

A Publication from the Maryland State Department of Education

Maryland Classroom

Online courses for HSA help

Before asking the State Board of Education to make performance on the High School Assessments a condition of graduation, MSDE promised to develop resources that would help students pass the tests. One of the resources cited was online courses that teachers could use to identify and help students having difficulty in the tested subjects or to supplement instruction for all students.

As designed, the courses are meant to be flexible, precisely so that teachers can use them however they wish. For instance, courses can be used to award high school credit. They can be used as a resource for an entire class or for individual students. Students can work on portions of the course—called modules—together or separately, at the same pace or at different paces. Teachers may use modules to introduce a topic or to stimulate classroom discussion about it. They may assign a module to one student for review, to another for exploration, to another for practice, and still another for extra help.

MSDE staff working with online courses note that the more familiar a teacher becomes with a course, the more ways he or she finds to use it.

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Patterns of Change: Related Variables

Activity 2: Table of Earnings During the School Year

DIRECTIONS:

A. Reread the terms of employment from Activity 1 of this lesson. This activity refers to those terms.

B. To keep track of the money you will have made **during the school year**, use a table. Fill in the table continuing the pattern in each column. Remember you make \$9 an hour.

C. Answer the questions using your table results.

1. How much does the Total Hours Worked increase each week?

2. How much does the Total Earnings increase each week?

3. Continue the pattern in the table to find out how many weeks it will take before you have earned \$1000. How many weeks is it?

ANSWER KEY: To see correct results, mouse over the word 'answer' below.

Number of Weeks Worked	Total Hours Worked	Total Earnings = Total Hours Worked x \$9	Total Earnings
1	18	18 x \$9 =	\$162
2	36	36 x \$9 =	\$324
3	54	54 x \$9 =	\$486
4			
5			
6			

Number of Weeks Worked	Total Hours Worked	Total Hours Worked x \$9	Total Earnings
4	answer	answer	answer
5	answer	answer	answer
6	answer	answer	answer

ANSWER KEY: Mouse over each of the 3 items below to check your answers.

- answer 1
- answer 2
- answer 3

Algebra Lesson

Linear System: Solutions of Systems

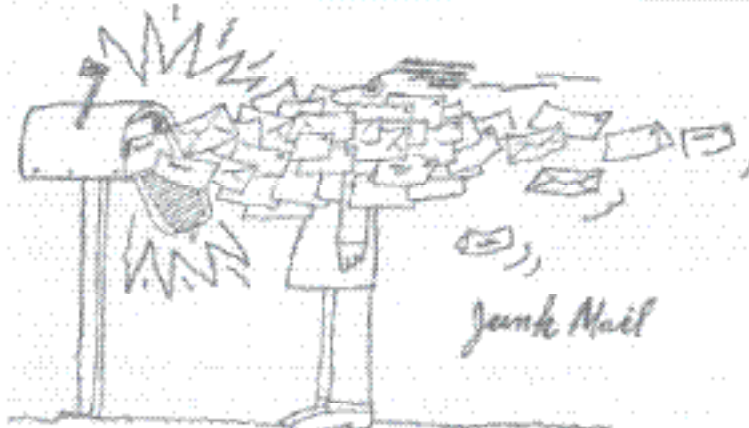
Activity 2: Renting a Postage Machine

Stamper Center rents for a monthly fee of \$12 plus \$0.10 per letter mailed.

Postal Helpers rents for a monthly fee of \$11 plus \$0.30 per letter mailed.

DIRECTIONS: The table below shows the cost per letter for both the Stamper Center and the Postal Helpers. Answer the following.

1. As the number of letters increases by one, how does cost per letter increase for Stamper Center Postal Helpers



2. Complete the table below to determine the cost of postage at each place depending on the number of letters mailed.

Number of Letters Mailed	Stamper Center Cost per Letter (US \$)	Postal Helpers Cost per Letter (US \$)
0	12	11
1	12.10	11.30
2	12.20	11.60
3		
4		
5		
6		
7		
8		

ANSWERS: Mouse over each entry space to check your work.

Algebra Lesson

Linear Functions: Rate of Change and Linear Functions

INTRODUCTION:

You have studied the relationships between variables, and know that they can be expressed as tables, graphs, rules or functions. You also learned that linear relationships are special types of functions. In this lesson, you will look at rate of change of a linear function. You will continue to learn about linear models in future lessons and use them to make predictions.

KEY QUESTIONS:

1. What is a linear function?
2. What is true about the rate of change of a given linear function?
3. What does the rate of change of a function represent in a real world situation?

