Rounding Multi-Digit Whole Numbers

7,482,391

7,482,391 There are **7** millions

7,48**2**,391 There are **2** thousands

7,**4**82,391 There are **4** hundred thousands

Let's review the ways to write our number!

Word form: seven million, four hundred eighty-two, three hundred ninety-one

Expanded form: 7,000,000 + 400,000 + 80,000 + 2,000 + 300 + 90 + 1

Expanded notation:
(7x1,000,000)+(4x100,000)+(8x10,000)+(2x1,000)+(3x100)+(9x10)+(1x1)

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Rounding Multi-digit Numbers

Objectives:

Students will:

- Use place value understanding to round multi-digit whole numbers to any place.
- Identify the nearest round number at any given place value.
- Be able to round multi-digit whole numbers to the nearest place value of any place.
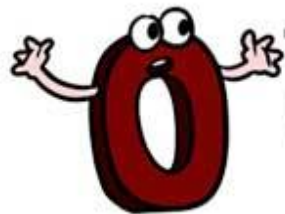
Rounding Multi-digit Numbers

What does it mean to <u>round a number</u>?

<u>Rounding</u> is when you find the closest "round" number
to any given number.

In this lesson we'll apply what we learned with "base 10" to round to the
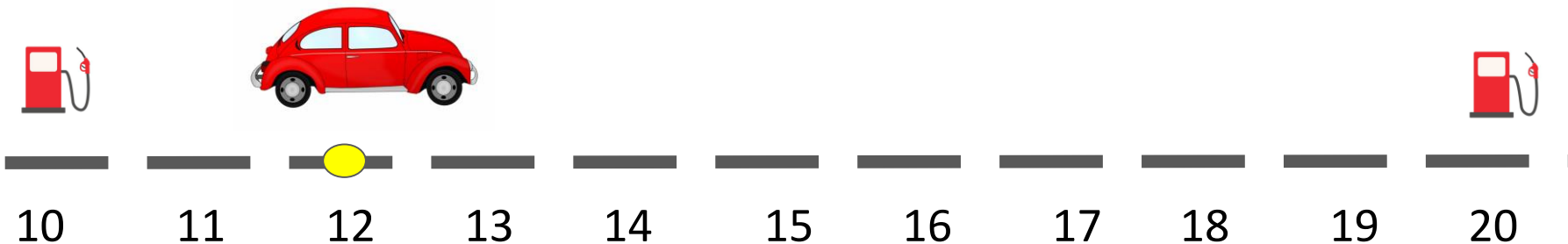nearest 10, 100, and 1,000s.

Rounding Multi-digit Numbers

Think about this!

You're in a car driving along this number line… Your car runs out of gas at the 12 mile marker. There is a gas station both at mile marker 10, and mile marker 20.

Would you go to the gas station at mile marker 10 or mile marker 20?

10   11   12   13   14   15   16   17   18   19   20

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Rounding Multi-digit Numbers

Which gas station is closest?

The gas station at mile marker 10 is closer! We could easily "roll back" to the gas station at mile 10, but it would be much farther to get to the gas station at mile 20.
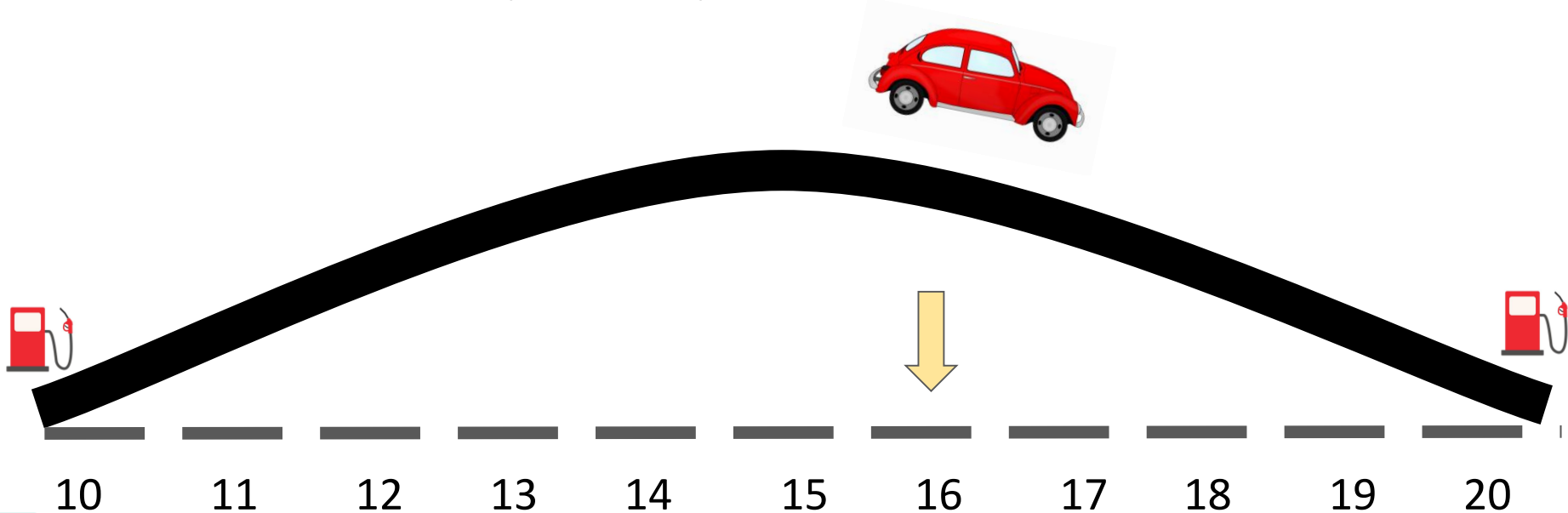
10   11   12   13   14   15   16   17   18   19   20

