In an effort to keep parents and guardians informed of the expectations and content being covered in math class this year, this informational handout will be provided for each chapter. Its intent is to assist in guiding you in ways to support your child in deepening their mathematical understanding.

In each chapter we will spend time reviewing material taught in prior grades as it relates to the standards being taught in fourth grade. Our goal is to keep a balance of skill based learning along with enhancing our student’s ability to problem solve and think conceptually.

### Review Material from Prior Grades

1) Multiplication and division word problems. (3.OA.9)
2) Two-step word problems with all four operations. (3.OA.8)

### New Material for 4th Grade

1) I can solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations. (4.OA.3)
2) I can solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations in which remainders must be interpreted. (4.OA.3)
3) I can generate a number or shape pattern that follows a given rule. (4.OA.5)

### End of Chapter Expectations

1) Chapter Assessment

*Please note the list above highlights the main skills to be assessed. Teachers may include additional content to meet the needs of their students.*
Strategies for Patterns and Sequences

**Order of Operations**

P= Parenthesis= ( )
E= Exponents= $5^2$
M= Multiplication= $\times$
D= Division= $\div$
A= Addition= $+$
S= Subtraction= $-$

**Example:** $(9+1) \div (5-3) \times 4 = 20$

Because there are parentheses, you will solve them first.

$(9+1) = 10$ and $(5-3)=2$

Once solved, rewrite the new equation.

Now that multiplication and division are left, you will solve the problem working left to right.

Write the new equation and solve.

**Pattern Types**

<table>
<thead>
<tr>
<th>Type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>even + even = even</td>
<td>Rule: +4</td>
</tr>
<tr>
<td></td>
<td>2, 6, 10, 14</td>
</tr>
<tr>
<td>odd + odd = even</td>
<td>Rule: +3</td>
</tr>
<tr>
<td></td>
<td>5, 8, 11, 14</td>
</tr>
<tr>
<td>odd + even = odd</td>
<td>Rule: + 2</td>
</tr>
<tr>
<td></td>
<td>5, 7, 9, 11</td>
</tr>
<tr>
<td>even x even = even</td>
<td>Rule: x 4</td>
</tr>
<tr>
<td></td>
<td>2, 8, 24, 96</td>
</tr>
<tr>
<td>odd x odd = odd</td>
<td>Rule: x3</td>
</tr>
<tr>
<td></td>
<td>5, 15, 45, 135</td>
</tr>
<tr>
<td>even x odd = even</td>
<td>Rule: x3</td>
</tr>
<tr>
<td></td>
<td>4, 12, 36, 108</td>
</tr>
</tbody>
</table>

*Please note the list above highlights the main skills to be assessed. Teachers may include additional content to meet the needs of their students.*

© Family Practice ©

Check out some of these free, math websites to practice patterns and sequences.

1) [http://mrnussbaum.com/grade_4_standards/](http://mrnussbaum.com/grade_4_standards/)

*Please note the list above highlights the main skills to be assessed. Teachers may include additional content to meet the needs of their students.