# Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

#### Grade 5 Math Extension Menu

###### Concept and/or Topic: Function Tables

**Choose** a learning activity from one square to complete. If you choose the square,

“Write your idea here,” please see the teacher with your idea.

**Circle** the numberof the learning activity you choose.

**Turn** **in** this paper with your work.

|  |  |  |
| --- | --- | --- |
| **1.**  **Construct** a function table using the following information:  Suppose you earn $6.00 each week for walking a dog in the summer. **Make** a function table that shows your total earnings after 1, 2, 3, 4, 5,and 6 weeks. **Find** a relationship between the money earned and the weeks worked.  **Create** a way to **teach** another student in class how to make and use the information in your function table. Use the terms *input, output, function rule* and *function table* in your explanation. | **2.**  **Enter** the information from the problem below on a function table.  You are on the track team and are able to jump 2.5 feet on August 30th. Your personal goal is to increase the length you jump for the long jump each week. You would like to jump 0.75 of a foot farther each week. If you achieve your goal:   * How many feet would you jump on September 27th? * How many more feet would you jump on September 27th than on August 30th? * How many inches can you jump on September 27th? | **3.**  **Complete** a function table for the following problem:  A scuba diver’s water pressure increases as the diver goes deeper into the water. For each 10 feet, the pressure per square inch increases by 4.3 pounds. How much pressure would be pushing on the diver at a depth of 60 feet?  **Justify** your answer in a paragraph below the function table. |
| **4.** Determine the growing pattern for “Problem Solving with Pattern Blocks” in your Extension Menu Folder. **Organize** the information from the growing triangles on the function table provided.  **Write** the rule. | **5.**  **Write your idea here.**  **Create** a problem that can be solved using a function table and write the function rule to go with it. Share the function table with the class and see if the class can **determine** the function rule. | **6.**  **Select** one or more shapes from the bucket of pattern blocks to **create** a growing pattern.  **Produce** a function table using the information from your growing pattern. **Justify** your function table with a function rule. |

##### Teacher Resource Page

Grade 5-6 Mathematics Extension Menu

**Concept and/or Topic:** Function Tables

**Intended Purpose:** Culminating and/or Extension Activity

Tiered by *readiness*

**Standard(s) and Indicators Addressed for 5th and 6th Grade:**

**Standard 1.0:** Knowledge of Algebra, Patterns and Functions: Students will algebraically represent, model, analyze or solve mathematical or real world problems involving patterns or functional relationships.

**Indicators:**

* **Box 1** addresses **Grade 5; 500.10.05.c:** Interpret or write the rule for a one-operation (+, -, x, ÷) function table using whole numbers or decimals.
* **Box 2** and **3** addresses **Grade 5; 500.10.05b:** Complete a function table using a given rule with one operation (+, -) using mixed number decimals.
* **Box 4** addresses **Grade 5; 500.10.05c:** Interpret or write the rule for a one-operation (+, -, x, ÷) function table using whole numbers or decimals.

**Grade 6; 600.10.05a:** Identify and describe sequencesby a physical model or in a function table.

* **Box 5** addresses **Grade 5; 500.10.05c:** Interpret or write the rule for a one-operation (+, -, x, ÷) function table using whole numbers or decimals.

**500.70.10:** Apply what was learned to a new problem.

* **Box 6** addresses **Grade 5; 500.10.05.c:** Interpret or write the rule for a one-operation (+, -, x, ÷) function table using whole numbers or decimals.

**Grade 6; 600.10.05a:** Identify and describe sequencesby a physical model or in a function table.

**Organizational Tips**

**Notes:**

* Students need a solid mastery of the Algebra Curriculum Indicators stated above before introducing the *Function Table* *Extension**Menu*.
* It is advisable to use the “Vocabulary for Tiered Instruction” chart based on Bloom’s Taxonomy when formulating learning activities for an *Extension Menu*. The chart can be accessed at the Gifted and Talented curriculum link on [www.fcpsteach.org](http://www.fcpsteach.org) under Questioning. In addition to using different levels of the taxonomy, consideration should be given to learning styles, interests and readiness of students.

***Box 4:*** Provide the “Problem Solving with Pattern Blocks” sheet in this packet for students. Students also may need pattern blocks to complete this task.

***Box 5:*** Allow students to use “*Vocabulary for Developing Tiered*

*Questions and Tiered Assignments*,” based on Bloom’s Taxonomy to

help support the student with appropriate vocabulary for this task. This resource can be found at the Gifted and Talented curriculum link at [www.fcpsteach.org](http://www.fcpsteach.org) under Questioning.

***Box 6***: Provide pattern blocks for students as needed.

## ***Offices of Gifted and Talented Education and Elementary Mathematics*Problem Solving with Pattern Blocks**

### Growing Triangles

1 2 3 4 5 6

|  |  |
| --- | --- |
| Input (pattern picture) | Output (number of triangles) |
| 1 | 1 |
| 2 | 4 |
| 3 |  |
| 4 |  |
| 5 |  |
| 6 |  |
| 10 |  |

Write the rule for this function table in the space below.