



About the Mathematics in This Unit (page 1 of 2)

Dear Family,

Our class is starting a new mathematics unit about patterns, functions, and change called *Penny Jars and Plant Growth*. In this unit, students learn about situations that involve change and ways to mathematically describe and represent this change. They use tables, graphs, and equations to represent how one quantity changes in relation to another quantity.

Throughout the unit, students will be working toward these goals:

BENCHMARKS/GOALS	EXAMPLES																
Connect tables and graphs to each other and to the situations they represent.	<table border="1"> <thead> <tr> <th>Day</th><th>Height (inches)</th></tr> </thead> <tbody> <tr> <td>Sun.</td><td>6</td></tr> <tr> <td>Mon.</td><td>$6\frac{1}{4}$</td></tr> <tr> <td>Tues.</td><td>$6\frac{1}{2}$</td></tr> <tr> <td>Wed.</td><td>$6\frac{3}{4}$</td></tr> <tr> <td>Thurs.</td><td>7</td></tr> <tr> <td>Fri.</td><td>$7\frac{1}{2}$</td></tr> <tr> <td>Sat.</td><td>8</td></tr> </tbody> </table>	Day	Height (inches)	Sun.	6	Mon.	$6\frac{1}{4}$	Tues.	$6\frac{1}{2}$	Wed.	$6\frac{3}{4}$	Thurs.	7	Fri.	$7\frac{1}{2}$	Sat.	8
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Make a graph on a coordinate grid from a table of values.	<p>Which line on the graph shows the growth of the tomato plant? How do you know?</p>																

(continued)



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BENCHMARKS/GOALS	EXAMPLES
Describe how a graph shows change: where the rate of change is increasing, decreasing, or remaining constant, and how differences in steepness represent differences in the rate of change.	<p>Write a story to match this graph.</p> <p style="text-align: center;">Bicycle Race</p>
Take into account the starting amount and the amount of change in describing and comparing situations of constant change.	<p>I started with 6 pennies in a jar. I added 4 pennies each day.</p> <ul style="list-style-type: none"> How many pennies will be in the jar after 20 days? $ \begin{array}{ccccccc} 6 & + & (20 \times 4) & = & 86 \\ \text{pennies} & & \text{days} & \text{pennies} & \text{total number} \\ \text{to start} & & \text{per day} & & \text{of pennies} \end{array} $
In a situation of constant change, write rules (using words or arithmetic expressions) to determine the value of one quantity, given the value of the other.	<ul style="list-style-type: none"> Write a rule for the number of pennies for any number of days. <p style="text-align: center;"><i>Day number</i> $\times 4 + 6$</p>

Please look for more information and activities about *Penny Jars* and *Plant Growth* that will be sent home in the coming weeks.