



**THIRD SPACE
LEARNING**

Math Intervention Pack

Rounding whole numbers to
the nearest 10

Grade 3

How to use the resources

1. Title Slide

Use this slide to activate prior knowledge needed for lesson. Students should be encouraged to initially attempt the question presented independently.

2. Let's Learn

Use this slide to introduce the concept. Tutors should work with the student to explore the concept together, usually using diagrams to support understanding.

3. Follow Me + Your Turn

The tutor should work through the follow me slide, modeling the process and explaining their thinking out loud.

Students should use the your turn slide as an opportunity to work through a question similar to the follow me questions. They should apply the method modeled by the tutor in the follow me slide. Students should be encouraged to explain their thinking out loud.

4. You Do

Students should work through a range of questions that build in complexity.

Tutors can offer support but students should initially be encouraged to attempt these questions independently.

5. Go Further

Use this slide to allow students to apply their understanding to a more challenging question in an unfamiliar context.

6. Support for Slides

The support slide is used to support students during the lesson. In the tutor notes, there will be guidance as to when to use the support slide.

7. Check Your Understanding

Tutors should use this slide to assess the student's knowledge and whether or not they have mastered the concept within the lesson.

Standard

NY-3.NBT.1 - Use place value understanding to round whole numbers to the nearest 10 or 100.

Key Mathematical Ideas

1. Understanding how to round whole numbers to the nearest 10 using place value understanding.

Overview

Terminology

- **Round:** To change a number to a less exact number that is more convenient for computation.
- **Place value:** The value of a digit depending on its place in a number.
- **Digit:** a number between 0-9
- **Nearest 10:** rounding a number to its closest value
- **Estimation:** To make an approximation or calculate using closer but easier numbers
- **Approximately:** close to the actual value, but not exact.

Sentence Stems

- rounded to the nearest is
- could be rounded up to or rounded down to

Overview

Common Misconceptions

Common Misconceptions	Tutoring Strategies	Checks for Understanding
When using terminology rounding up/down, students may round the number down below the original number. For example, when rounding the number 32 to the nearest ten, students may “round down” the 3 in the tens place to a 2.	Use of number lines to provide a visual of what is happening when rounding.	To check for understanding, before a student begins rounding, have them give you the number it can be rounded up to, or number it can be rounded down to. (i.e. 43 could be rounded up to 50 or down to 40).
Students not replacing the digits following the rounded place with zeros and leaving the numbers the same.	Use of a place value chart can be helpful to remind students to use placeholder zero.	What happens to the digits of numbers that come after the rounded number?

Title Slide

If stuck

- Third grade is the first time students are formally introduced to rounding. There is a chance they may not know what the word “round” means.

Answers

This is incorrect. The number 45 would round up to the nearest 10, which is 50.

Let's Learn

If stuck

- Rounding is represented in two different ways here. Students may or may not have been exposed to these when taught in the classroom.
- The first example is using a ten frame. The second is a number line.

Questions

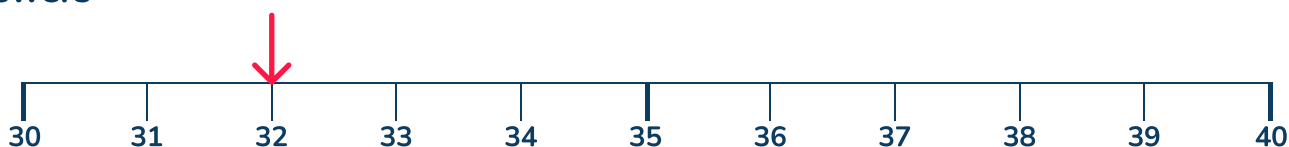
- Can you mark 32 on the number line?
- Which multiple of 10 is 32 closest to, 30 or 40?
- What numbers would be considered close to 40?

Watch out for

- Students may have only learned the rule, “5 or more, raise the score, 4 or less, let it rest”, and are not familiar with how to round with visuals.
- When using terminology rounding up/down, students may round the number down below the original number.
- Students not replacing the digits following the rounded place with zeros and leaving the numbers the same.

