12. You should see it make a little jump! The minute hand “ticks” once every sixty seconds, or every one minute.

Now it would be very hard to fit all 60 numbers on the clock to count the minutes, so instead we do a little bit of maths. The numbers that **are** printed on the clock face tell us the hour. So, when the little hand points to 2, and the big hand is at 12, we know it is 2 o'clock (or two hours after midday).

Well it just so happens that 60 divided by 12 is 5. What that means is that it takes the minute (long) hand exactly 5 minutes to go from one number on the clock face to the next. So, when the big hand is pointing at the 3, it is fifteen minutes since it was pointing at 12 (because  $3 \times 5 = 15$ ).

I've given you enough information now for you to figure out how to tell time to the nearest five minutes but it might take a bit of thinking. If this feels a bit too hard, don't worry about it for now. We'll look at this later in the year. But if you're brave and think you can do it, get the big people in your life to help you learn how to read the clock by asking you to tell them the time every so often during the day.

In any case, you can practice your five times table by working out how many minutes the minute (long) hand is pointing to whenever you see it pointing at a number on the clock. Remember, all you have to do is multiply the number by 5!

### Research Project: Sumerian Numbers

To find out more about why we use the number 60 a lot when talking about time (and how that is related to the circle) ask your parents to help you do some research into the Sumerians and their number system called Sexagesimal.

