

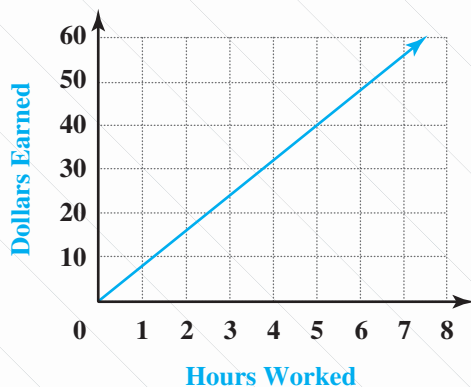
Family Letter

Dear Student and Family Members,

Our class is about to begin an exciting year of mathematics. Our first chapter is about *linear relationships*. These are relationships in which one amount, or variable, changes at a constant rate as another variable changes.

For example, Lara earns \$8 per hour. This is a linear relationship between the variable *hours worked* (H) and the variable *dollars earned* (D): for every hour Lara works, her earnings increase by \$8. Using algebra, this relationship can be expressed as $D = 8 \times H$, or $D = 8H$.

We will learn how to recognize and work with linear relationships represented as tables, algebraic rules, and graphs. The graph of any linear relationship is a straight line, and just looking at the graph can tell you a lot about the relationship.



Hours	Dollars Earned
0	0
1	8
2	16
3	24
4	32

Many commonplace situations are linear relationships: the total cost for some number of CDs when the price is \$15 per CD, the number of miles traveled if one drives at 40 miles per hour. Sometimes a relationship may not be exactly linear mathematically, but close enough to use a linear model to make predictions and estimates.

Vocabulary Along the way, we'll be learning about these new vocabulary terms:

coefficient

slope

directly proportional

slope-intercept form

direct variation

y-intercept

linear relationship

What can you do at home?

You and your student might enjoy looking for such relationships day to day and making some estimates or predictions based on them. If you can type 40 words per minute, about how long will it take to input a book report? How long will you have to baby-sit to earn \$100 if you are paid \$4 an hour? You might even find linear relationships a big help to your student in planning and saving!