Answers

a)



b) 30

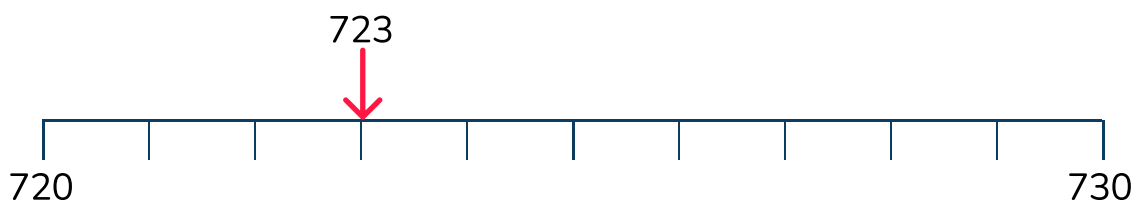
Follow Me

Modeling prompts

- Sometimes you will round a number with more than two digits to the nearest ten.
- Let's look at the number 723.
- We will first need to find the two multiples of ten that 723 is between.
- 723 will be between 720 and 730.
- Next, we will mark the position of the number 723 on the number line.
- Looking at the number line, which multiple of 10 is 723 closer to? 720 or 730?
- I can see that 723 is 3 ticks away from 720, but 7 ticks away from 730.
- We are going to round 723 down to 720.
- Notice that the one's place now has a zero in it.

Answers

a)



b) 720

Your Turn

If stuck

- Assist students with identifying the number created with the place value counters.
- If students are struggling with finding the multiples of ten, remove the 1 and have them just look at “85”. Then ask what two multiples of 10 85 is in between.
- Remind students of the rule on the “Let’s learn” slide, that if we have a 5 in the ones place we round up, if they struggle to decide whether to round up or down given that 185 is equidistant to either multiple of 10.

Questions

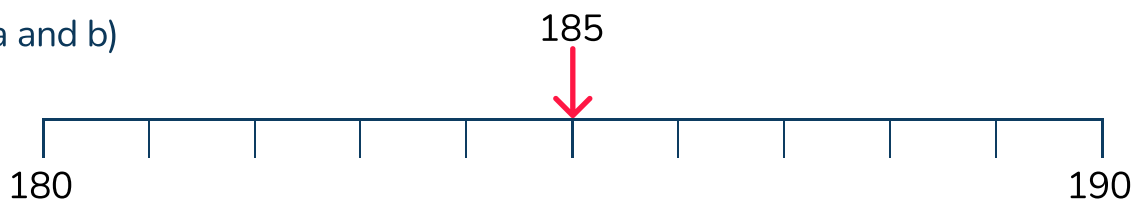
- What number is represented with the place value counters?
- What two multiples of ten will the number 185 be between?
- Can you mark the number 185 on the number line?
- How many counters are in the ones place?
- Will you round 185 down to 180 or up to 190?

Watch out for

- When using terminology rounding up/down, students may round the number down below the original number.
- Students not replacing the digits following the rounded place with zeros and leaving the numbers the same.

Answers

a and b)



c) 5

d) up

185 when rounded to the nearest 10 is 190.

You Do

If stuck

- Assist students with identifying the numbers in a and b if needed.
- If students are struggling with finding the multiples of ten, remove the digit in the hundreds place and have them just look at the last 2 digits. Then ask what two multiples of 10 the number is between.
- This is especially true with any number ending in 99. Students need to understand that the number will then round to the next 100.

Questions

- What number is represented in the example?
- What two multiples of ten will the number be between?
- Can you mark the number on the number line? (if needed)
- What is the digit in the ones place? Will you round down to or up to?
- What happens when the digit in the tens place is 9 and I need to round up?

Watch out for

- When using terminology rounding up/down, students may round the number down below the original number.
- Students not replacing the digits following the rounded place with zeros and leaving the numbers the same.

