

Unit – Using approximation and Estimation to determine reasonableness of Multi-Step operation problems



Topics

- ✓ Place value understanding do decompose large to smaller units.
- ✓ Rounding off to determine reasonableness of actual answers.

Date:
Comments on completion of today's activities
At home you can go ahead and calculate the actual answers for the problems on this sheet. Compare your actual answers with your estimated answers to see if it is reasonable.
Conduct and other observations
Items to Bring to Class
Teacher's Signature

Two (2) minute sprint: 3 Addend Addition facts

- | | |
|-------------------|-------------------|
| 1) $9 + 4 + 4 =$ | 2) $2 + 7 + 9 =$ |
| 3) $6 + 3 + 6 =$ | 4) $2 + 5 + 1 =$ |
| 5) $5 + 0 + 6 =$ | 6) $9 + 9 + 1 =$ |
| 7) $4 + 7 + 1 =$ | 8) $3 + 5 + 5 =$ |
| 9) $6 + 9 + 9 =$ | 10) $1 + 9 + 3 =$ |
| 11) $7 + 9 + 7 =$ | 12) $5 + 5 + 2 =$ |
| 13) $1 + 7 + 7 =$ | 14) $3 + 2 + 2 =$ |
| 15) $1 + 9 + 7 =$ | 16) $1 + 9 + 6 =$ |
| 17) $1 + 6 + 1 =$ | 18) $3 + 0 + 0 =$ |
| 19) $3 + 2 + 0 =$ | 20) $4 + 5 + 8 =$ |
| 21) $0 + 3 + 3 =$ | 22) $7 + 6 + 4 =$ |
| 23) $9 + 8 + 1 =$ | 24) $6 + 4 + 7 =$ |
| 25) $9 + 6 + 8 =$ | 26) $6 + 2 + 5 =$ |
| 27) $0 + 3 + 9 =$ | 28) $6 + 5 + 3 =$ |
| 29) $7 + 7 + 5 =$ | 30) $2 + 6 + 9 =$ |

Determining the accuracy of rounding off to different place values.

Round off the following numbers to the nearest thousands

3,560 3,560

2,790 2,790

6,345 6,345

9,999 9,999

16,409 16,409

230,345 230,345

Property of SEA PREP

S.E.A. Application Problems – You have eight (8) minutes to do the next five (5) questions. **TIME YOURSELF**

1. What number is missing from the box below?

$$906108 = (9 \times \quad) + (6 \times \quad) + (1 \times \quad) + (8 \times \quad)$$

Answer = _____

2. Solve $100,000 - 45,720 =$

a. Sean's school raises \$34,530 at a fund raiser. Leslie's school raised \$18,749 How much more money did Sean's school raise?

3. Write the mixed number from the following fraction.

$$\frac{5}{2} =$$

Answer = _____

4. Add $\frac{3}{5}$ and $\frac{1}{10}$

5. Calculate:

$$3018 \div 6 =$$

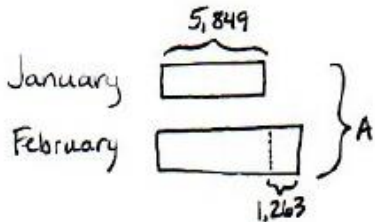
Rounding off to determine reasonableness of actual answers

Using tape diagrams and estimation skills help to support the reasonableness of your answers.

Example

Jennifer texted 5,849 times in January. In February, she texted 1,263 more times than in January.

- What was the total number of texts that Jennifer sent in the two months combined?
- Explain how to know if the answer is reasonable.

	<p>January $\approx 6,000$ February $\approx 7,000$ } 13,000</p> <p>My answer is reasonable because if I round January and February, I get 13,000. 12,961 rounded is 13,000, so my answer is reasonable.</p>
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How do I know my answer is reasonable?



We can round off our numbers to thousands then reason the problem. given.

Try these:

- A company has 3 locations with 70,010 employees altogether. The first location has 34,857 employees. The second location has 17,595 employees. How many employees work in the third location?

Draw a tape diagram and estimate to determine what would be a reasonable answer.

Draw tape diagram:

Round off and estimate:

2. Owen's goal is to have 1 million people visit his new website within the first four months of it being launched. Below is a chart showing the number of visitors each month.

Month	Month 1	Month 2	Month 3	Month 4
Visitors	228,211	301,856	299,542	

- a. How many more visitors does he need in Month 4 to reach his goal?

Draw tape diagram:

Round off and estimate:

3. There were 12,345 people at a concert on Saturday night. On Sunday night, there were 1,795 fewer people at the concert than on Saturday night.

- a. How many people attended the concert on both nights?

Draw tape diagram:

Round off and estimate:

4. A class read 3,452 pages the first week and 4,090 more pages in the second week than in the first week.
- a. How many pages had they read by the end of the second week? Is your answer reasonable?

Draw tape diagram:

Round off and estimate:

5. On Monday, a farmer sold 25,196 kilograms of potatoes. On Tuesday, he sold 18,023 kilograms. On Wednesday, he sold some more potatoes. In all, he sold 62,409 kilograms of potatoes.
- a. About how many kilograms of potatoes did the farmer sell on Wednesday?

Draw tape diagram:

Round off and estimate:

6. Martin's car had 86,456 kilometres on it. Of that distance, Martin's wife drove 24,901 kilometres, and his son drove 7,997 kilometres. Martin drove the rest.

- a. About how many kilometres did Martin drive? Round each value to estimate.

Draw tape diagram:

Round off and estimate:

7. A bakery used 12,674 kg of flour. Of that, 1,802 kg was whole wheat and 888 kg was rice flour. The rest was all-purpose flour.
a. How much all-purpose flour did they use?

Draw tape diagram:

Round off and estimate: