ANSWER KEY: Hot STEM Careers

Directions:

Using the *STEM Occupations* handout, complete the following activities per your teacher's instructions. Remember, all answers should be in complete sentences. Show all work for your calculations. If you need more room to record your answers, use a notebook paper or the back of this sheet.

STEM Occupations

1. What is the total number of all STEM employees according to Chart 1?
5,905,240

2. If natural science comprises 13% of all STEM jobs, then what percent comprises engineering?
37%

3. Record 3 observations based on the data in Chart 2.
1. Engineers earn the most on average of all STEM occupations at $74,670 annually. 2. Natural science technicians, the lowest average earning STEM occupation, earn more than the average of all occupations at $39,920 compared to $37,870 annually. 3. All STEM occupations earn about 70% more than the national average.

4. Based on Chart 2, how much more do engineers make than the average occupation in the U.S.?
$36,800

5. What is the national average for all jobs, according to Chart 2? How much more, in dollars, do engineers make than the average of all occupations?
$37,870

6. Engineers made ___% more than the national overage in 2005. (Hint: Set up a proportion to solve this.)
197%

7. Chart 3 illustrates trends for the number of bachelor's degrees in STEM subjects through 2004. How could you create a chart to see if and when computer and information sciences intersect with engineering and natural sciences?
Find the slope of both lines, using y = mx + b. Set them equal to each other and create the chart based on the information.

8. Based on the trends illustrated in Chart 3 and the projected numbers in Table 2, will there be enough engineers with bachelor's degrees in the U.S. to fill the openings? Will there be enough computer specialists? Which occupation will have the biggest gap between degreed and non-degreed employees?
There will be enough engineers to fill the openings. There will be more than enough computer specialists in waiting to fill in the projected openings. Computer and information sciences will have the biggest gap between degreed and non-degreed employees.

9. What attributes are necessary for a successful STEM career?
Curiosity, the ability to think logically, and creative problem-solving are highly valuable attributes for a successful STEM career.

10. If there are more job openings than there are college graduates for STEM occupations, how does that affect pay and job security for those who are employed in those occupations? Explain your answer.
Growing demand for technological advances means more jobs for STEM workers. Nearly all the major STEM groups are expected to have about the same rate of growth as the national average. Most STEM workers also will be needed to replace those who are leaving these occupations. Many highly skilled workers will retire, change careers, or move to management positions over the next decade.