

# Mathematical Number Talks

## Number Talks Process

1. Introduce/show problem.
2. Allow students to think about solving the problem in more than one way.
3. Ask students for solutions only.
4. Record all solutions.
5. Ask if anyone can justify one of the answers.
6. Allow students to explain their thinking and how they reached their solution.
7. Record their thinking without adding on so other students can follow the student's thinking.
8. Ask if anyone would like to explain another way to solve the problem.
9. Optional: Ask if anyone would like to justify a different answer.

a. **3x50**      c. **3x150**

b. **3x149**      d. **5x249**

Grade range: 5+

Fluency Standards: 4+

SMP's: 1, 3, 4, 5, 6, 7, 8

**\*Use these problems in this order to show the growth students can have using sequential, related Number Talks**

3x50	3x150	3x149	5x249	Standards of Mathematical Practice
<p><b>Use a smaller fact</b></p> <p>3x5 = 15 3x 5 tens = 15 tens 15 tens = 150</p> <p>*Beware of students "adding a zero" to 15 to get 150. 15+0=15, not 150</p>	<p><b>Use a smaller fact</b></p> <p>3 x 15=45 3 x 15 tens = 45 tens 45 tens = 450</p> <p>*Beware of students "adding a zero" to 45 to get 450. 45+0=15, not 450</p>	<p><b>Make an adjustment/Use what you already know/Friendly Number</b></p> <p>3x150=450 450-3= 447</p> <p>*This strategy has three different names because you can think about this process in 3 different ways using the same computation.</p>	<p><b>Friendly Number</b></p> <p>5x250=1,250 1250-5=1245</p>	<p>SMP 1: How did you start this problem?</p> <p>SMP 1: What's an unreasonable answer?</p> <p>SMP 1: What's a wrong answer that someone could get?</p> <p>SMP 2: What properties of multiplication could help us in this situation?</p> <p>SMP 3: How can you prove your solution?</p> <p>SMP 3: Which strategy is most efficient?</p> <p>SMP 5: What estimates could help us?</p> <p>SMP 8: Does the strategy that you like the best always work?</p>
<p><b>Decompose</b></p> <p>50=25+25 3x25=75 3x25=75 75+75=150</p>	<p><b>Decompose</b></p> <p>150=100+50 3x100=300 3x50=150 300+150=450</p>	<p><b>Decompose</b></p> <p>149=100+40+9 3x100=300 3x40=120 3x9=27 300+120+27=447</p>	<p><b>Decompose</b></p> <p>249=200+40+9 5x200=1,000 5x40=200 5x9=45 1,000+200+45=1,245</p>	
<p><b>Multiplication as Repeated Addition</b></p> <p>3x50 means three groups of 50.</p> <p>50+50+50=150</p>	<p><b>Multiplication as Repeated Addition</b></p> <p>3x150 means 3 groups of 150.</p> <p>150+150=300 300+150=450</p>	<p><b>Standard Algorithm</b></p> $\begin{array}{r} 149 \\ \times 3 \\ \hline 447 \end{array}$	<p><b>Standard Algorithm</b></p> $\begin{array}{r} 249 \\ \times 5 \\ \hline 1,245 \end{array}$	



