

Name: \_\_\_\_\_

Date: \_\_\_\_\_

ID #: \_\_\_\_\_

**Please tell us about yourself**

**Gender:** Male \_\_\_\_ Female \_\_\_\_ **Age:** \_\_\_\_\_ **School:** \_\_\_\_\_ **Grade:** \_\_\_\_\_

**Ethnicity:** American Indian/Alaskan Native \_\_\_\_ Asian \_\_\_\_ Black/African American \_\_\_\_  
Hispanic/Latino \_\_\_\_ Multiracial \_\_\_\_ Pacific Islander \_\_\_\_ White \_\_\_\_

**Do you want to be an engineer or scientist in the future? Please explain why or why not**

**What kinds of things do scientists and engineers study? Please give several examples.**

**How can you use what you learn in your math or science classes in real life? Please give an example.**

Please select the number below that best represents how you feel about each statement.

1= Strongly Disagree    2= Disagree    3= Neutral    4= Agree    5= Strongly Agree

<b>Statement</b>	<b>SD</b>					<b>SA</b>
I think studying about culture (for example life in Africa or Mexico) is boring	1	2	3	4	5	
I am interested in studying math or science in college	1	2	3	4	5	
Helping others is very important to me	1	2	3	4	5	
I think that understanding science and math can make me a better athlete	1	2	3	4	5	
I like to watch sports in my free time	1	2	3	4	5	
I know someone in my family who uses science or math in their career	1	2	3	4	5	
I am interested in learning about the culture of my heritage	1	2	3	4	5	
I get good grades in my math and science classes	1	2	3	4	5	
I like to play sports in my free time	1	2	3	4	5	
I like to use math or science when I am not in class to solve problems that interest me.	1	2	3	4	5	
I think that scientists and engineers help people	1	2	3	4	5	
I am interested in participating in science activities such as robotics clubs or Science Olympiad after school	1	2	3	4	5	
I want to play a varsity sport when I am in high school	1	2	3	4	5	
Computer science is useful for things outside of school	1	2	3	4	5	
If I do well in science classes, it will help me in my future career	1	2	3	4	5	
Some people did not have math as part of their traditional culture	1	2	3	4	5	
I have a role model in a science, engineering or math career.	1	2	3	4	5	

1) Define the following terms in your own words. You may draw images to help you explain.

a) Ground Reaction Force

b) Simulation

c) Loops

e) STEM fields

f) Gravitational Constant

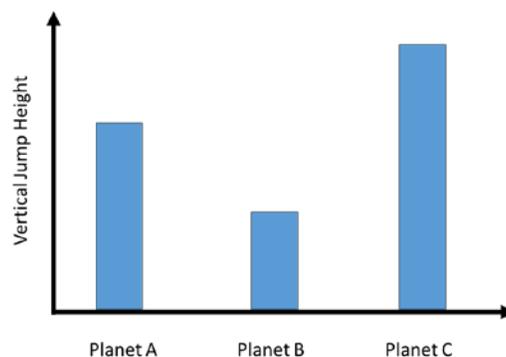
2) Here are three examples of tissues found in the human body, what function do they serve?

a) Muscle:

b) Bone:

c) Fat:

3) Shown in figure below are the jump heights that a basketball player can achieve on three different planets with the same starting velocity. Please rank the planets in order from the smallest to the largest gravitational constants. 1 being the smallest and 3 being the largest



1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_

4) Explain how these three topics in the STEM fields can be used to improve athletic performance

a) Biology:

b) Physics:

c) Computer Science:

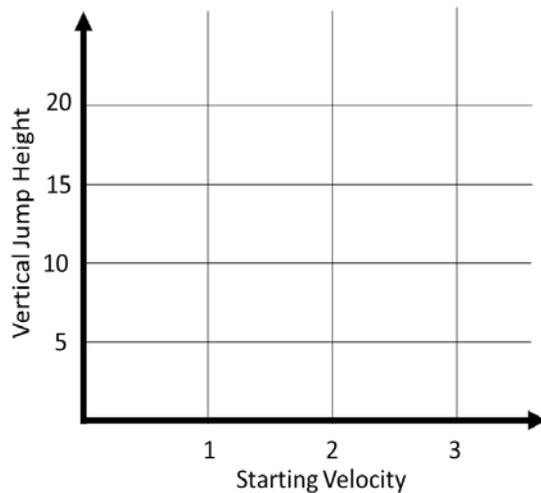
5) Given the data below, please graph it on the axis below.

A) Which planet has a higher gravitational constant?

\_\_\_\_\_

B) If planet A was earth, what planet in our solar system could planet B be?

\_\_\_\_\_



	Data	
Velocity	Planet A Jump Height	Planet B Jump Height
0.00	0.00	0.00
1.00	2.01	0.85
2.00	8.03	3.41
3.00	18.08	7.67

6) Give two examples of how computer science can be used within the STEM fields.

a)

b)

7) How does space travel effect the human body? Give an example and explain why it happens.