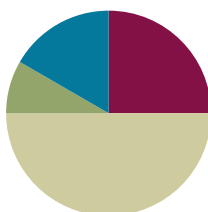


Lesson 14

Objective: Tell time to the nearest five minutes.

Suggested Lesson Structure

■ Fluency Practice	(15 minutes)
■ Concept Development	(30 minutes)
■ Application Problem	(5 minutes)
■ Student Debrief	(10 minutes)
Total Time	(60 minutes)



Fluency Practice (15 minutes)

- Subtraction with Renaming **2.NBT.7** (5 minutes)
- Happy Counting by Fives **2.NBT.2** (1 minute)
- Sprint: Adding and Subtracting by 5 **2.OA.2** (9 minutes)

Subtraction with Renaming (5 minutes)

Materials: (S) Personal white board, hundreds place value chart (Lesson 3 Fluency Template)

Note: This fluency activity reviews the application of a chip model while recording with the algorithm. Allow students work time between each problem, and reinforce place value understandings by having students say their answer in both unit form and in standard form. Students use their personal white boards and a place value chart to solve.

T: Slide the place value chart template into your personal white board.

T: (Write $367 - 185$ horizontally on the board.) Let's use a chip model to subtract. On your personal white board, record your work using the algorithm.

S: (Solve.)

T: $367 - 185$ is...?

S: 182.

Continue with the following possible sequence: $456 - 274$, $625 - 295$, $817 - 319$, $528 - 229$, $804 - 372$, and $905 - 253$.

Happy Counting by Fives (1 minute)

T: Let's do some Happy Counting!

- T: Let's count by fives, starting at 0. Ready? (Rhythmically point up until a change is desired. Show a closed hand, and then point down. Continue, mixing it up.)
- S: 0, 5, 10, 15, 20. (Switch directions.) 15, 10. (Switch directions.) 15, 20, 25, 30, 35, 40. (Switch directions.) 35, 30, 25. (Switch directions.) 30, 35, 40, 45. (Switch directions.) 40, 35, 30. (Switch directions.) 35, 40, 45, 50, 55, 60. (Switch directions.) 55, 50, 45, 40, 35. (Switch directions.) 40, 45, 50. (Switch directions.) 45, 40, 35, 30, 25, 20, 15. (Switch directions.) 20, 25, 30, 35, 40, 45, 50, 55, 60.

Sprint: Adding and Subtracting by 5 (9 minutes)

Materials: (S) Adding and Subtracting by 5 Sprint

Note: Students add and subtract by 5 to gain automaticity counting by fives in preparation for counting minutes in the lesson.

Concept Development (30 minutes)

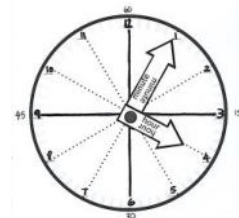
Materials: (T) Large instructional geared clock, clock made in Lesson 13, student clock (optional)
(S) Clock made in Lesson 13, student clocks (optional), personal white board

Distribute the clocks from Lesson 13.

- T: Each number on the clock represents how many minutes?
- S: 5 minutes!
- T: How many fives does it take to get all the way around the clock? (Count together.)
- S: 1 five, 2 fives, 3 fives, ..., 12 fives!
- T: Let's count minutes around the clock by fives.
- T: (Count with students by fives around the clock face, starting with the 12, with zero minutes.)
- T: When we get to the 12, it's 60 minutes later. One hour equals 60 minutes, so we can say it's a new hour!
- T: Now, let's show some times with our clocks.

Show 4:05 on the geared instructional clock.

- T: Set your clocks to look like mine.
- T: How many minutes have passed since four o'clock?
- S: 5 minutes.
- T: Yes. We say this time like this, four oh five, and we write it like this. (Write 4:05.)



Continue moving the minute hand around the clock, asking students to read the time at each five-minute interval. At each stop, draw students' attention to the position of the hour hand relative to the minute hand.

- T: (Stop when students reach 4:55.) Notice how very close the hour hand is to the 5. But is it five o'clock yet?
- S: No!

