Name _____ **Per./Table ##** _____ **Date** _____

Activity- Histology- Tissue Repair
Bionic Hand- Form and Function

Task

Using a given set of materials, you and your partner will design and construct a prosthetic human hand. The prosthetic hand that you design and construct will have the form and function of an actual human hand.

No instructions have been provided for you. You will document the design and construction of your hand by taking pictures, uploading them to a google presentation, and writing out your procedures for each picture. As an alternative, you may document your progress by taking pictures, narrating them, and creating a video slideshow.

****You will need to work on this activity outside of class. You will only be given time to start and present.**
****You will NOT be given time in class to finish the activity.**

Grading

Students will be graded on form and function.

Form/Structure

1. Does it look like a hand structurally?
   Phalanges, Metacarpals, Tendons, Ligaments
   (Metacarpals do not have to be individually cut out. Metacarpals can be left as a palm.)

Rubric

5- Yes, All parts of the design look like all parts of a real hand.
4- Yes, Most parts of the design look like most parts of a real hand.
3- Yes, Some parts of the design look like some parts of a real hand.
2- Not really. There is very little resemblance to a real human hand.
1- Not even close. Is this a human hand?

Function

2. Does it function like a hand?
   Flexion and Extension
   (Extension can be a passive activity- action not controlled by the student)

Rubric

5- Yes, the design performs BOTH flexion and extension. Design can make a fist.
4- Yes, the design performs BOTH flexion and extension. Limited flexion. Cannot make a fist.
3- Yes, the design performs either flexion or extension, but not the other. Limited flexion. Cannot make a fist. Slight difficulty with extension.
2- Not really. Very limited flexion. Cannot make a fist. Struggles with extension.
1- Not even close. The hand is stiff as the cardboard it is made from.

Questions

Answer each question on a different slide. Place the questions at the end of your presentation.

1. What materials did you use for the different parts of your hand? Why? **4 points (2/2)**
2. What is the function of the hand? **2 points**
3. How does the structure of the hand determine it's function? **4 points**

Total Points
/20