

Valentine's Day Genes

Math Activity



Quick math activity using ratios and percentages while learning about genes.

THANK YOU!

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ABOUT VIVIFY

Vivify is a team comprised of two Aerospace Engineer friends, Natasha and Claire, who live in Texas. We met as college classmates and roommates at Texas A&M University and later left engineering careers in the Department of Defense and Air Tractor to pursue our passion for STEM education. Learn more of our story [here](#).

Our goal is to bring engineering to life—to vivify learning—for kids of all ages. Please connect with us so we can learn how to better serve your students!

- Natasha & Claire, The Vivify Team



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ABOUT THIS ACTIVITY

Use the following worksheet as a quick and fun activity to practice math skills while learning about genes. You may bring a few items for students to taste test before deciding which they prefer. This is a great activity to do in addition to using Valentine's Day candy. Have them try different kinds and classify them in ways they think makes sense like "sweet", "salty", "bitter", or rank them in order of how much they enjoy them. Then refer to this information after conducting the worksheet activity to see what conclusions students may draw. Do they feel that their results indicate they are "super tasters"? If they prefer less bitter foods, then they may be!

Encourage students to take it a step further and do their own research into gene expressions and the foods they like.

Have fun!

What foods you **love** could be determined by your genes!

Genes are segments of DNA that direct the cells in your body to ultimately produce the traits that make you YOU. For example, one gene might provide the code for your body to give you brown eyes. That same gene location for someone else may give the code for blue eyes.

Research shows that our genes may do more than influence physical appearance by determining what we love to eat! Everyone has two copies of the gene “taste receptor 2 member 38”, or TAS2R38, which has two main variants-- AVI and PAV. People who inherit two PAV variants are known as “super-tasters” and will interpret some tastes as extremely bitter. Those with AVI variants are more tolerant of bitter tastes. Let’s hypothesize how many of your peers are “super-tasters” by evaluating foods you *love*!

Circle ONE item in each row that you prefer the most. If you don’t like either, leave that row blank (this should not count towards the total number of people). Afterwards, count how many people share the same preference. Can you calculate the percentage out of the class with that preference. Example: 5 out of 10 students = $5/10 = 50/100 = 50\%$

	Choice A	Choice B	# prefers A	% with preference
1.	Popcorn	Candy		
2.	Carrots	Broccoli		
3.	Vanilla	Chocolate		
4.	Milk Chocolate	Dark Chocolate		
5.	Tea	Coffee		
6.	Non-citrus fruits (Banana, apples, grapes)	Citrus fruits (oranges, grapefruit, lemons)		



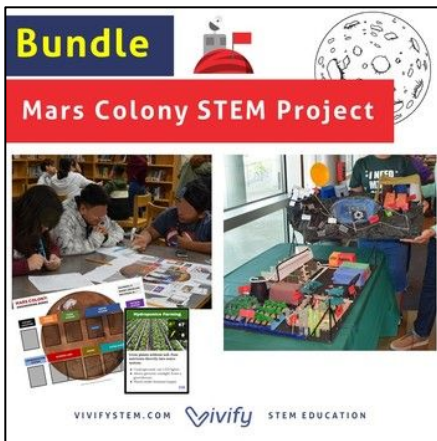
Total:

÷ _____ 600

Approximate percent likelihood of super-tasters in your class = _____

WANT MORE STEM?

For a complete list of all of Vivify STEM resources broken down by standards, topics, and grade levels, go here: <http://bit.ly/VivifyResourceGuide>



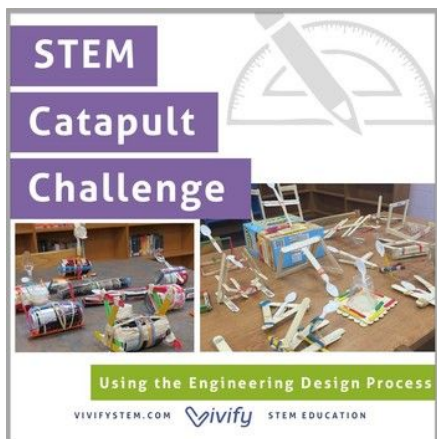
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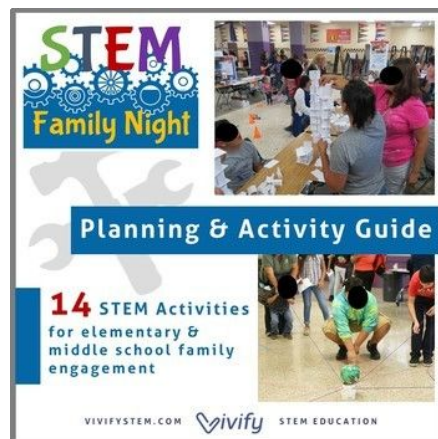
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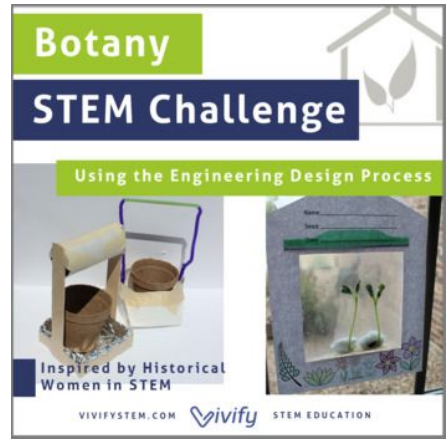
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Vivify's Overview of STEM Education

Successful STEM education is an empowering interdisciplinary approach that brings math and science concepts to life through problems that mimic the complexities and excitement of the real world. STEM revolves around the Engineering Design Process that embraces failure, relies on teamwork, and requires critical thinking and creativity. While exciting, educators often become intimidated as a search for curriculum leads to an overwhelming range of activities from index towers to robotics competitions. At Vivify, we believe that not all STEM is created equal. Educators should adopt a [3 Stages of STEM](#) approach by progressively building towards more complex projects.

To learn more about the 3 Stages of STEM, go here: <http://bit.ly/stemstages>