

# Unit 1 Telling Time (g6,g7,g8) BTC - 1 week

Have a matching slide deck to accommodate IEPs, 504s and ELLs who require instructions/examples both verbally and in writing. Keep the slides as brief as possible. Show slide instructions only after verbal instructions are complete.

## Group instructions:

### Verbal open space instructions - day 1

Today we are going to continue practicing working in our groups at the vertical boards. Unit 1 is going to be about telling time.

We will be breaking into our random groups and learning about telling time on an analog clock (point to the clocks on the wall and at the front of the room) so that when you need to know the time, you will be able to figure it out and not have to rely on your teachers. You will be asked to construct a clock with all of its parts then think about what the different components of the clock represent.

Remember to take turns writing. The person writing, the scribe, can only write what the other members tell them to write. They may not just begin working on their own. The scribe is to participate in the discussion, not just write. Again the scribe can only write what the group agrees to write. If the group does not agree, keep talking until you do. If you are stuck, have one scout go **look at** other boards for inspiration and clues to bring back and share with the group. (random groups and go to boards)

### Verbal instructions at the boards - day 1

## The Clock Layout

1. With your team, each person taking a turn creating different elements, draw the clock on your whiteboard.
2. One person from each group may come to the clock I have on display as needed. You may not touch it or pick it up. That person can bring information back to their team.
3. You have ten minutes to draw the clock as accurately as possible.
4. (wait time)
  - a. Hints on a per group basis if needed:
    - i. What can you tell me about the size of the hands?
    - ii. What do you notice about the numbers?
    - iii. Do you observe anything other than numbers on the face?
    - iv. Is there anything you notice about the locations of numbers/marks on the clock?
5. Class discussion:

- a. Group x how many numbers? (12)
- b. Group x what do the numbers represent? (minutes around the clock)
- c. Group y How many marks are there? (48)
- d. Group y How many spaces between numbers are there? (12)
- e. Group z How many hands are on the clock? (two maybe three)
- f. Group z What does each hand represent? (short hand: hours, long hand: minutes, red fast hand: seconds)

(Once the correct answers are given, I will write them on the board and tell groups that do not have the answer yet to write it down and ALSO figure out as a group why it's true before moving on to the next step.

6. Every group, on your whiteboards: What is an equation you can make with the marks and the numbers that equals 60? ( $48 + 12 = 60$ )
  - a. Hint: How many numbers? How many marks?
7. Every group, on your whiteboards: What is an equation you can make that includes the marks, the numbers and the spaces that equals 60? ( $(12 * 4) + 12 = 60$ )
  - a. Hint: Is there a repeating pattern of marks?
8. Extension: Using any of the four operations (+ - \* /) What other true equations can you make using only 4, 12, 12, 48, 60? ( $(60-12)/12=4$   $60-12=48$   $60-48=12$  Are there others I am not seeing?)
  - a. Hint: you do not have to use all the numbers in each equation.
9. **Final step:** Class: Take ten minutes to write a note to ***Your Future Forgetful Self***, in your notes, tell yourself the things you think are important to remember and that you think you may forget in three weeks. Be sure to title the page **The Clock Layout Notes to YFFS** with **TODAY'S DATE**. Write the **date, title and page number in your math notebook Table of Contents** Take a photo. Submit to the Google Classroom lesson tile of the same title.
  - a. Put my notebook under the doc cam with the page correctly dated and titled.
    - i. Dear Future Forgetful Self, you should remember the following...
      1. Definitions (note in glossary and on page)
      2. Examples with explanations (use math dialectical journal templates when appropriate - copy and hand out)
      3. When to use
      4. How to use
      5. Why to use

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# Clock number values

## Verbal instructions in open space - day 2

Today we will continue our exploration into telling time. Your group will recreate the clock from yesterday. We will begin to assign values to the numbers and the lines.

