



Time of Your Life

The Big Idea:

There's a lot of math involved in telling time! Let's explore time by turning ourselves into the hands of an analog clock.

You Will Need:

- ★ To print (optional): Clock numbers (1 packet)
- ★ Digital clock or cell phone with a digital clock display
- ★ Masking tape
- ★ Paper: 1 sheet per kid, plus 2 extra
- ★ Pencil
- ★ Stopwatch or cell phone with a stopwatch function

Key Prep:

- ★ Tape the clock numbers (or just numbered pieces of masking tape) to the floor in a 10 foot circle, like a giant clock. Mark the center of the clock with a small masking tape X.
- ★ Write "Hour Hand" on one sheet of paper, and "Minute Hand" on another.

The Math Behind the Scenes:

Clocks help us measure the passage of time, and are really helpful tools when we need to be someplace at a certain time. To read an analog clock, we need to know how to count to 60 and how to skip count by 5s. Telling time with a clock is a great way to learn about basic fractions, too.

Time for a Birthday (for little kids)

There are 2 kinds of clocks, digital and analog. Digital clocks are the kind that you see on microwave ovens, stoves, cars and smart phones. They display the time like this:

09:14

- ★ What would your birth date look like on a digital clock? That's the month and day of your birthday. This clock shows September 14, because September is the 9th month and the 14 shows it's the 14th day.
- ★ Are you able to come up with a time that shows your birthday?
- ★ Would any birthday work?
- ★ Your birthday time shows up on the clock twice every day. Are you usually awake both times or just one?

Now let's find out what time our names make:

- ★ Count the number of letters in your first name and use that number as the hour.
- ★ Now count the letters in your last name and use that number as the minutes. For example, the name Jonathan Smith would be 08:05.
- ★ If you have more than 12 letters in your first name, use 12 for the hour and add the extra letters to the last name for additional minutes!

BONUS:

- ★ What time has the same digits in all 4 spaces?
- ★ What's the largest number you can make using the digits on the clock?
- ★ What's the smallest number you can make?

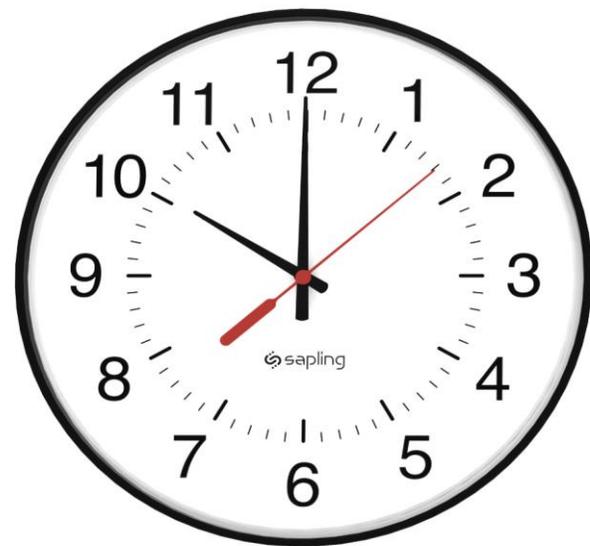
All Hands on Deck

(for 2 or more little and big kids)

Not all clocks look like the digital one. Some clocks have hands that spin in a circle and point to numbers to tell us the time. Those are called analog clocks. They were invented long before electricity and digital clocks.

Analog clocks look like this:

- ★ The short (“hour”) hand takes an hour to advance from one number to the next number (for instance, from 1 to 2).
- ★ The long (“minute”) hand takes 5 minutes to advance from one number to the next number, and it takes an hour to go around the clock once.



- ★ Each number on the clock represents the hour when reading the hour hand, and 5-minute increments when reading the minute hand (so 1 is 5 minutes, 2 is 10 minutes, 3 is 15 minutes, etc.).
- ★ What time does the clock say when the hour hand is on 10 and the minute hand is on 12?
- ★ How do you read the clock when the hour hand points halfway between 10 and 11, and the minute hand is on the 6?
- ★ What if both the hour and the minute hand are on the 1?

Today, you're going to be the hands on a clock and race to show the time!

- ★ Give one kid the "Hour Hand" sign, and another kid the "Minute Hand" sign.
- ★ Have an adult or older kid call out a whole-hour time, like "6 o'clock!" and start the stopwatch
- ★ The two kids lie inside the clock as the "hands," each pointing to the correct number. The minute hand kid should extend his/her arms longer than the hour hand kid.
- ★ Stop the stopwatch when the kids display the time correctly.
- ★ Repeat with different times ending in 0 or 5 and see if the kids can display the times faster.
- ★ Times to avoid for overcrowding: 12:00, 1:05, 2:10, 3:15, 4:20, 5:25, 6:30, 7:35, 8:40, 9:45, 10:50, 11:55.

As Time Goes By (for big kids)

Now that we have the basics figured out, let's see what our clock looks like when time elapses, and the hands move!

- ★ Give the kids a starting time (e.g., 4:15, 3:55), and then have them advance 15 minutes by figuring out the new time and rolling the hands to it. Both hands may need to move!
- ★ Try it again with different starting times, and advancing by longer times (e.g., 30 minutes, 60 minutes, 90 minutes).