

DMT INSTITUTE

Developing Mathematical Thinking Institute (DMTI)



Professional
Development



Curricular
Resources



Assessment

Jonathan Brendefur, PhD

DMTI Varied Practice Worksheets

This PowerPoint or PDF displays the worksheets that have varied situations (context, visual, equations, and other mathematical models) for children to work on. By completing these worksheets, children increase their foundational skills in the topic, which will help them with these standards and future mathematical topics.

1. If using a journal, have children present the worksheet and complete all the problems.
2. Or print the 'Varied Practice Worksheet Slides' for them to work on. Then, you can return to the PowerPoint or PDF to look at the keys to check their work.

Grade 3 – Misconceptions Part 1

NUMBER AND OPERATIONS

Grade 3: Misconceptions Pt. 1 – Number and Operations

Materials Needed

Printed copies of the Number Misconceptions varied practice sheet.

Instructions

1. Read the description of each task.
2. Explain to students that the given answer is not correct.
3. Have students provide the correct answer and explain why the incorrect answer given may have occurred.
4. Space is provided for students to write their response.
5. Adults may want to use a piece of paper to cover each row so that the student sees only one task at a time.

Example:

Task	Incorrect Response	Correct Answer	Why did the student get the wrong answer?
Which number is the greatest? $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{8}$	$\frac{1}{8}$ is the greatest number.	$\frac{1}{2}$ is the greatest number.	The denominator of $\frac{1}{8}$ is largest, but that means the unit fraction is the smallest. $\frac{1}{2}$ is the greatest because it only takes 2 units of one-half to compose 1.

Task	Incorrect Response	Correct Answer	Why did the student get the wrong answer?
<p>Which number is the greatest?</p> <p style="text-align: center;"> $\frac{1}{3}$ $\frac{1}{4}$ $\frac{1}{5}$ </p>	<p>$\frac{1}{5}$ is the greatest number.</p>		
<p>Solve $245 - 78$.</p> <p style="text-align: center;">$245 - 78 = \underline{\quad}$</p>	<p>$245 - 78 = 233$</p>		
<p>What number is missing?</p> <p style="text-align: center;">$3 \times 4 = \square \times 2$</p>	<p>The missing number is 1 because the 4 decreased to 2 so the 3 decreases down to 1.</p>		



“The Developing Mathematical Thinking Institute (DMTI) is dedicated to enhancing students’ learning of mathematics by supporting educators in the implementation of research-based instructional strategies through high-quality professional development, curricular resources and assessments.”

For more information contact
Dr. Brendefur at jbrendefur@dmtinstitute.com



KEY

Answers may vary.

Task	Incorrect Response	Correct Answer	Why did the student get the wrong answer?
<p>Which number is the greatest?</p> <p style="text-align: center;"> $\frac{1}{3}$ $\frac{1}{4}$ $\frac{1}{5}$ </p>	<p>$\frac{1}{5}$ is the greatest number.</p>	<p>$\frac{1}{3}$ is the greatest number.</p>	<p>The denominator of $\frac{1}{5}$ is largest, but that means the unit fraction is the smallest. $\frac{1}{3}$ is the greatest because it only takes 3 units of one-half to compose 1.</p>
<p>Solve $245 - 78$.</p> <p style="text-align: center;">$245 - 78 = \underline{\quad}$</p>	<p>$245 - 78 = 233$</p>	<p>$245 - 78 = 167$</p>	<p>You have to regroup the units of one and ten because you are subtracting more units in each place value than you have. The mistake was to subtract $8 - 5$ in the ones place and $7 - 4$ in the tens place.</p>
<p>What number is missing?</p> <p style="text-align: center;">$3 \times 4 = \square \times 2$</p>	<p>The missing number is 1 because the 4 decreased to 2 so the 3 decreases down to 1.</p>	<p>The missing number is 6.</p>	<p>The 4 became two times smaller so the 3 must become two times greater so that both sides of the equation will be equal.</p>