

Grade 5 Math

Week of 6/1 to 6/5/2020

Thursday; 6/4/2020 Estimate Sums and Differences of Decimals

Standard: 5.NBT.7

Add, subtract, multiply and divide decimals to the hundredths using concrete models or drawings and strategies based upon place value, properties of operations and/or the relationship between addition and subtraction. Relate the strategy to a written method and explain the reasoning used.

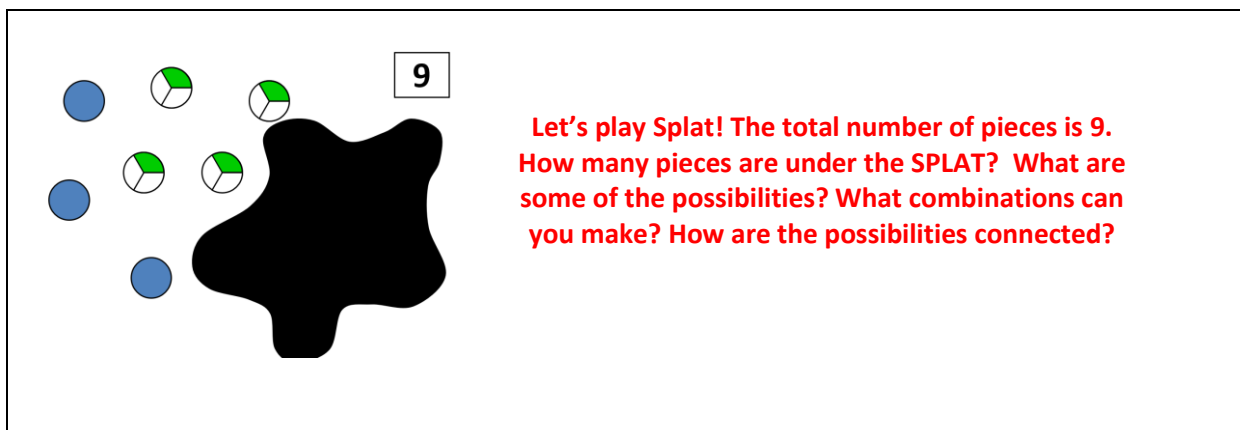
Objective: Use rounding and compatible numbers to estimate sums and differences

Instructional learning videos to support the review objective:

<https://www.khanacademy.org/math/cc-fifth-grade-math/imp-addition-and-subtraction-3/imp-adding-decimals-intro/v/estimating-adding-decimals>

<https://www.khanacademy.org/math/cc-fifth-grade-math/subtract-decimals/imp-subtracting-decimals-intro/v/estimating-subtracting-decimals>

1. **Practice Worksheet:** Guided Practice 2-2
2. **Problem of the Day:** (POD): Laura and Soraya are going to Papa Gino's for dinner after volleyball practice. A large pizza costs \$12.99 and two large sodas cost \$2.99 each. Maria estimates she and Soraya will need \$20.00 to pay for the pizza and soda. Assuming there is no sales tax (sales tax holiday), is Maria's estimate correct? Explain or show your thinking.
3. **SPLAT**



Let's play Splat! The total number of pieces is 9. How many pieces are under the SPLAT? What are some of the possibilities? What combinations can you make? How are the possibilities connected?

4. **New!! ONLINE PRACTICE:** ST MATH Log on 30 MINUTES/DAY (Log on through CLEVER).

Additional Support Games:

<https://www.splashlearn.com/common-core-math/fifth-grade/number-and-operations-in-base-ten/7>

<https://www.ixl.com/math/grade-5/round-decimals>

Additional Online Resources:

- EnVisions (through CLEVER)
- Imagine Math

Another Example

You can estimate differences.

Estimate $22.8 - 13.9$.

One Way

Round each number to the nearest whole number.

$$\begin{array}{r} 22.8 \longrightarrow 23 \\ - 13.9 \longrightarrow - 14 \\ \hline \end{array}$$

$22.8 - 13.9$ is about 9.

Another Way


Substitute compatible numbers.

$$\begin{array}{r} 22.8 \longrightarrow 25 \\ - 13.9 \longrightarrow - 15 \\ \hline \end{array}$$

$22.8 - 13.9$ is about 10.

☆ Guided Practice*

Do You Understand?

-  **MP.3 Construct Arguments** In the example above, which estimate is closer to the actual difference? How can you tell without subtracting?
- In the example on page 66, the students collected more pounds of dog food in Week 4 than in Week 3. Estimate about how many more.

Do You Know How?

In **3–10**, estimate the sums and differences.

- | | |
|------------------|------------------|
| 3. $49 + 22.88$ | 4. $86.9 - 18$ |
| 5. $179 + 277.1$ | 6. $23.2 - 9.71$ |
| 7. $23.8 - 4.7$ | 8. $87.2 + 3.9$ |
| 9. $38.9 - 21.4$ | 10. $576 + 94.6$ |

☆ Independent Practice ☆

In **11–18**, estimate each sum or difference.

