**Directions:**

In this lab you will be using the materials given to observe how your kidneys help to remove waste from your blood. When you are finished you will sketch the final cup and explain the importance of each part of your “kidneys”.

**Materials:**

Rubber Band

Plastic Cups (2)

Sand

Food Coloring

Water

Coffee Filter

**Procedure:**

1. Mix one spoonful of sand with 25mL of water in one of the plastic cups.
2. Add three drops of food coloring to the sand and water mixture.
3. Take the 2nd plastic cup, place the coffee filter overtop and secure it with a rubber band.
4. Pour the sand and water mixture through the coffee filter.
5. Observe what moved through the coffee filter and what remained trapped in the coffee filter.

**Sketch:**

Sketch what the you observed in step 5 (what remained in the coffee filter and what moved in the to the 2nd cup)

**Clean up the lab station by throwing away the coffee filter and rinsing out the cups.**

**Place all materials back at your lab station.**

**Questions:**

Using your notes and vocabulary

1. In your sketch what does the coffee filter represent?

1. In your sketch what does the sand represent?

1. In your sketch what does the water represent?

1. Why is it important for your kidneys to remove waste?

1. What would happen if your kidneys could not remove waste? What is the process called that some people must do in order to have a machine work as their kidneys?
2. The average person is born having two kidneys in their body. Is it possible to live with only one kidney? How would this affect a person’s daily life?
3. **Take a guess:** At what percentage of kidney failure would you begin to feel pain or notice your kidneys were not functioning properly?