



MISSISSIPPI
EXEMPLAR
Units & Lessons
MATHEMATICS

Grade 3

Grant funded by:



Lesson 1: Rounding to the Nearest Ten

Focus Standard(s): 3.NBT.1

Additional Standard(s): 3.NBT.2

Standards for Mathematical Practice: SMP.2, SMP.3, SMP.4, SMP.5, SMP.6, SMP.8

Estimated Time: 90 minutes (2 days)

Resources and Materials:

- Anchor Chart Markers
- Anchor Chart Paper
- Clothes Pins
- Index Cards
- Number Cubes
- Small Manipulatives (buttons, macaroni, color chips, paper clips, etc.)
- String for Clothesline
- Handout 1.1: Anchor Chart Samples: <http://www.3rdgradegridiron.com/search/label/math>
- Handout 1.2: Poppin' the Kernels PowerPoint
- Handout 1.3: Clothesline Activity Cards
- Handout 1.4: Student Clotheslines
- Handout 1.5: Let's Roll Recording Sheet
- Handout 1.6: Exit Ticket

Lesson Target(s):

- Students will use place value understanding to round numbers to the nearest ten on a number line.

Guiding Question(s):

- How can a number line be helpful when rounding to the nearest ten?
- How does place value help with rounding to the nearest ten?

Vocabulary

Academic Vocabulary:

- Base-Ten System
- Benchmark Number
- Expanded Form
- Place Value
- Round
- Standard Form
- Whole Number
- Word Form

Instructional Strategies for Academic Vocabulary:

- Introduce words with student-friendly definitions and pictures
- Model how to use the words in discussion
- Discuss the meaning of word in a mathematical context
- Create pictures/symbols to represent words
- Write/discuss using the words

Symbol



Type of Text and Interpretation of Symbol

Instructional support and/or extension suggestions for students who are EL, have disabilities, or perform well below the grade level and/or for students who perform well above grade level

✓

Assessment (Pre-assessment, Formative, Self, or Summative)

Instructional Plan

Understanding Lesson Purpose and Student Outcomes: Students will be introduced to the number line and place value strategies for rounding whole numbers to the nearest ten. Students will determine the place value of the number by rounding with a number line.

Anticipatory Set/Introduction to the Lesson: Concrete-Pictorial-Abstract Representation

Distribute a random number of small manipulatives such as macaroni, buttons, or color chips on each table. Do not give any groups a multiple of ten. Have students determine how many they need to move to the next benchmark numbers. For example, if a group has 23 buttons, they will need 7 more to reach 30 or they will need to remove 3 buttons to drop down to 20. Have teams discuss which benchmark number their item is closest to (SMP.3 and SMP.4).

Allow time for students to exchange values with other groups to work through rounding several benchmarks and to determine any repeated reasoning observed (SMP.8).

Activity 1: Creating Anchor Charts to Round to the Nearest Ten

Facilitate a conversation about any repeated reasoning students noticed in the anticipatory set. Focus on having students explain benchmark numbers and how they determined which it was closer to, as well as what to do if they had 5 ones. Create an anchor chart to model how to determine the benchmark number using a number line. If needed, use **Handout 1.1: Anchor Chart Samples**.

Explain to students that rounding is finding a benchmark number that a number is closest to (SMP.2, SMP.6) Ask the following questions to prompt student discussion:

- What is the number you are supposed to round?
- What are the two benchmark tens that the number you are rounding comes between? (72 comes between the benchmark numbers of 70 and 80.)
- How many “hops” or numbers to each ten?
- Which ten is nearest to the number you rounded?

Model several examples of how to round on a number line.

Distribute **Handout 1.2: Poppin’ the Kernels PowerPoint** to students and have students complete the PowerPoint with their groups referring to the anchor chart created to help students understand how to round using benchmark numbers on a number line.

Note: Make sure to include various two and three digit numbers. Have students complete, with teacher guidance. This is a good stopping point if splitting the lesson into 2 days.

For students who are EL, have disabilities, or perform well below grade level:

- Provide students with a number line that includes the benchmark number already labeled.
- Use anchor charts for both visual and written representations.

Extensions for students with high interest or working above grade level:

- Encourage students to use a number line to round four digit numbers to the nearest ten.

Activity 2: Clothesline Activity

Note: Prior to this activity, hang string to create a clothesline. You will also need enough clothespins or paperclips for students to hang 4 cards.