Answers

- a) 30
- b) 240
- c) 900
- d) 100

Go Further

If stuck

- Students may need to list out all of the possible numbers that would round up to and down to 50 before then solving for which two add to 100.
- There are 4 different solutions to this question.

Questions

- What are all the possible numbers that would round to 50 as the nearest tenth?
- Can you find two of those numbers that when added together will equal 100?
- Is there only 1 solution to this problem?
- What other numbers can be added together to make 100?

Watch out for

- When using terminology rounding up/down, students may round the number down below the original number.
- Students not replacing the digits following the rounded place with zeros and leaving the numbers the same.

Answers

- Numbers that round to 50: 45, 46, 47, 48, 49, 50, 51, 52, 53, 54
- Possible solutions:
 $46 + 54 = 100$
 $47 + 53 = 100$
 $48 + 52 = 100$
 $49 + 51 = 100$

Support for Slide(s)

This slide supports the let's learn slide.

If stuck

- This slide provides a 10 frame to help students visualize how to round.

Questions

- How many ones would need to be added to make 32 into 40?
- How many ones would need to be removed to make 32 into 30?
- Is 32 closer to 30 or 40?
- How do you know?

Answers

- 30

Check Your Understanding

Correct answers

- 160
- Students can use a visual, such as a number line or place value chart to assist them with solving.
- Students should recognize that the two multiples of 10 that 157 is between are 150 and 160.
- 157 will be closer to 160.
- Students may also have knowledge of the rule “5 or more, raise the score; 4 or less, let it rest”, and identify that the 7 in the ones place will signal to round the tens digit up to the next digit.



Today you will learn about

Rounding whole numbers to the nearest 10

Warm up question

Is the statement below correct?

45 rounded to the nearest 10 is 40

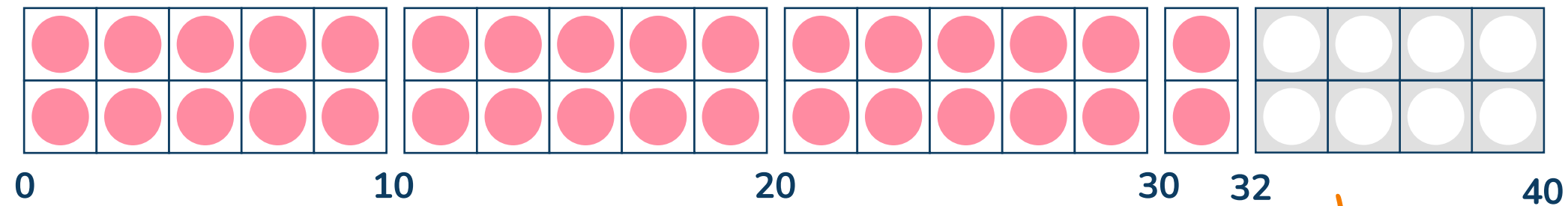
Explain your thinking.



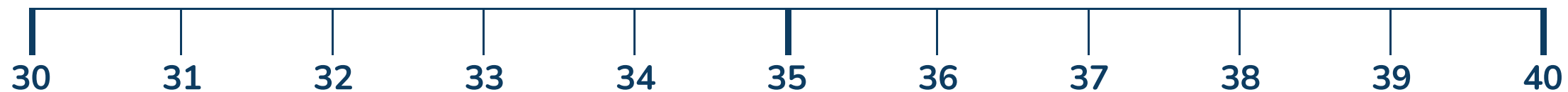
Let's learn

Rounding a number to the nearest 10 means thinking about which **multiple of 10** the number is closest to.

The number 32 is shown below.



a Let's mark 32 on the number line.



We find the multiples of 10 that 32 is between and can easily see which multiple it is closest to.

b Is it closer to 30 or 40?
.....

Sometimes we may have a 5 in the ones place, in which case the distance is equal from either multiple of 10. When that's the case, we should **round up**.

