**The Heart of the Matter:**

**Human Heart vs. Animal Heart**

In two days, you will be going on your field trip to the STAR Eco Station, where you will be seeing a whole host of various animals. Now, as we study the body, particularly the *human* body, we must also begin to ask important questions about how this information pertains to our animal counterparts. We must wonder if the bodies of our animal counterparts work in a similar way. This could potentially have great implications in our own lives.

***Your task:***

1. You will be comparing the human heart to **TWO** other animal hearts. Pick ONE from EACH column below (you can pick the general class of animals, or a specific species within that class):

|  |  |
| --- | --- |
| **Miscellaneous Class of Animals** | **Commonly Used Biomedical Laboratory Animals** |
| * Bird * Amphibian (frogs, toads, etc) * Reptile (snakes, lizards, etc.) * Fish * Insects | * Mice * Sheep * Pig * Horse |

1. For EACH animal, you are to research information about: **the structure of their heart, function of their heart, and the circulatory pathway**. You will then complete the “Alike/Different” graphic organizer from ReadWriteThink, comparing the human heart to EACH of the animals (that means you’ll be doing TWO of these graphic organizers.
2. After you do your comparison, you will read (and annotate) the following article about the practice of xenotransplantation (using animal organs for organ transplant surgeries in humans). This article is about transplanting sheep organs into humans who require an organ transplant:

<http://www.technologyreview.com/news/406651/pig-to-human-transplants-on-the-horizon/>

1. You are to then **create a Pro/Con T-Chart**. You are to find at least 2 other resources for EACH side of the argument to this question. That means 4 sources total (2 for the pro side; 2 for the con side):

**Should animal organs be used for human medical transplant procedures?**

1. Based on ALL your readings, in 1-2 well-written paragraphs take a stance on whether **animal hearts should be used as organ donors for heart-patients who need a heart transplant,** and make your case. Don’t forget to have a strong thesis statement/topic sentence and *include evidence from your research*!
   1. Consider things like structure and function of the heart and comparative anatomies (i.e. if we were to do this, which animal’s heart would work best, and why?)
   2. Benefits and risks of xenotransplantation

**MAKE SURE TO CITE ALL YOUR SOURCES FOR EVERYTHING YOU RESEARCH (from #1-4)**

You will compile all your work from each step, staple it together, or take pictures of each document and upload it to the assignment submission box.

Your completed assignment SHOULD include all of the following:

* 2 “Alike/Different” Graphic Organizers (one for an animal from each column in the table above) (#1)
* Pro/Con T-Chart on xenotransplantation (animal organs being used for human transplant surgeries) (#4)
* 1-2 paragraphs about your position on xenotransplantation
* List of references/bibliography