Distribute cards from **Handout 1.3: Clothesline Activity Cards** and three blank index cards to each student. Ask students to write down on their blank cards the benchmark numbers their card falls between and the middle number. For example, if a student receives 234, they will write the numbers 230, 235, and 240 on their cards.

Allow several students to demonstrate the placement of their cards on the clothesline. Distribute **Handout 1.4: Student Clothesline** and instruct students to line up their cards in the appropriate location on their clothesline and record their response (SMP.2 and SMP.4). Have students determine what their card will round to.

For students who are EL, have disabilities, or perform well below grade level:

- Use anchor chart for both visual and written representations.
- Pull students together at the teacher lead table for extra assistance.

Extensions for students with high interest or working above grade level:

- Provide students with a benchmark number. Challenge students to find all the numbers that would round to that benchmark number.

Activity 3: Let's Roll

Distribute **Handout 1.5: Let's Roll Recording Sheet** and one number cube to each pair of students. Instruct students to roll the number cube three times and record each roll on their handout. Using the number line, the students will mark the two benchmark numbers, the middle number, and the location of the number created with their roll (SMP.4, SMP.5, SMP.6). Have students circle the benchmark number their number was closest to. Pairs will play this game four times.

For students who are EL, have disabilities, or perform well below grade level:

- Use anchor charts for both visual and written representations.
- Allow students to create two-digit numbers instead of three-digit numbers.

Extensions for students with high interest or working above grade level:

- Allow students to make predictions before using the number line as to which benchmark number theirs will round to.
- Allow students to create 4-digit numbers instead of 3-digit numbers.

Reflection and Closing:

Refer to the anchor chart from today to review the lesson. Ask the following questions to prompt students:

- How can a number line be helpful when rounding to the nearest ten?
- How does place value help with rounding to the nearest ten?

✓ **Exit Ticket:** Using **Handout 1.6: Exit Ticket**, have students complete the ticket out the door.

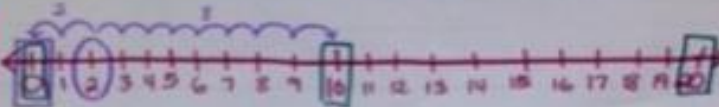

Homework

Instruct students to obtain the ages from an adult they know. They will then round their age using a number line.

Handout 1.1: Anchor Chart Samples

Rounding

* To the nearest ten

STEPS:

1. Identify the number you are supposed to round.
2. Identify the two tens your number comes between.
3. Count how many "hops" or numbers it is to each ten.
4. The one with the lowest number (the nearest) is your answer!

Rounding!

Find the **PLACE**
 Look **NEXT DOOR** ↗
 5 or bigger **ADD 1 MORE +1**
 4 or less let it **REST stay!**

Nearest **Ten**

$\boxed{2}3$	$\boxed{2}8$	$\boxed{1}5$	$\boxed{0}2$	$\overset{\text{H T O}}{\boxed{1}36}$
↑ stays!	↑ +1	↑ +1	↑ stays	↑ +1
<u>20</u>	<u>30</u>	<u>10</u>	<u>0</u>	<u>140</u>

Nearest **Hundred**




$\boxed{1}34$	$\boxed{1}87$	$\overset{\text{H T O}}{\boxed{0}25}$	$\overset{\text{H T O}}{\boxed{0}75}$	$\overset{\text{Th H T O}}{\boxed{1}582}$
↑ stays!	↑ +1	↑ stays!	↑ +1	↑ +1
<u>100</u>	<u>200</u>	<u>0</u>	<u>100</u>	<u>1600</u>

Handout 1.2: Poppin' the Kernels PowerPoint

Poppin' the Kernels!

Round whole numbers to the nearest ten using the number line

Prior Knowledge Review

- What is the place value of each digit?
 - 345
- 3 is the HUNDREDS, 4 is the TENS, and 5 is the ONES
- Write the same number using expanded form.
- $300 + 40 + 5 = 345$
- REAL-WORLD Connection
- How many \$100 bills would you receive? 
- How many \$10 bills? 
- How many \$1 bills? 

Question of the Day

- Why is it important for us to know how to round numbers?

- *In the real world, we use rounding to help us estimate time to do an activity and money to spend on things we need.*

I can...

