

Number Line GAME INSTRUCTIONS

Clock Game

LEVEL 1 (~1st Grade) Two Clocks; Minute Cards (front & back); Hour Cards (f&b)

2. Each student should have their own clock.
3. Use only the minute cards. Each round, the student must draw one card, and move the clock hand accordingly.
4. When a student has completed one circuit (went around the clock once) the student may pick up a "One Hour" Card.
5. Who Wins?
 - a. First student to reach X hours
 - b. Who has the most hours in X minutes (allotted time to play)

Questioning –

The key question is "who is winning...how do you know" you are looking for students to understand that the hour cards are critical and keep track of how many times you have gone around. So someone on 15 minutes might be ahead of someone on 55 minutes if they have been around more times and thus have more hour cards. You can support students in noticing that 'that's what the hour hand keeps track of on a real clock! The hour cards are like the hour hand ('little hand' – but say hour hand too).

Extended questioning – only if students are ready for it and can discuss the hour cards as above: Another important line of questioning is around the idea of 'halfway around'. When are you 'half way'? How do you know? Our award cards only keep track of complete circuits/all the way around. The hour does the same thing BUT you can see it move little by little so that, when you are halfway around a clock, the hour hand will be in between the last hour you collected and the next hour you will get.

LEVEL 2 (~2nd – 3rd Grade) Two Clocks; Minute Cards (front & back); Hour Cards (f&b); Quarter Hour Cards (f&b)

1. Same rules as above
2. Also include the Quarter Hour Card. Students are only able to pick up a "Quarter Hour Card" IF they land ON a Quarter Hour. On the Quarter hour card there is a question. If answered correctly, the student is able to move ahead based on the amount of minutes specified, to receive BONUS MINUTES!
 - a. **Who is winning?** The student with the most hour cards. If two students have the same amount of hour cards, then you will 'break the tie' by who has gone the farthest in their incomplete circuit.
 - b. **What time is it (for you)?** This is in military time. If student has not completed a full circuit, there time will be for example, 0 hours and 15 minutes. Gradually get the students to move from 1 hour and 45 minutes to 1:45.
 - i. Have students notice:
 1. "Top of the Hour", "Bottom of the Hour" and what these mean.
 2. When are you half way around the circuit?
 3. If someone is on 50 or 55 minutes, why do they not get an hour card yet?
 - c. **How many minutes total have you gone?** Students must think of what is 'underneath' each hour card. They must consider that an hour card can also be seen as 60 minutes. I can think of 1 hour in the form of 1 hour, but I can also think of it in the form of 60 minutes. Students will use repeated addition or multiplication to

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figure out how many minutes their hour cards represent and then add in the amount of minutes on their unfinished circuit.

You are looking for students to understand that the award cards are critical and keep track of how many times you have gone around. So someone on 3 might be ahead of someone on 8 if they have been around more times and thus have more award cards.

Once students can discuss this in terms of award cards and they understand how this works, they are ready to move to tens cards. You can support students in noticing that this is how the base-ten system works! The tens cards keep track of how many times we have been around. We can think of them as 1 ten (one complete circuit) or as Ten ones (ten spaces around).

Get kids to see and talk about the fact that every time we get to 9, we run out of digits and have to start over. But we have to keep track of how many times we have 'been around' and that's what the next place in our place value system does for us. So, if you have 3 tens cards and are on 4, what number is that? How many total ones have you gone? Can you also think of it as 2 tens cards and 14 ones? Why or why not?

See also <http://valeriefaulknermathclub.com/textsclassroom/get-stuff/free-stuff/>
For a pdf of a measurement circuit number line game (12 inches in a foot).

The Base ten game can also be adapted for teaching metric system. The unit of the circuit could be centimeters in which case you would earn decimeter cards. Or it could be millimeters, in which case you could earn centimeter cards.

Hour Card

Hour Card

Hour Card

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This Card is worth
One Hour!



This Card is worth
One Hour!



This Card is worth
One Hour!



This Card is worth
One Hour!



This Card is worth
One Hour!



This Card is worth
One Hour!



This Card is worth
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This Card is worth
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This Card is worth
One Hour!

Minutes Cards

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Quarter Hour Cards

Quarter Hour Cards

Quarter Hour Cards

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Quarter Hour Cards

Quarter Hour Cards

Quarter Hour Cards

Quarter Hour Cards

Who is winning?

Correct move
ahead 5 minutes

What time is it
(for you)?

Correct move
ahead 10 minutes

How many minutes
total have you gone?

Correct move
ahead 5 minutes

Who is winning?

Correct move
ahead 5 minutes

What time is it
(for you)?

Correct move
ahead 10 minutes

How many minutes
total have you gone?

Correct move
ahead 5 minutes

Who is winning?

Correct move
ahead 5 minutes

What time is it
(for you)?

Correct move
ahead 10 minutes

How many minutes
total have you gone?

Correct move
ahead 5 minutes

Who is winning?

Correct move
ahead 5 minutes

What time is it
(for you)?

Correct move
ahead 10 minutes

How many minutes
total have you gone?

Correct move
ahead 5 minutes



