

Major Learning Targets for This Grade

Meaning of Multiplication and Division

Students will understanding multiplication and division, as well as strategies for multiplication and division within 100.

"I can build a model and draw a picture to solve problems involving multiplication and division."

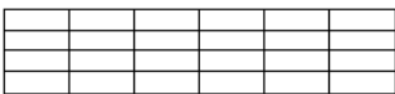
"I can use the properties of multiplication and the relationship between multiplication and division."

"I can multiply and divide within 100 fluently using many strategies."

Example Task:

There are 24 desks in the classroom. If the teacher puts 6 desks in each row, how many rows are there?
The task can be solved by:

Drawing an array model



Drawing a picture of equal groups



Reasoning mentally, verbally, or in writing

"I know 6 and 6 are 12. 12 and 12 are 24. Therefore, there are 4 groups of 6 desks that give a total of 24 desks in the classroom."

Developing Understanding of Fractions

Students will understanding fractions as numbers, especially unit fractions.

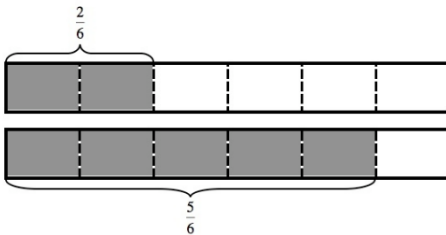
"I can partition (divide) shapes into two, three, four, six, and eight equal parts; name and use unit fractions to build more fractions."

"I can explain equivalence of fractions and compare fractions by reasoning about their size."

"I can draw, name, and see equivalent (same (size fractions named differently) on a number line model."

Example Task:

Compare the following fractions $\frac{2}{6}$ ○ $\frac{5}{6}$. Use pictures, words, and the symbols $>$, $=$, $<$ to illustrate and explain your answer.



Possible Student Work:

"The denominator for both fractions is the same, which tells us that each fraction refers to the same size piece (sixths). If we have only 2 of those pieces, we have fewer pieces than if we have 5 of those pieces. The picture illustrates this comparison because the shaded area representing $\frac{2}{6}$ is less than the shaded area representing $\frac{5}{6}$. So $\frac{2}{6} < \frac{5}{6}$ "

Area and Perimeter

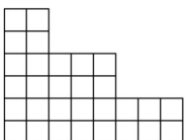
Students will understand the concepts of rectangular area and relate area to multiplication and addition.

"I can measure an area by counting unit squares"

"I can find the area of a rectangle by multiplying the side lengths."

"I can find the total area of a polygon by splitting it into smaller rectangles and then adding the area of all the smaller rectangles."

Example Task:



There are many ways to find the area of this figure.

1. Try to find as many ways as you can to split this figure into exactly 3 smaller rectangles. Be sure that none of the smaller rectangles overlap and the 3 smaller rectangles cover the entire figure.
2. For every example you found, write an expression that represents the area as the sum of the 3 rectangles. Find the total area of this figure.

Expected Behaviors in Math Class

Students will...

- Make predictions and estimations
- Decide if their answer is reasonable
- Use examples and counterexamples to justify a conclusion
- Explain their thinking and their process to solving a problem
- Apply mathematics to solve problems in everyday life
- Consider available tools to help them solve problems (including hands-on tools and technology)
- Use technology to explore and deepen their understanding
- Communicate ideas clearly verbally and in writing, using math vocabulary when appropriate
- Look for patterns and shortcuts

How Can I Support My Student in This Course?

1. Ask Questions

- When your student is stuck, ask him/her questions like:
 - “How do you know?”
 - “Have you seen a similar problem like this before?”
 - “Does your answer make sense?”
 - “What is the problem asking you?”
 - “What information do you need to solve this question?”

2. Encourage Your Student to Ask Questions

- You don’t need to be able to answer every question that students may come up with; encourage your student to write down his/her question to bring to a teacher or peer the next day

3. Ask Your Student to Draw the Math Problem

- All mathematics can be represented visually; visual representations help students understand the concepts
- Encourage color coding

4. Encourage Multiple Representations of the Problem

- Ask your student to solve the problem in a different way, and to make connections between the different representations

5. Value Mistakes

- Students are learning when they are making mistakes; create an environment where your student feels comfortable making a mistake and learning from it

6. Don’t Simply Tell Them the Right Answer

- Once students are aware that their answer is right, they are more likely to stop thinking about the math
- Instead of telling them the right answer, ask them a question (see #1) or have them draw a picture

7. Praise Effort

- When your student gets a right answer, acknowledge how hard they must have worked and practiced
- When your student is stuck, acknowledge that sometimes math is challenging and that if they continue to practice and work hard, they will improve

For more information, visit scusd.edu/math or contact Mikila-Fetzer@scusd.edu, Math Coordinator

SCUSD’s Vision for Instruction and Assessment: *As a community of learners, we strive to create positive and engaging environments where a rigorous, student-centered curriculum is central. Teachers use inquiry-based instruction and formative assessment practices to support ALL learners in maturing socially and in becoming disciplinary thinkers.*