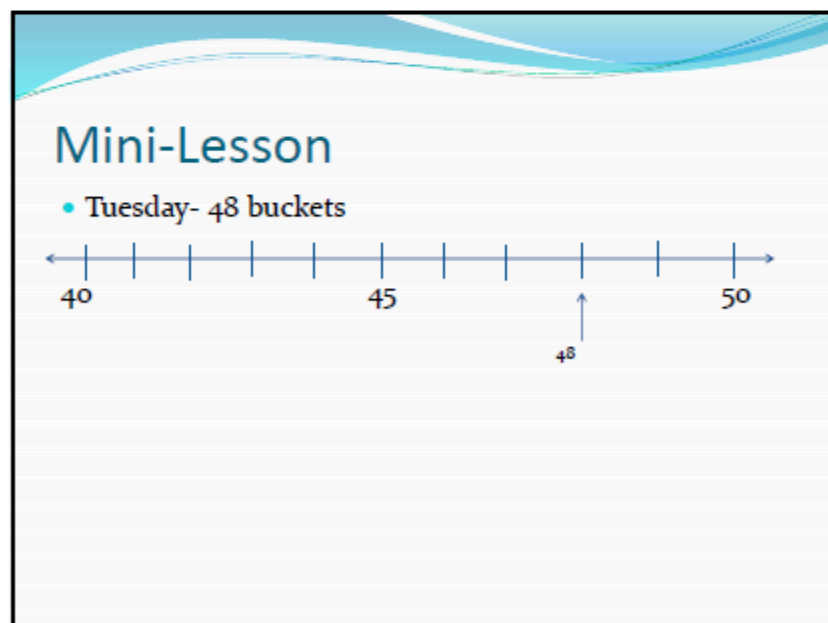
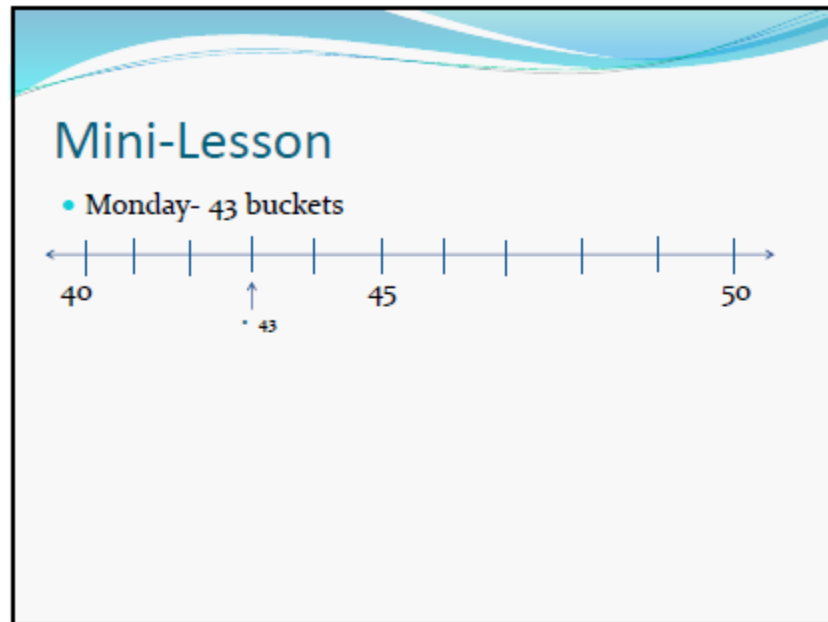
- I can define round or rounding in relationship to place value.
- I can round any whole number to the nearest 10.
- I can round any whole number to the nearest 100.

Key Vocabulary

- Round – to change a number to a more friendly value.
- Place Value – the value of a digit depending on its place in a number.
- Whole numbers – a number with no fractional parts.
- Benchmark number – a reference point that can be used to help make an estimation.

Mini-Lesson

- Alex is the assistant manager at Regal Movie Theater. Last week they had a slow week and didn't sell a lot of popcorn. Her supervisor asks her to round to the nearest 10 the number of buckets of popcorn sold each day last week to determine which day(s) they sold the most.
- **YOUR CHALLENGE OF THE DAY**
- Round each number to the nearest 10, then determine which day(s) the most popcorn was sold.



Popcorn Sold at Regal

Day of the Week	Buckets Sold	Round to the nearest 10
Monday	43	40
Tuesday	48	50
Wednesday	36	
Thursday	32	

Show me what you got!

- Wednesday- 36 buckets



Show me what you got!