- T: Turn and talk. What time is it now?
- S: It's five minutes before five. → It's 4:55.
- T: Yes! The hour hand takes a full hour to move from one number to the next, so it moves a little bit every minute.
- T: How many more minutes are needed to complete the hour?
- S: 5 minutes! (Move the minute hand ahead 5 minutes.)
- T: What time is it now?
- S: Five o'clock!

Repeat with more examples of hour-hand settings if students are unclear on the concept.

- T: Now, let's read some times!

Show 7:35 on the geared instructional clock.

- T: What time is this? Talk with a partner. You may use your student clock to figure it out.
- S: The hour hand is after the 7, and the minute hand is on the 7. 5, 10, 15, 20, 25, 30, 35. It's 7:35. → The hour hand is past the 7, so 30, 35. 7:35.
- T: Excellent! I noticed some people are using what they learned about fractions and the minutes to start at half past, or 30, and counting by 5 from there. Very clever!

Continue to state times in number and word form (e.g., 8:10, a quarter to two) with the following sequence: 9:35, 1:10, a quarter after three, and 2:50, giving students ample practice reading time and setting time on their clocks. Have them record the times on their personal white boards as well. Let students suggest times to read until they demonstrate proficiency. Then, instruct them to work on the Problem Set and Application Problem.

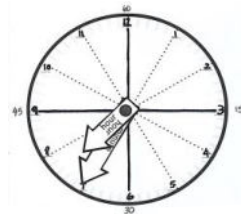
Problem Set (10 minutes)

Students should do their personal best to complete the Problem Set within the allotted 10 minutes. For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first. Some problems do not specify a method for solving. Students should solve these problems using the RDW approach used for Application Problems.



NOTES ON MULTIPLE MEANS OF ENGAGEMENT:

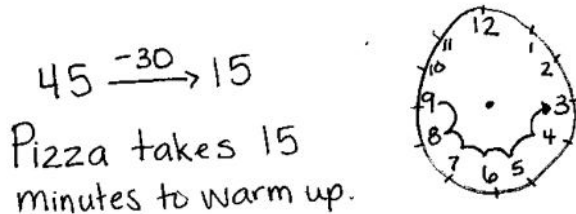
Provide students working below grade level with extra practice using an online animated clock such as that found at <http://www.mathsisfun.com/time-clocks-analog-digital.html>. English language learners would also benefit from using such a clock that not only gives the digital time along with the analog clock but writes the time out as well.



MP.3

Application Problem (5 minutes)

Brownies take 45 minutes to bake. Pizza takes half an hour less than brownies to warm up. How long does pizza take to warm up?

**NOTES ON
MULTIPLE MEANS
OF ENGAGEMENT:**

Challenge students working above grade level by extending the Application Problem. Ask them how long it takes to heat up a sandwich in the oven if it only takes one-third of the time it takes to bake brownies. Ask them to explain what strategy they used to find the answer.

Note: This problem offers students a chance to practice using the content from Lessons 13 and 14. Students may work together or independently to solve. They may draw a picture or use their clocks to help them solve the problem.

Student Debrief (10 minutes)

Lesson Objective: Tell time to the nearest five minutes.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check work by comparing answers with a partner before going over answers as a class. Look for misconceptions or misunderstandings that can be addressed in the Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson.

Any combination of the questions below may be used to lead the discussion.

- For Problem 3, 3:35, how did you use the numbers on the face of the clock and skip-counting to draw the hands correctly?
- For Problem 3, 4:40, how could you use your knowledge of equal parts to figure out where to draw the minute hand?
- For Problem 3, what difference do you notice between the hour hands for 6:25 and 6:55? Why?

NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 14 Problem Set 2•8

Name: Ellie Date: _____

1. Fill in the missing numbers.

60, 55, 50, 45, 40, 35, 30, 25, 20, 15, 10, 5, 0

2. Fill in the missing numbers on the face of the clock to show the minutes.

COMMON CORE Lesson 14: Tell time to the nearest five minutes. Date: 11/11/14 engage^{ny} 8.D.25







- For Problem 4, is the **analog clock** showing 12:55 or 1:55? How do you know?
- How did the Application Problem connect to today's lesson?