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Rounding Multi-digit Numbers
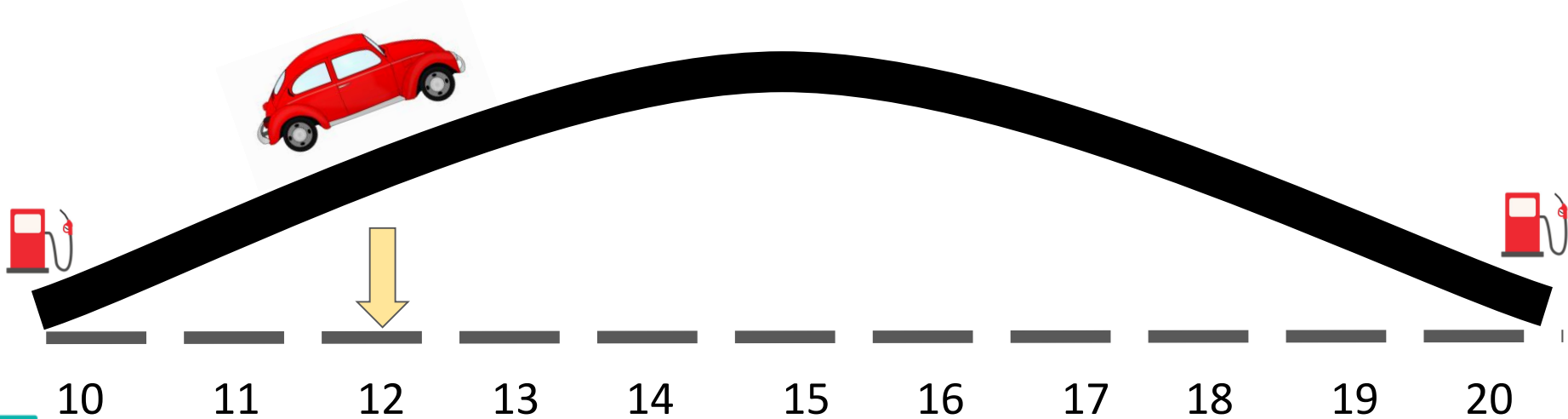
Time to think!

What if we were at mile 16 past the top of the hill?

It would be easier to roll **forward** to the gas station at mile 20 than to go back to the gas station at mile 10.

10   11   12   13   14   15   16   17   18   19   20
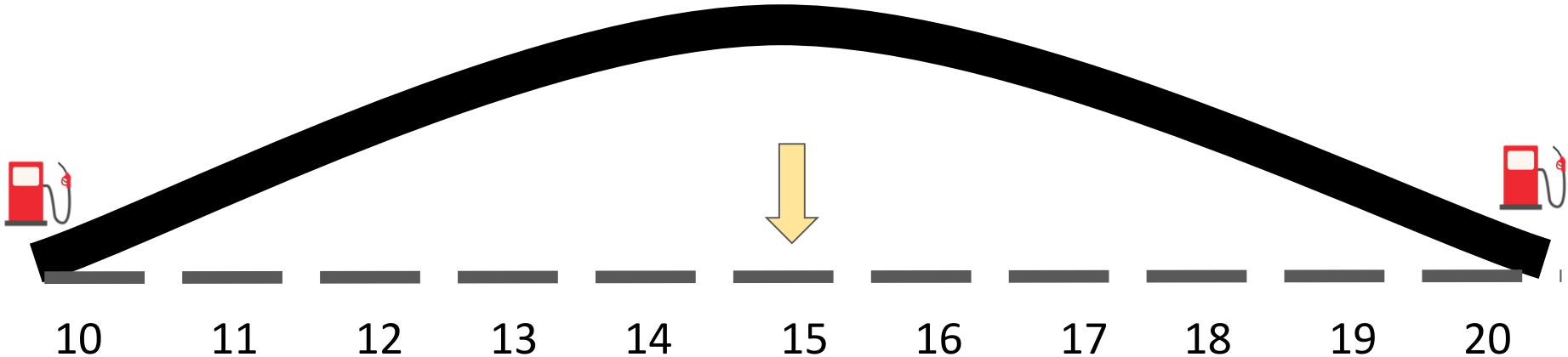
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Rounding Multi-digit Numbers

Time to think

What if we were at mile 15, right at the top of the hill?

