Dear Eighth Grade Families,
In Unit 7, students will work on the following eighth grade Common Core standards in the Functions (F) domains.

| 8.F. 1 | Understand that a function is a rule that assigns to each input exactly one output. The graph <br> of a function is the set of ordered pairs consisting of an input and the corresponding output. |
| :--- | :--- |
| 8.F. 2 | Compare properties of two functions each represented in a different way (algebraically, <br> graphically, numerically in tables, or by verbal descriptions). |
| $8 . F .3$ | Interpret the equation $y=m x+b$ as defining a linear function, whose graph is a straight line; <br> give examples of functions that are not linear. |
| 8. F.4 | Construct a function to model a linear relationship between two quantities. Determine the <br> rate of change and initial value of the function from a description of a relationship or from <br> two ( $x, y$ ) values, including reading these from a table or from a graph. Interpret the rate of <br> change and initial value of a linear function in terms of the situation it models, and in terms <br> of its graph or a table of values. |
| 8.F.5 | Describe qualitatively the functional relationship between two quantities by analyzing a <br> graph (e.g., where the function is increasing or decreasing, linear or non-linear). Sketch a <br> graph that exhibits the qualitative features of a function that has been described verbally. |

Unit 7 Concepts:

- Linear functions
- Nonlinear functions
- Initial value \& Rate of change
- Comparing Functions

Unit 7 Vocabulary:

- Input \& output
- Relation
- Function \& function rule
- Linear \& nonlinear function
- Polynomial
$\bullet$
- Initial value
- Rate of change
- Dependent variable
- Independent variable
- Positive slope
- Negative slope


## Functions

| $\{(2,4),(3,2),(0,2),(-1,2)\}$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| X | $y$ |  |  |  |  |
| 3 | 2 |  |  |  |  |
| 2 | 4 |  |  |  |  |
| 0 | 2 |  |  |  |  |
| -1 | 2 |  |  |  |  |

We encourage you to talk with your child daily about what was learned in math class.
Thank you for your support!