Remember to take turns writing. The person writing can only write what the other members tell them to write. They may not just begin working on their own. They should participate in the discussion. Again they can only write what the group agrees to write. If the group does not agree, keep talking until you do. If you are stuck, have one scout go check out other boards for inspiration and clues to bring back and share with the group...(random groups and go to boards)

## Verbal instructions at the boards - day 2

1. Recreate the clock from yesterday on your whiteboard; Be Sure Everyone participates in the drawing. (have clock on display for reference)
2. Recap:
3. Group 1 how many numbers? (12)
4. Group 1 what do the numbers represent? (minutes around the clock)
5. Group 2 How many marks are there? (48)
6. Group 2 How many spaces are there? (12)
7. Group 3 How many hands are on the clock? (two maybe three)
8. Group 3 What does each hand represent? (short hand: hours, long hand: minutes, red fast hand: seconds)

## NEXT

9. Choral count by 5's to 60
  - a. 5,10,15,20,25,30,35,40,45,50,55,60
10. Class: How many multiples of 5 did we just count out loud? (12)
11. Using parentheses (draw them on the board for example)
  - a. just outside of the circle, (point)
  - b. aligned with each number (point)

- c. Write the multiples of 5 all the way around the clock, starting at the number 1 and the multiple 5
12. Group 4 Where is the 5? (over the one)
  13. Group 4 How many lines are between the 12 and 1, IF you include the 1 (but not the 12) as a line? (5)
  14. Group 5 How many lines are between the 12 and the 2, IF you include the 1 and the 2 (but not the 12) as a line? (10)
  15. Group 5 What number is over the 2?
  16. What do you notice? Groups 1 and 2, 3 and 4, 5 and 6, 7 and 8 explain it to each other.(the number of lines are the same as the multiples of five)
  17. Group 6 Can you explain the time measured between each number? (five minutes)
  18. Group 6, if \_\_ (their answer) \_\_ then what does each mark represent? (the minutes between the five minute increments)
  19. **Final step:** Class: Take ten minutes to write a note to ***Your Future Forgetful Self***, in your notes, tell yourself the things you think are important to remember and that you think you may forget in three weeks. Be sure to title the page **Clock Number Values Notes to YFFS** with **TODAY'S DATE**. Write the **date, title and page number** in your math notebook **Table of Contents** Take a photo. Submit to the Google Classroom lesson tile of the same title.
    - a. Put my notebook under the doc cam with the page correctly dated and titled.
      - i. Dear Future Forgetful Self, I want to remind you of the following...
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## Reading the Clock

### Verbal instructions in open space - day 3

Like yesterday, your group will begin by recreating the clock with the numbers, the marks between the numbers, and the multiples of five aligned to the numbers but outside of the clock face. Then we will discover how to read the time on the clock. Remember:

1. With today's group, recreate the clock from the last time we were in class. Include all the elements from yesterday, check your math notebooks as needed.
2. Remember to take turns writing. The person writing can only write what the other members tell them to write. They may not just begin working on their own. They should participate in the discussion. Again they can only write what the group agrees to write. If the group does not agree, keep talking until you do. If you are stuck, have one scout go check out other boards

for inspiration and clues to bring back and share with the group.. (random groups and go to boards)

### Verbal instructions at the boards - day 3:

3. Look at the clock on the wall, what else do you see on the clock besides the numbers and marks? (hands)
4. Talk to your group: what do you notice about the hands?
5. Everyone look at our clock: if the time right now is \_\_\_\_\_, which hand points to the hour?
6. Which hand points to the minutes?
7. Draw hands on your clock to show the time right now:
  - a. Hint: one is shorter it stops before the number
  - b. Hint: The other is longer it stops over the number
  - c. Hint: Move moves every second, it is red and never stops
8. Looking at the Bell schedule, take turns writing the hands of the clock for each starting and ending time for each class period, brunch, and lunch on your clock. Check with other groups if you are unsure. You can check visually, or you can ask them to teach you. They may not just tell you the answer.
9. **Final step:** Class: Take ten minutes to write a note to ***Your Future Forgetful Self***, in your notes, tell yourself the things you think are important to remember and that you think you may forget in three weeks. Be sure to title the page **Reading the Clock Notes to YFFS** with **TODAY'S DATE**. Write the **date, title and page number in your math notebook Table of Contents** Take a photo. Submit to the Google Classroom lesson tile of the same title.
  - a. Put my notebook under the doc cam with the page correctly dated and titled.
    - i. Dear Future Forgetful Self, I want to remind you of the following...
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# Talking about time

## Verbal instructions in open space - day 4

For our final day in Unit 1, Clocks and Telling Time, your group for today will once again recreate the clock. Be sure you are taking turns creating the clock, switching after each step or section of a step. As we write different times on our clocks, we will learn different ways to say the time represented.