Follow me

Let's take the number 723 and round it to the nearest 10

Hundreds	Tens	Ones
<div>100</div> <div>100</div> <div>100</div> <div>100</div> <div>100</div> <div>100</div> <div>100</div>	<div>10</div> <div>10</div>	<div>1</div> <div>1</div> <div>1</div>

If we are rounding to the nearest ten, we look at the ones column to see if we should round up or down.

a

Find the multiples of ten that 723 lies between.



.....
Previous multiple of 10

.....
Next multiple of 10

b

Mark the position of 723 on the number line.

723 when rounded to the nearest 10 is

Your turn

Let's round another number to the nearest 10

Hundreds	Tens				Ones		
100	10	10	10	10	1	1	1
	10	10	10	10	1	1	

What number is shown here?
.....

a What two multiples of ten does this number lie between?

.....

c How many counters are in the ones column?
.....

d Will you round this number up or down?
.....

b Mark where the number is on the number line.

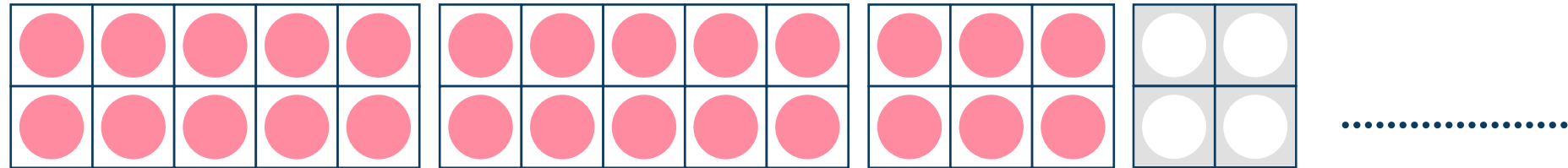
.....

when rounded to the nearest 10 is

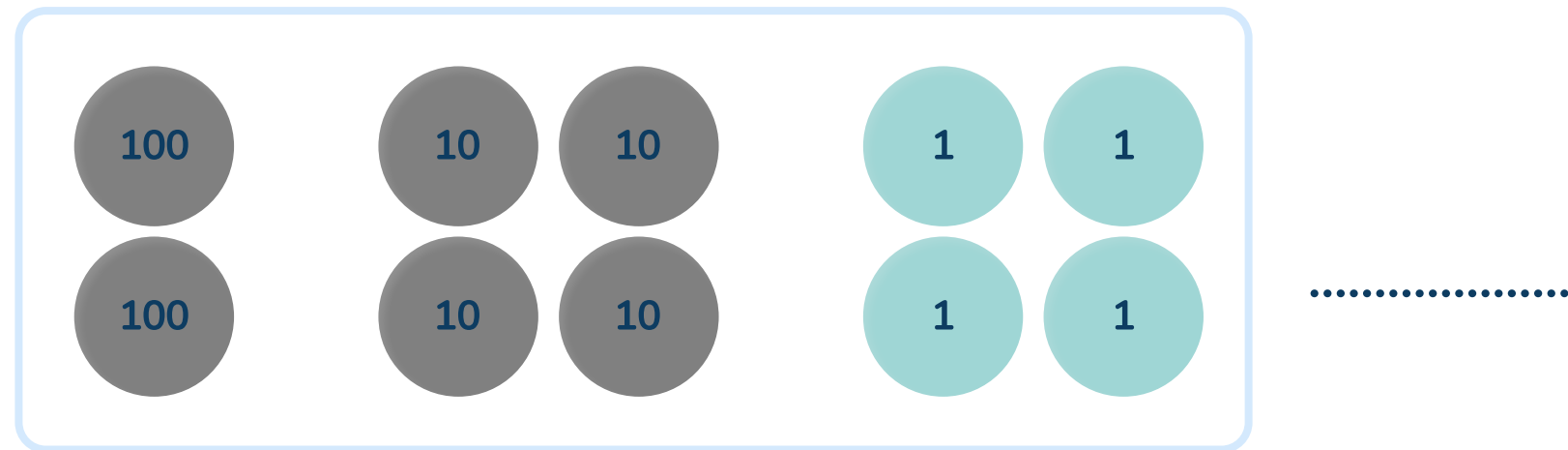
You do

Round these numbers to the nearest 10

a



b



c

899

.....