- | | | | |
|-------------------|------------------------|-----------------------|-----------------------|
| 11. $79.1 + 32.4$ | 12. $788.9 - 572$ | 13. $837 + 488.12$ | 14. $418.5 - 23.7$ |
| 15. $2.9 + 3.9$ | 16. $\$12.99 - \3.95 | 17. $8.1 + 3.7 + 7.9$ | 18. $3.8 + 4.1 + 3.3$ |

Math Practices and Problem Solving

19. **MP.3 Construct Arguments** The cost of one DVD is \$16.98, and the cost of another DVD is \$9.29. Ed estimated the cost of the two DVDs to be about \$27. Is his estimate higher or lower than the actual cost? Explain.

20. **Higher Order Thinking** A teacher is organizing a field trip. Each bus can seat up to 46 people. Is it better to estimate a greater or lesser number than the actual number of people going on the field trip? Why?

21. The size and shape of Golden Gate Park are often compared to the size and shape of Central Park. About how many more acres does Golden Gate Park cover than Central Park?

Do you need an exact answer or an estimate?

Central Park in New York City has an area of 843 acres.

Golden Gate Park in San Francisco, California, has an area of 1,017 acres.

Common Core Assessment

22. Three rock samples have masses of 74.05 grams, 9.72 grams, and 45.49 grams. A scientist estimates the total mass of the samples by rounding each mass to the nearest whole number. Which lists the numbers will he add?

- (A) 75, 10, and 46
- (B) 74.1, 9.7, and 45.5
- (C) 74, 10, and 45
- (D) 75, 10, and 50

23. Umberto buys a game for \$7.89 and some batteries for \$5.49. He pays with a \$20 bill. Which is the best estimate of how much change he should get?

- (A) \$5.00
- (B) \$7.00
- (C) \$13
- (D) \$17.00

Name _____



Another Example

You can estimate differences.

Estimate $22.8 - 13.9$.

One Way

Round each number to the nearest whole number.

$$\begin{array}{r} 22.8 \rightarrow 23 \\ - 13.9 \rightarrow - 14 \\ \hline 9 \end{array}$$

$22.8 - 13.9$ is about 9.

Another Way

Substitute compatible numbers.

$$\begin{array}{r} 22.8 \rightarrow 25 \\ - 13.9 \rightarrow - 15 \\ \hline 10 \end{array}$$

$22.8 - 13.9$ is about 10.

Guided Practice

Do You Understand?

- MP.3 Construct Arguments** In the example above, which estimate is closer to the actual difference? How can you tell without subtracting?
9; Sample answer: The rounded numbers are closer to the original numbers than the compatible numbers.
- In the example on page 66, the students collected more pounds of dog food in Week 4 than in Week 3. Estimate about how many more.
Sample answer: About 110 more pounds.

Do You Know How?

In 3–10, estimate the sums and differences.

Sample answers are given.

- | | |
|------------------|------------------|
| 3. $49 + 22.88$ | 4. $86.9 - 18$ |
| 72 | 70 |
| 5. $179 + 277.1$ | 6. $23.2 - 9.71$ |
| 500 | 13 |
| 7. $23.8 - 4.7$ | 8. $87.2 + 3.9$ |
| 19 | 91 |
| 9. $38.9 - 21.4$ | 10. $576 + 94.6$ |
| 20 | 700 |

Independent Practice

In 11–18, estimate each sum or difference.

Sample answers are given.

- | | | | |
|---------------------------------|---------------------------------------|------------------------------------|------------------------------------|
| 11. $79.1 + 32.4$
110 | 12. $788.9 - 572$
200 | 13. $837 + 488.12$
1,300 | 14. $418.5 - 23.7$
400 |
| 15. $2.9 + 3.9$
7 | 16. $\$12.99 - \3.95
\\$9 | 17. $8.1 + 3.7 - 7.9$
20 | 18. $3.8 + 4.1 - 3.3$
11 |

*For another example, see Set B on page 103.

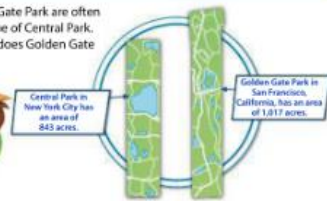
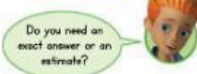
Math Practices and Problem Solving

19. **MP.3 Construct Arguments** The cost of one DVD is \$16.98, and the cost of another DVD is \$9.29. Ed estimated the cost of the two DVDs to be about \$27. Is his estimate higher or lower than the actual cost? Explain.
Higher; Ed used numbers that are greater than the actual addends.

20. **Higher Order Thinking** A teacher is organizing a field trip. Each bus can seat up to 46 people. Is it better to estimate a greater or lesser number than the actual number of people going on the field trip? Why?
Greater; Sample answer: To make sure there are enough seats for everyone.

21. The size and shape of Golden Gate Park are often compared to the size and shape of Central Park. About how many more acres does Golden Gate Park cover than Central Park?

Sample answer: About 200 acres.



Common Core Assessment

22. Three rock samples have masses of 74.05 grams, 9.72 grams, and 45.49 grams. A scientist estimates the total mass of the samples by rounding each mass to the nearest whole number. Which lists the numbers will he add?
 A 75, 10, and 46
 B 74.1, 9.7, and 45.5
 C 74, 10, and 45
 D 75, 10, and 50
23. Umberto buys a game for \$7.89 and some batteries for \$5.49. He pays with a \$20 bill. Which is the best estimate of how much change he should get?
 A \$5.00
 B \$7.00
 C \$13
 D \$17.00