We would round **up** because it would be easier to roll **forward** down to the gas station at mile 20 than to go back to the gas station at mile 10.

10   11   12   13   14   15   16   17   18   19   20

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Rounding Multi-digit Numbers

We can also use place value to help us round our numbers!

Let's learn how to round to the nearest <u>place value</u> with this simple rhyme:
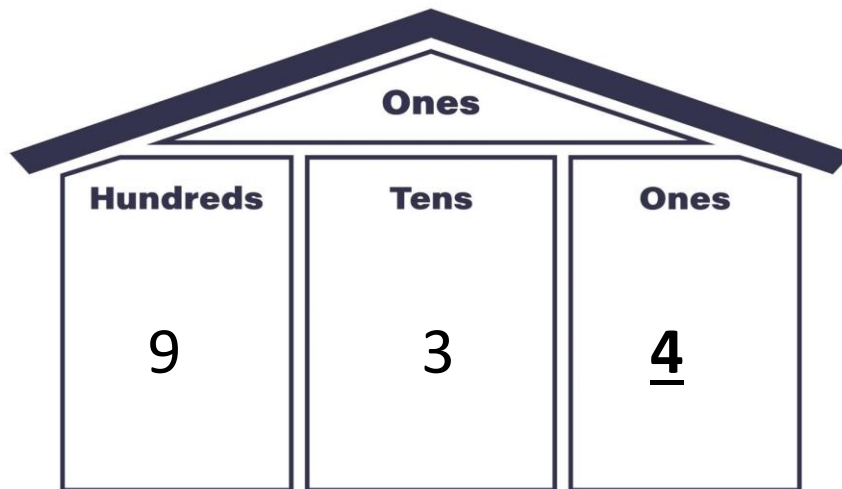
If it's <u>four or less</u> give it a rest.

If it's <u>five or more</u> raise the score.

Looking at the **ones** place value let's round to the nearest **ten**.

934

So, should we round **up?**
Or **down?**

Down! Because "four or less, give it a rest!"
So, the nearest **ten** would be **930**

Ones

Hundreds	Tens	Ones
9	3	<u>4</u>

Rounding Multi-digit Numbers

We can also use **benchmark numbers** on a number
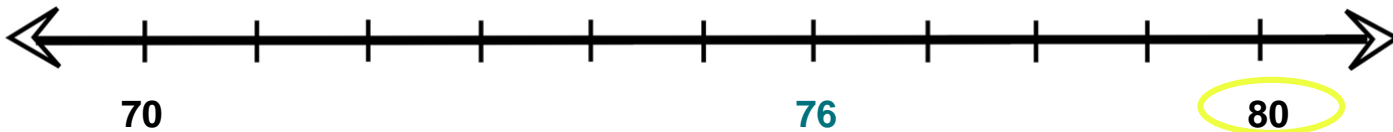line to help us round our numbers.

Let's round **76** to the nearest ten...

We place our benchmark numbers on the number line.
If we're rounding to the nearest **ten** our benchmark numbers will be
the rounded tens on **both sides** of our number.

80!
And we can also apply
our rhyme "Five or more,
raise the score!"

Which number is it closer to?

70   76   80

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Rounding Multi-digit Numbers

We can use benchmark numbers to help us round
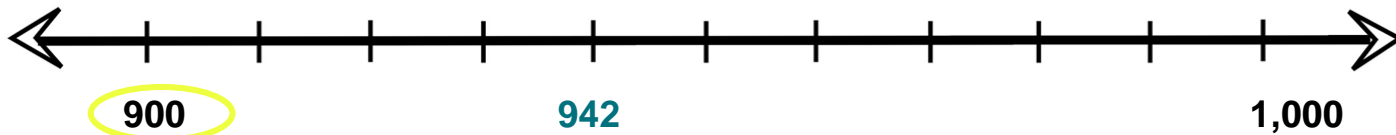to the nearest **hundred** too!

Let's round **942** to the nearest hundred...

