

**Title: Building a Better Organ**

**Introduction:** Designing and testing an artificial organ is a demanding and difficult task. As you can imagine, it is a life or death activity where a small mistake could make a big difference in the life of the person receiving the organ. Thankfully, in this activity, you will be making a model that only has to represent a few functions of an organ, not all the activities the organ is responsible for. If you find this interesting, you might consider a career in biotechnology, an exciting field that has the promise to make many lives better.

**Materials:** anything your teacher can provide or your group can bring from home.

**Procedures:**

1. Your group needs to pick an organ. Here are some suggestions but if you think of something you'd rather do, ask your teacher. Keep in mind, you have to build the organ and demonstrate some of its functions.

Heart

Liver

Kidney

Lungs

Stomach

Intestine

Skin

Skeletal System

(bone, joints)

eye

ear

muscle

2. You will start by doing some research on the organ. Make a list of all the things it has to do. Use your textbook or the Internet to help.

Our organ is \_\_\_\_\_

What are it's parts and what is their function:

1.

2.

3.

4.

5.

6.

7.

3. With your group, pick the functions that you think you can build into your model. Put a \* by them on the list. Your challenge is to see how many functions you can get your model to perform.

4. Discuss what things you need to make the organ. If some things need to come from home, decide who will bring them. If you promise to bring something, do not let your group down and forget.

5. Draw a sketch of what you think your artificial organ will look like:

6. Build your model. Be ready to explain and demonstrate its functions to the class.

**Analysis:**

1. Which artificial organ from the class presentations seemed the most likely to perform the most functions of the organ?

2. What were drawbacks to most of the models?

3. How well would your groups' artificial organ work if it were implanted?

4. What would you do differently if you built it again?

**Conclusion:**