Exit Ticket (3 minutes)



After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help with assessing students' understanding of the concepts that were presented in today's lesson and planning more effectively for future lessons. The questions may be read aloud to the students.

NYS COMMON CORE MATHEMATICS CURRICULUM Lesson 14 Problem Set 2•8

3. Draw the hour and minute hands on the clocks to match the correct time.

 3:05	 3:35
 4:10	 4:40
 6:25	 6:55

4. What time is it?

 7:25	 12:55
--	--

COMMON CORE Lesson 14: Tell time to the nearest five minutes. 11/11/14 engage^{ny} 8.D.26

A

Number Correct: _____

Adding and Subtracting by 5

1.	$0 + 5 =$	
2.	$5 + 5 =$	
3.	$10 + 5 =$	
4.	$15 + 5 =$	
5.	$20 + 5 =$	
6.	$25 + 5 =$	
7.	$30 + 5 =$	
8.	$35 + 5 =$	
9.	$40 + 5 =$	
10.	$45 + 5 =$	
11.	$50 - 5 =$	
12.	$45 - 5 =$	
13.	$40 - 5 =$	
14.	$35 - 5 =$	
15.	$30 - 5 =$	
16.	$25 - 5 =$	
17.	$20 - 5 =$	
18.	$15 - 5 =$	
19.	$10 - 5 =$	
20.	$5 - 5 =$	
21.	$5 + 0 =$	
22.	$5 + 5 =$	

23.	$10 + 5 =$	
24.	$15 + 5 =$	
25.	$20 + 5 =$	
26.	$25 + 5 =$	
27.	$30 + 5 =$	
28.	$35 + 5 =$	
29.	$40 + 5 =$	
30.	$45 + 5 =$	
31.	$0 + 50 =$	
32.	$50 + 50 =$	
33.	$50 + 5 =$	
34.	$55 + 5 =$	
35.	$60 - 5 =$	
36.	$55 - 5 =$	
37.	$60 + 5 =$	
38.	$65 + 5 =$	
39.	$70 - 5 =$	
40.	$65 - 5 =$	
41.	$100 + 50 =$	
42.	$150 + 50 =$	
43.	$200 - 50 =$	
44.	$150 - 50 =$	

B

Adding and Subtracting by 5

Number Correct: _____

Improvement: _____

1.	$5 + 0 =$	
2.	$5 + 5 =$	
3.	$5 + 10 =$	
4.	$5 + 15 =$	
5.	$5 + 20 =$	
6.	$5 + 25 =$	
7.	$5 + 30 =$	
8.	$5 + 35 =$	
9.	$5 + 40 =$	
10.	$5 + 45 =$	
11.	$50 - 5 =$	
12.	$45 - 5 =$	
13.	$40 - 5 =$	
14.	$35 - 5 =$	
15.	$30 - 5 =$	
16.	$25 - 5 =$	
17.	$20 - 5 =$	
18.	$15 - 5 =$	
19.	$10 - 5 =$	
20.	$5 - 5 =$	
21.	$0 + 5 =$	
22.	$5 + 5 =$	

23.	$10 + 5 =$	
24.	$15 + 5 =$	
25.	$20 + 5 =$	
26.	$25 + 5 =$	
27.	$30 + 5 =$	
28.	$35 + 5 =$	
29.	$40 + 5 =$	
30.	$45 + 5 =$	
31.	$50 + 0 =$	
32.	$50 + 50 =$	
33.	$5 + 50 =$	
34.	$5 + 55 =$	
35.	$60 - 5 =$	
36.	$55 - 5 =$	
37.	$5 + 60 =$	
38.	$5 + 65 =$	
39.	$70 - 5 =$	
40.	$65 - 5 =$	
41.	$50 + 100 =$	
42.	$50 + 150 =$	
43.	$200 - 50 =$	
44.	$150 - 50 =$	