We place our benchmark numbers on the number line.
If we're rounding to the nearest **hundred** our benchmark numbers will be
the round hundreds on **both sides** of our number.

Which number is it closer to?

900!
And we can also apply
our rhyme "Four of less,
give it a rest!" because
when rounding to the
nearest hundred we use
the **tens** place to tell us
whether to go up or
down.

900   942   1,000

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Rounding Multi-digit Numbers

Let's do some thinking!

The **hundreds** place! Because you always look at one place <u>below</u> the place value you're rounding to.

Round **2,589** to the nearest thousand...

3,000!

2,589

Five or more, give it a score!
Round **up** to 3,000!

Which number is it closer to?

2,000   2,589   3,000

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Rounding Multi-digit Numbers

Sample Problem 1

Round **458** to the nearest <u>ten</u>...
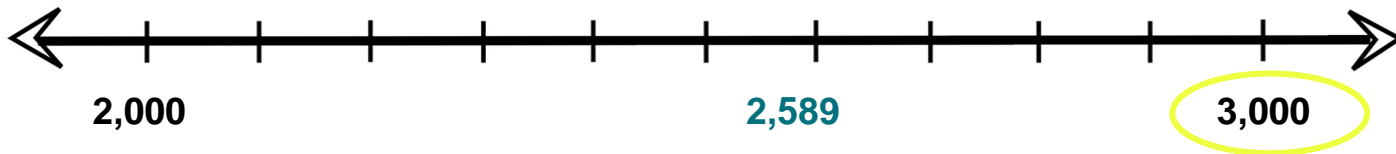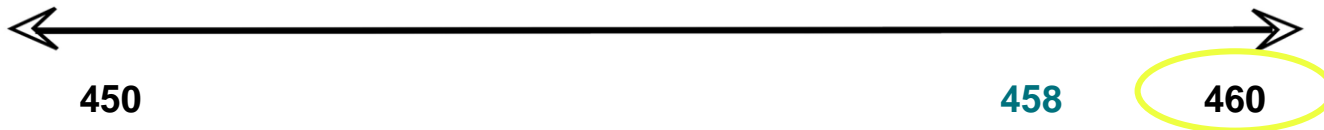
460!

The **ones** place! Because you always look at one place <u>below</u> the place value you're rounding to.

458

Five or more, give it a score!
Round **up** to 460!

Which number is it closer to?

450   458   460

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Rounding Multi-digit Numbers

Sample Problem 2

Round **7,719** to the nearest <u>hundred</u>...

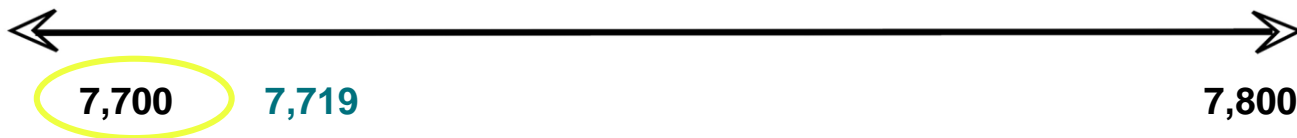The **tens** place! Because you always look at one place <u>below</u> the place value you're rounding to.

7,700!

7,719

Four or less, give it a rest!
Round **down** to 7,700!

Which number is it closer to?

7,700   7,719   7,800

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Rounding Multi-digit Numbers

Sample Problem 3

Round **23,607** to the nearest <u>thousand</u>...
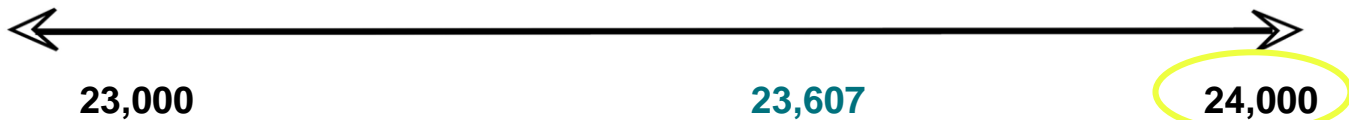
24,000!

The **hundreds** place! Because you always look at one place <u>below</u> the place value you're rounding to.

23,<u>6</u>07

Five or more, give it a score!
Round **up** to 24,000!

Which number is it closer to?

23,000   23,607   24,000

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Rounding Multi-digit Numbers

Sample Problem 4

8,600!

The **tens** place! Because you always look at one place <u>below</u> the place value you're rounding to.

We used our <u>benchmark numbers</u> on the number line to help us figure it out!
When we're rounding to the nearest **hundred** our benchmark numbers are the <u>round hundreds</u> on **both sides** of our number.

8,5<u>6</u>3

Five or more, give it a score!
Round **up** to 8,600!

Which number is it closer to?

8,500   8,563   8,600

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