

Dear Parents,

We will begin our next unit of study in math soon. The information below will serve as an overview of the unit as you work to support your child at home. If you have any questions, please feel free to contact me. I appreciate your on-going support.

Sincerely,

Your Child's Teacher

Unit Name: Patterns

Common Core State Standards:

4.OA.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in a rule itself.

Essential Vocabulary:

- Pattern (number or shape)
- Pattern rule

Unit Overview:

In this unit, students will apply their understanding of patterns with numbers and shapes from previous grades. In addition, this unit builds upon students' understanding of multiples and factors in order for students to see the patterns and form a rule.

Strategies/Skills:

Students will build on their understanding of multiples, factors, and geometry to make sense of patterns. They are expected to use a variety of models to support their reasoning about numbers.

- Function Table (vertical table/t-chart)
- Number Line

Video Support:

Video support can be found on LearnZillion.

- <http://learnzillion.com>
 - Find the rule for a function machine using a vertical table
<https://learnzillion.com/student/lessons/790-find-the-rule-for-a-function-machine-using-a-vertical-table>
 - Understand repeating patterns
<https://learnzillion.com/student/lessons/791-understand-repeating-patterns>
 - Find missing elements in growing patterns
<https://learnzillion.com/student/lessons/791-understand-repeating-patterns>
 - Find the 9th shape for a geometric pattern using a table
<https://learnzillion.com/student/lessons/793-find-the-9th-shape-for-a-geometric-pattern-using-a-table>
 - Determine the rule in patterns that decrease
<https://learnzillion.com/student/lessons/794-determine-the-rule-in-patterns-that-decrease>
 - Using a table to find the rule for a geometric triangle pattern
<https://learnzillion.com/student/lessons/795-using-a-table-to-find-the-rule-for-a-geometric-triangle-pattern>
 - Extend a fraction pattern using a number line
<https://learnzillion.com/student/lessons/796-extend-a-fraction-pattern-using-a-number-line>

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- Generate a pattern sequence using a t-chart
<https://learnzillion.com/student/lessons/797-generate-a-pattern-sequence-using-a-t-chart>
- Find the missing inputs for a function machine using a vertical table
<https://learnzillion.com/student/lessons/798-find-the-missing-inputs-for-a-function-machine-using-a-vertical-table>

Additional Resources:

If you have limited/no internet access, please contact your child's teacher for hard copies of the resources listed in this document.

- NCDPI Unpacking Document: [4th Grade Unpacking Document](#)