STUDENT OUTCOMES:

1. Identify functions as linear or non-linear.
2. Determine the rate of change of a linear function given as a table.
3. Interpret the meaning of the rate of change of a real world linear function.

RESOURCES:

1. Graphing calculator
2. Flexible straight edge or paper edge

Time for the lesson: 55 minutes

Activities to Complete	Point Value	Estimated Time
Opening Activity: Linear Graphs		5 minutes
Activity 1: Rate of Change		10 minutes
Activity 2: Constant Rate of Change		10 minutes
Closure Questions	9	10 minutes
Assignment	20	20 minutes

Algebra Lesson

Continued from page 1

The algebra/data analysis and government courses are now online. English and biology will follow.

Algebra/Data Analysis

The nine modules comprising the algebra/data analysis course begin with a brief overview, the Core Learning Goal, expectation, and indicator(s) measured, key concepts related to the indicator, and prerequisite knowledge.

Under each module is a series of lessons and corresponding activities. The lesson overviews feature a glossary of terms, key questions, student outcomes, an activity checklist to help students organize their work, and needed resources, such as a graphing calculator or downloadable documents.

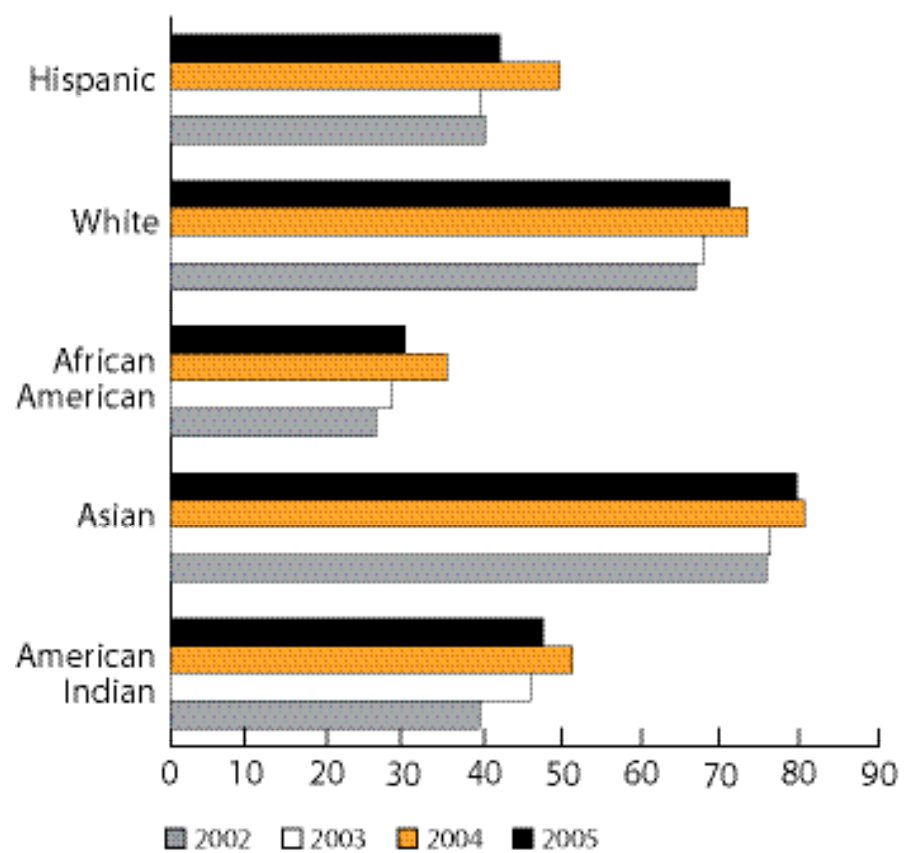
Students complete the activities, checking their answers as they go. (In most cases, floating a mouse over the word “answer” brings up the correct response.) Each lesson concludes with an assignment that students complete and send to their teacher through an electronic drop-box.

Each module also has timed quizzes attached, which students take and hand in online. The quizzes are electronically scored immediately upon submission and can generate grade distribution, grade calculation, and class average reports.

Students “enrolled” in the course can talk to and work with each other—and their teacher—through bulletin boards, chats, and email. A class list identifies fellow students, links to their email addresses, and indicates which are currently online.

MSDE is working on additional teacher resources to accompany the course—resources like flashcards, worksheets, and a bank of released High School Assessment items that will be placed in appropriate

Algebra/Data Analysis HSA: Passing Percentages



modules. MSDE is also developing pre-assessments, which will be modeled after the module quizzes and should help teachers and administrators discern exactly where students require remediation. ■

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QUESTIONS about...

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