



Grade 4 SNAP Operations

- **Estimate – Justify your thinking**

Operations Rubric: Proficient

- Estimation/mental math strategies and justification are reasonable

Estimate – justify your thinking:

I think the answer is 3600 because I rounded 624 to 600 hundred and added it 6 times.

Estimate – justify your thinking:

Round down from 622 to 600

$$\begin{array}{r} 600 \times 3 \\ \hline 600 + 600 + 600 \\ \hline 1200 + 600 \\ \hline 1800 \end{array}$$

Estimate – justify your thinking:

$$\begin{array}{r} 3 \times 6 = 18 \\ 3 \times 600 = 1800 \\ \hline 1800 \end{array}$$

3x622. This student justified their thinking with a progression of equations rather than words. This is totally acceptable.

Goal:

- Manipulate the factor(s) through rounding or finding “friendly numbers”
- Multiply the new numbers to find a reasonable estimate
- Explain/justify your strategy in words or by clearly showing rounding and multiplication

Note:

- An estimate alone without any justification is not proficient, even if the number is reasonable
- Estimation can be a challenging skill because it requires strategy selection, rounding, and mental math skills. You can find instructional ideas and a list of effective estimation strategies to teach students in [Reasoning and Analyzing Resources](#)



Grade 4 SNAP Operations

- Represent with a sketch or drawing
- Explain your sketch

Operations Rubric: Proficient

- Uses grade appropriate strategies to correctly solve the problem and show understanding

Represent - with a sketch or drawing:

Explain your sketch:

I drew 6 boxes each with 624 marbles in each one. Altogether there are 3744 marbles.

Represent - with a sketch or drawing:

Explain your sketch:

♥ = 100
○ = 10
□ = 1

Represent - with a sketch or drawing:

Explain your sketch:

I added $2+2=6$. I added $20+20+20=60$. Added $600+600+600=1800$
 $1800+60+6=1866$

Goal:

- Use a drawing to demonstrate an understanding of multiplication within the context of the provided numbers

Notes:

- Students do not need to show the product in their drawings, but they are welcome to add it once they have done their calculation
- Simply replacing the numbers in the equation with base ten does not show multiplication
- You can find more examples in [Communicating and Representing Resources](#) and on the next page of this document.



Grade 4 SNAP Operations

- Represent with a sketch or drawing
- Explain your sketch

Operations Rubric: Proficient

- Uses grade appropriate strategies to correctly solve the problem and show understanding

622	622	622
?		

I made a bar model showing 3 groups of 622 being equal to a mystery number.

622

622

622

1866

I drew 3 groups of 622 coming together to make a product of 1866.

	600	20	2
3	1800	60	6

I drew an open area model to show 3×622 .

622

622

622

0

?

I showed 3 jumps of 622 on an open number line.



Grade 4 SNAP Operations

- **Calculate**

Operations Rubric: Proficient

- Uses grade appropriate strategies to correctly solve the problem and show understanding

Calculate:
$$\begin{array}{r} 12 \\ \times 624 \\ \hline 3744 \end{array}$$

$$\begin{array}{|c|c|c|} \hline \times 600 & 20 & 2 \\ \hline 3 & 1800 & 60 & 6 \\ \hline \end{array}$$

$$\begin{array}{r} 1800 \\ + 60 \\ + 6 \\ \hline 1866 \end{array}$$

$$\begin{array}{r} 2 \ 2 \\ 357 \\ + 357 \\ \hline 1428 \end{array}$$

Goal:

- Select an appropriate multiplication strategy, carry out the steps in the operation, and clearly indicate the response (the product, in this case)

Notes:

- The standard algorithm is one possible strategy, but there are others that are equally acceptable (e.g. Partial Product, Area Model/Box Method, Repeated Addition etc.) There are more examples on the next page.
- An “answer” alone without work is not proficient
- You can find an instructional video and computation strategies in [Understanding and Solving Resources](#)



Grade 4 SNAP Operations

- Calculate**

Operations Rubric: Proficient

- Uses grade appropriate strategies to correctly solve the problem and show understanding

$$\begin{array}{r} 300 + 50 + 7 \\ \times 4 \\ \hline 1200 \\ 200 \\ 28 \\ \hline 1428 \end{array}$$

$$\begin{array}{r} 462 \\ \times 3 \\ \hline 1386 \end{array}$$



Grade 4 SNAP Operations

- Write a real-life example or word problem

Operations Rubric: Proficient

- Real life example and connections to mathematical concepts are evident
- The example shows a clear connection to the operation

Write a Real Life Example:

I have 6 big long wood boxes
and each of them I have 624
carrot seeds and altogether I have 3744 carrot
seeds altogether.

Write a Real Life Example:

There were 3 schools each school
has 622 book inside altogether there were
1866.

Write a Real Life Example or Word Problem:

3 stories with 622 words in each. How many
words in total? = 1866

Goal:

- Demonstrate an understanding of multiplication using a real-life situation.

Notes:

- Some responses include a real-life example that uses the numbers in the operation but does not describe multiplication. You can learn great deal about your students' understanding of multiplication through their responses in this section.
- Picture books, collaborative problem solving (e.g. using a "Building Thinking Classrooms" structure), and field trip experiences are great ways to help students make real-life connections to multiplication concepts



Grade 4 SNAP Operations

- **Reflect**

Number Sense Rubric: Proficient

- With sentence frames and structure, can proficiently reflect on their learning

Reflect: ^{easy} I have done it a lot so I understand it better. ^{hard} was writing a real life word problem in real life because 616 is a big number.

Reflect: My calculate part wasn't making sense then I remembered about the partial product way. Then it worked. My sketch was easy because I just showed 3 circles going into one big one.

Reflect: Estimate was hard because I didn't know how to round the bigger number. I want to learn better strategies for the estimate box.

Goal:

- Identify and articulate strengths, stretches, and/or goals related to the content and competencies explored in the SNAP

Notes:

- It's important to model and teach effective reflection skills, or students will often default to "It was all easy" or "It was all hard"
- Clear expectations like, "Give me one strength, one stretch, and one goal" will lead to more insightful, reflective responses
- You can find reflection sentence stems in [Connecting and Reflecting Resources](#)