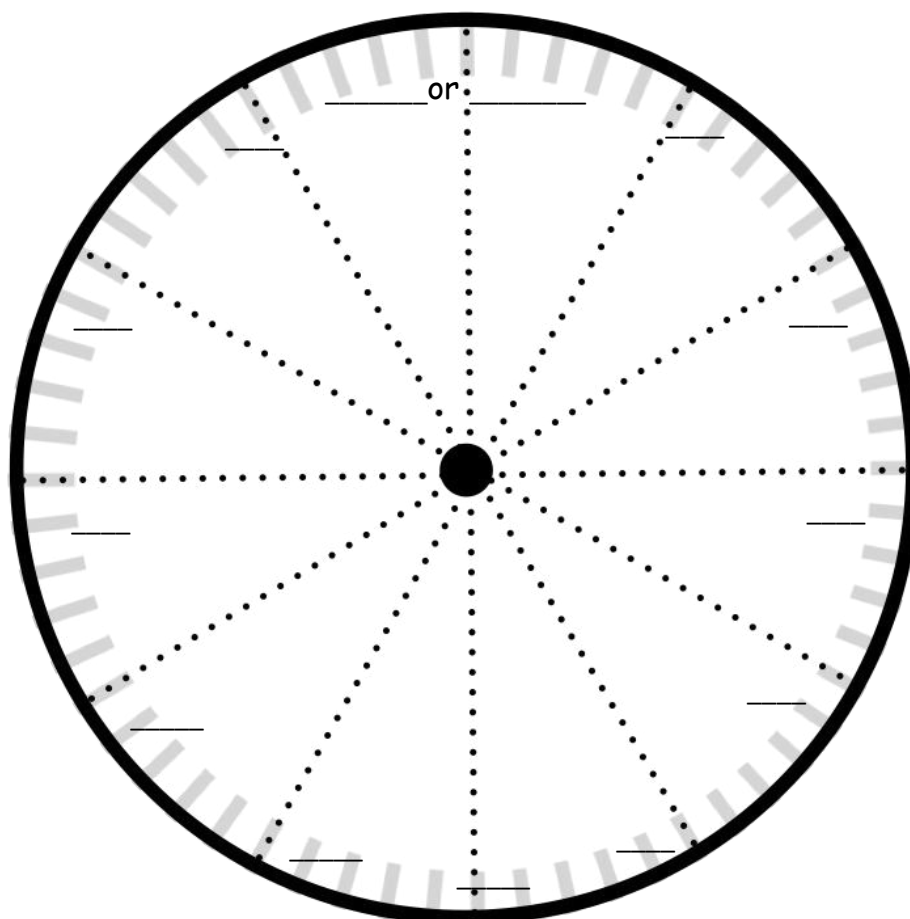
Name _____

Date _____

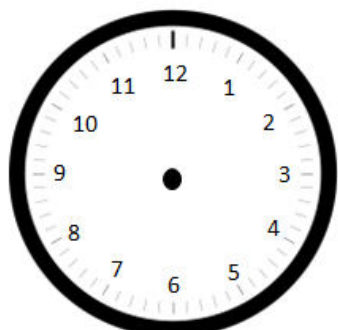
1. Fill in the missing numbers.

60, 55, 50, _____, 40, _____, _____, _____, 20, _____, _____, _____, _____

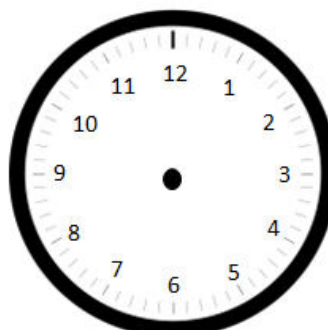
2. Fill in the missing numbers on the face of the clock to show the minutes.



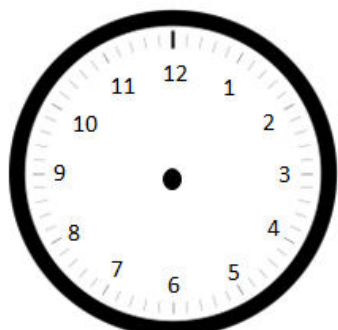
3. Draw the hour and minute hands on the clocks to match the correct time.