- Thursday – 32 buckets

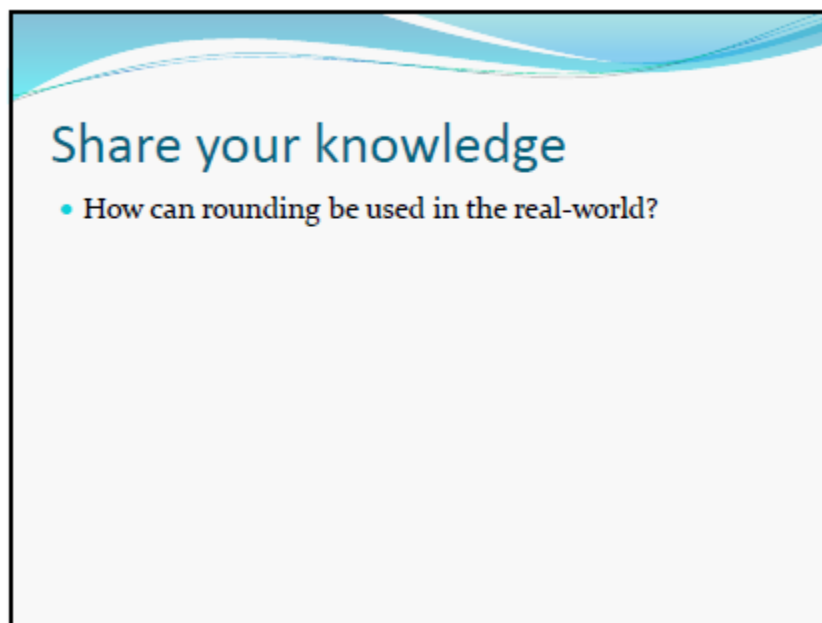


Popcorn sold at Regal

Day of the Week	Buckets Sold	Rounded to the nearest 10
Monday	43	40
Tuesday	48	50
Wednesday	36	40
Thursday	32	30

On what day did Regal Movie Theater sell the most popcorn?

TUESDAY!

A rectangular graphic with a light blue wavy header and a white background. It contains the text "Share your knowledge" and a bullet point question.

Share your knowledge

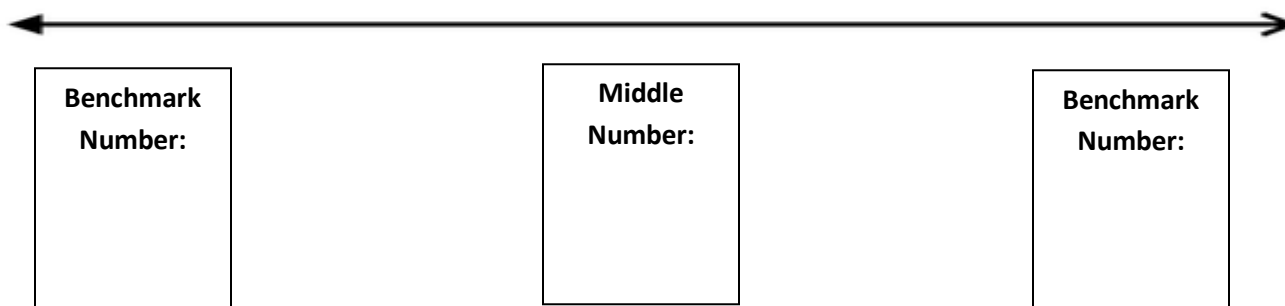
- How can rounding be used in the real-world?

Handout 1.3: Clothesline Activity Cards

92	57	88
74	35	109
15	62	46
152	131	87
19	1521	116
249	359	782
56	985	633
327	1059	428

Handout 1.4: Student Clothesline

My number is: _____



My number rounds to: _____

Handout 1.5: Let's Roll Recording Sheet

Directions: With a partner, take turns rolling a number cube 3 times. Record your numbers in the boxes to create a 3-digit number. Use the number line to label the benchmark numbers, middle number, and your number. Then, round your number to the nearest ten.

First Round:

Roll 1	Roll 2	Roll 3



Rounds to:

--

Second Round:

Roll 1	Roll 2	Roll 3



Rounds to:

--

Third Round:

Roll 1	Roll 2	Roll 3



Rounds to:

--

Fourth Round:

Roll 1	Roll 2	Roll 3



Rounds to:

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Handout 1.6: Exit Ticket

TICKET OUT THE DOOR

Round 72 to the nearest 10. Use the number line to show how you rounded the number.



For training or questions regarding this unit,
please contact:

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