Remember to take turns writing. The person writing can only write what the other members tell them to write. They may not just begin working on their own. They should participate in the discussion. Again they can only write what the group agrees to write. If the group does not agree, keep talking until you do. If you are stuck, have one scout go check out other boards for inspiration and clues to bring back and share with the group..

## Verbal instructions at the boards - day 4

1. With today's group, recreate the clock from the last time we were in class, including the numbers, marks, and multiples of five on the outer edge.
2. Draw 8:30
3. What do you notice about the minute hand and it's location in the entire circle? Where is it in relation to the 12? ( $\frac{1}{2}$  way around the circle)
4. You can also call this time Half Past Eight.
5. Move the minute hand 15 minutes earlier (8:15)
6. What do you notice about the minute hand and it's location in the entire circle? Where is it in relation to the 12? ( $\frac{1}{4}$  of the way around the circle)
7. You can also say it is  $\frac{1}{4}$  past 8. Or  $\frac{1}{4}$  after 8.
  - a. Past and after in this case both mean the same thing, 15 minutes has passed since it was 8 o'clock
8. From 8:15 move the minute hand 30 minutes forward in time (8:45)
9. 8:45 can be stated as 8:45. Can you name two other ways to say 8:45?
  - a. Hint: think in quarters
    - i. Extra hint:  $\frac{1}{4}$  s before and passed
  - b.  $\frac{1}{4}$  til 9
10. Finally, move the minute hand  $\frac{1}{4}$  of an hour into the future and move the hour hand to the next number (9:00)
11. This is 9 o'clock. (spell o'clock on the board, add to their vocabulary list in the glossary of their notebook)
12. How many  $\frac{1}{4}$  s are in one hour?
  - a. Hint:  $\frac{1}{4}$  of an hour (1,2,3 - what are the multiples of five- 5,10,15 mins)
  - b. Hint: study the multiples of 5 on the clock face. What does a  $\frac{1}{4}$  mean? How can you use the multiples of 5 to determine how many minutes is in a  $\frac{1}{4}$  of an hour?

- c. Hint: visually look and draw an imaginary line from 12 to 6 and 9 to 3. How many quadrants do you visualize?
13. Write 9:27
- a. Hint: where is the 25 min mark?
14. Write 10:13
- a. Hint: where is the 10 min mark?
15. Write 11:58
- a. Hint: where is the 55 min mark?
16. Make up three times for the group on your right. Look around the room for a list of times if your group is having trouble making them up on their own.. Write them on scratch paper and give it to them, have them write the times on the clock and show you each time. The two groups must agree it's correct before moving on. Do not interrupt a group if they are working with another group, quietly let one person know you are waiting your turn with their group.
17. **Final step:** Class: Take ten minutes to write a note to ***Your Future Forgetful Self***, in your notes, tell yourself the things you think are important to remember and that you think you may forget in three weeks. Be sure to title the page **Talking about Time Notes to YFFS** with **TODAY'S DATE**. Write the **date, title and page number in your math notebook Table of Contents** Take a photo. Submit to the Google Classroom lesson tile of the same title.
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## Telling time quiz:

### Instructions in open space day 5

Today you will have a quiz on reading the clock and telling time. At your desk you will get out your chromebooks and log into Quizizz. I will post the Quizizz code on the board and you will take the Quizizz quiz on your own. The quiz will be worth 100 pts. This grade will push into the GC and will be part of your report card grade. (Go back to desks, get out chromebooks. Begin.)