Use the number line if it helps.

d

104

.....



Two different two-digit numbers both **round** to 50 when rounding to the nearest 10.

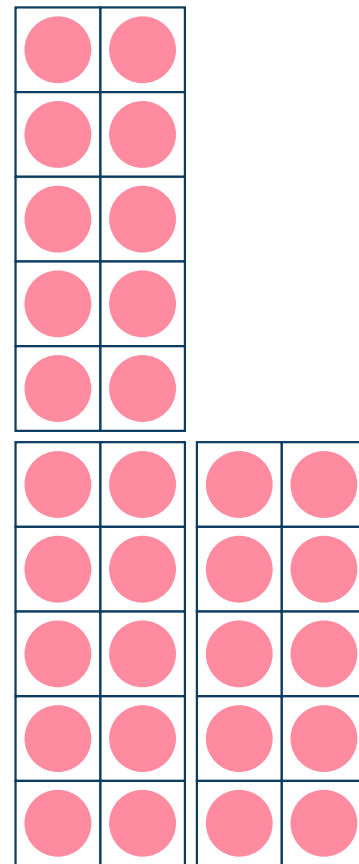
The **sum** of the two numbers is 100.

What could the two numbers be?

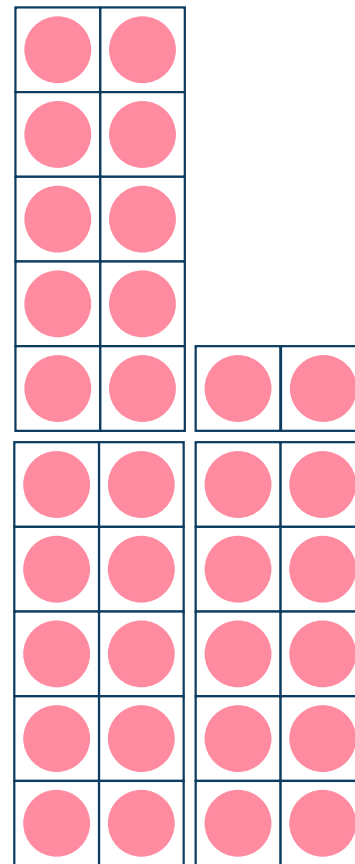
..... and

Support

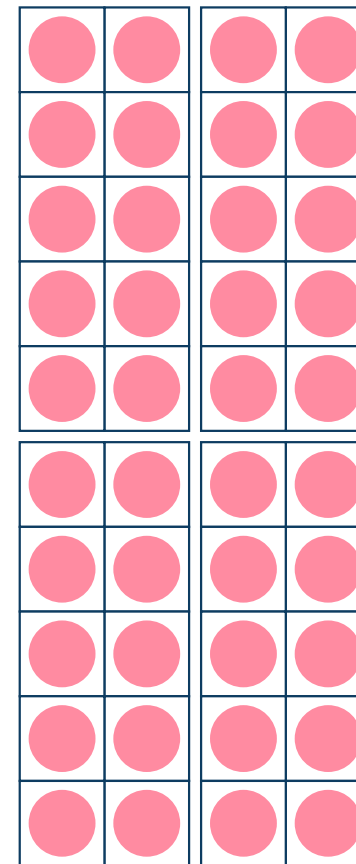
Let's take the number 32 and compare it to 30 and 40.



30



32



40

Is 32 closer to 30 or 40?

.....

Check your understanding

Round 157 to the nearest 10.




Why do I need to try this question on my own first?

- To show your tutor what you understand
- To give you more practice
- To show your teacher how you are doing



Do you have a group of students who need a boost in math?

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“We just had our first session and it went great! The kids really liked it and felt like they were learning! One even said he finally felt like math was making sense.”



Michelle Craig, Instructional Coach,
Sherwood Forest Elementary, Washington

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