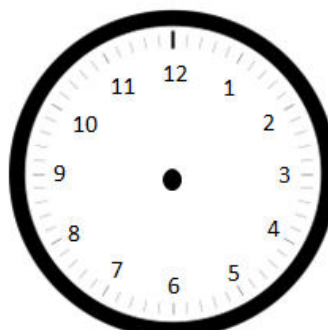
3:05



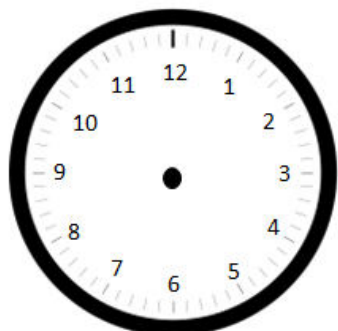
3:35



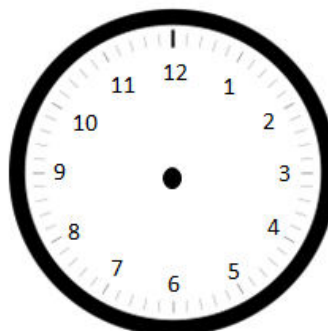
4:10



4:40

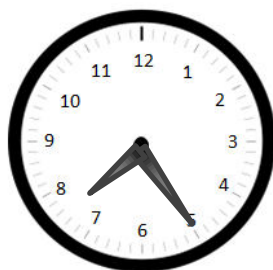


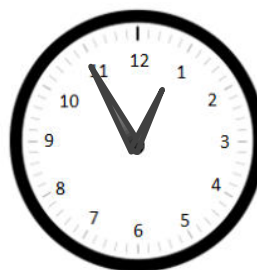
6:25



6:55

4. What time is it?

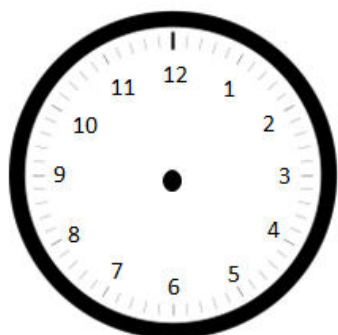




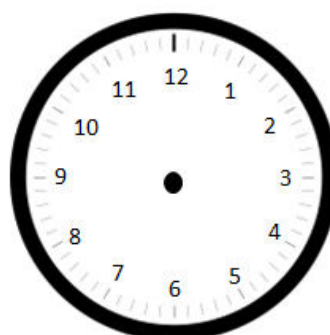
Name _____

Date _____

Draw the hour and minute hands on the clocks to match the correct time.



12:55



5:25

Name _____

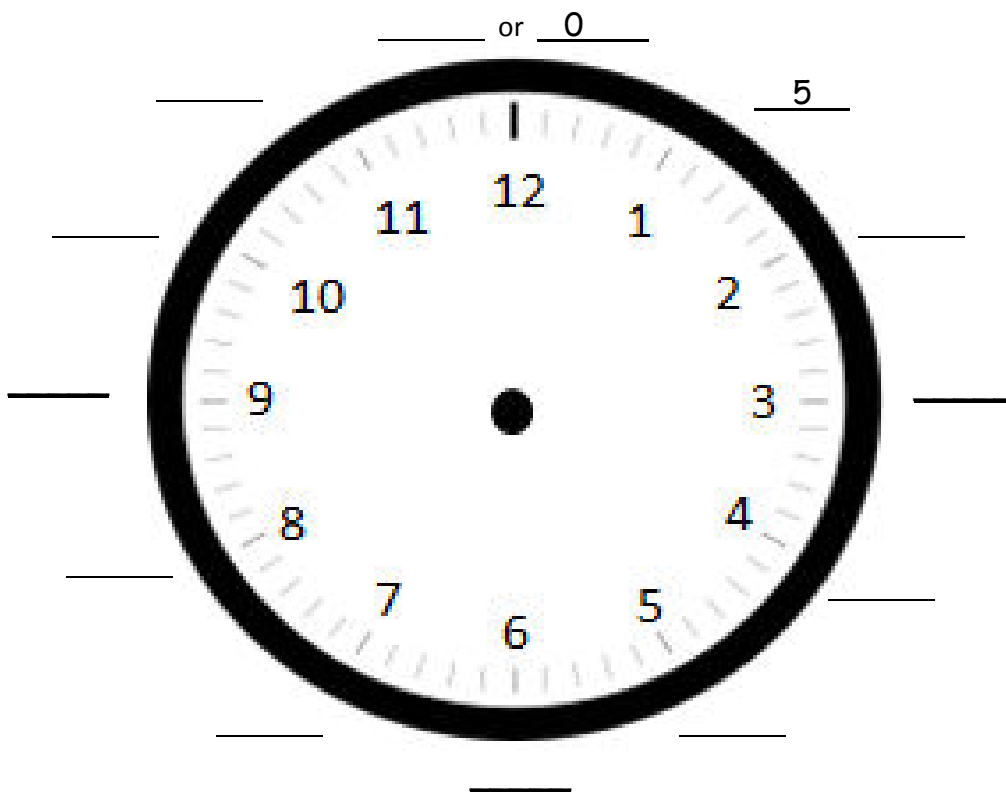
Date _____

1. Fill in the missing numbers.

0, 5, 10, _____, _____, _____, _____, 35, _____, _____, _____, _____

_____, _____, _____, 45, 40, _____, _____, _____, 20, 15, _____, _____, _____

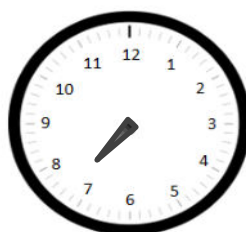
2. Fill in the missing minutes on the face of the clock.



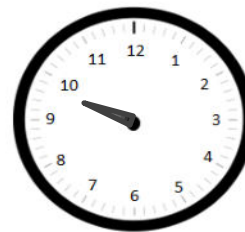
3. Draw the minute hands on the clocks to match the correct time.



3:25

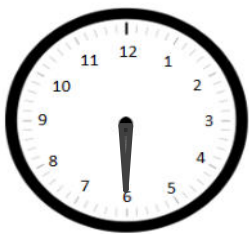


7:15

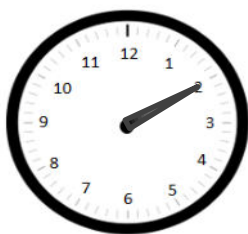


9:55

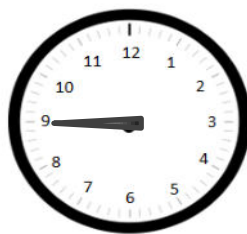
4. Draw the hour hands on the clocks to match the correct time.



12:30

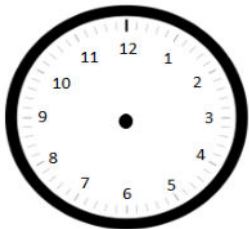


10:10

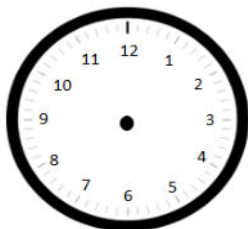


3:45

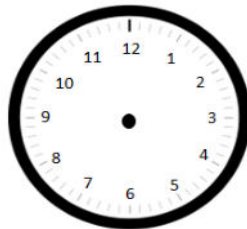
5. Draw the hour and minute hands on the clocks to match the correct time.



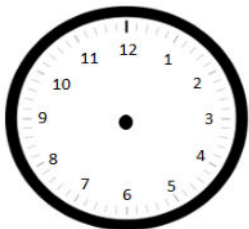
6:55



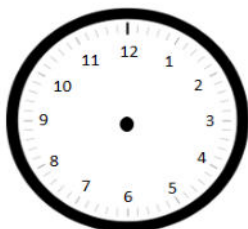
1:50



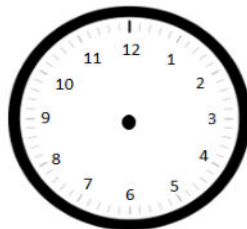
8:25



4:40



7:45



2:05

6. What time is it?

