



How Important Are Thumbs?

The goal of this activity is to provide you with a chance to understand how important the thumb is for animals. You will discover:

- which of your simple daily activities are possible only because of your thumbs
 - which activities take longer without the use of a thumb
- what sort of human activities would not be possible to do without your thumbs

Materials: (per group)

masking tape, scissors, paper clips, zip-lock bag, plastic fork and knife, pencil, paper, balloons

Instructions:

1. Tape your thumbs to the sides of your hands.
2. Then, try to complete the tasks that are listed below. Be careful not to use your thumbs! After completing each item, write out the answers to the following questions:

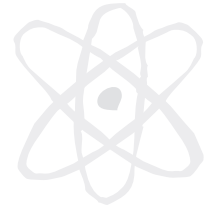
A. Is the task more difficult with or without a thumb?

B. How did you have to change your usual technique in order to complete this task?

C. Do you think organisms without thumbs would carry out this task on a regular basis? Why or why not?

Tasks:

- Pick up a pen or pencil from the table. Use it to write your name on paper.
- Open a book. Turn a few pages, one page at a time.
- Pick up a piece of chalk. Write your name on the board.
- Tear off a small piece of tape.
- Turn on the water faucet. Turn it off.
- Sharpen a pencil.
- Cut a circle out of a piece of paper using scissors.
- Pick up one paper clip. Clip a pile of papers together.
- Tie your shoelaces.
- Button several buttons.
- Zip up your jacket.
- Blow up a balloon and tie it.
- Close a zip-lock bag.



Taste and Smell

How connected are our senses of taste and smell?

We have learned that without our sense of smell, our sense of taste is weak. In other words, food tastes stronger when we can smell it, too.

Now it's time to find this out for yourself! Work with a partner.

FOR THIS ACTIVITY, you will need: • 2 pieces of raw potato (on a plate or paper towel) • 2 pieces of raw apple • a blindfold

STEPS:

1. Wash your hands before you begin.
2. Be sure that the pieces of potato and apple are all about the **same size**. **One** piece of potato and **one** piece of apple should be on a desk or table in front of you.
3. Partner A puts on the blindfold. (Partner B stands close by to help Partner A.)
4. Partner B moves the pieces of apple and potato on the desk so that Partner A does not know which is which.
5. Partner A holds his or her nose **shut**. Then they pick up one of the pieces of food and taste it. What are they tasting – the potato or the apple?
6. Partner A repeats Step 5 with the second piece of food.
7. Partner B tells Partner A whether they were correct.
8. Switch roles and repeat Steps 1 to 7.

Record your results below. What did the foods taste like? Could you tell the difference between them?

Did your experience **support** what you have learned (that taste and smell are connected)?



Build a Kidney!

We have learned that the kidneys filter blood. This is how they help clean wastes from the body. For this activity, you will build your own “kidney”. It is really some pop bottles, but it will give you an idea of how a filter, like our kidneys, works.

FOR THIS ACTIVITY, you will need:

- 3 large plastic pop bottles, cut in half (you will use the top half of each)
- a large bowl or bucket • pebbles • sand • paper towel • masking tape
- small jug of dirty water

Ask your teacher to help you find these things.

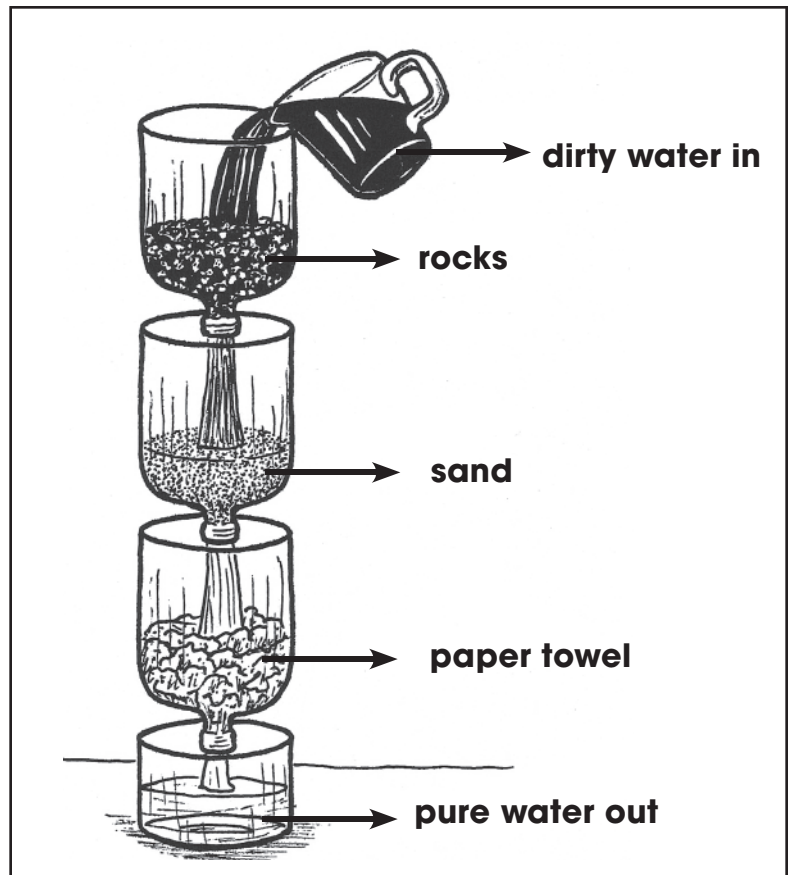
STEPS:

1. Fill the first bottle with pebbles. Fill the second bottle with wet sand. Fill the third bottle with paper towel.

2. Stack the containers like they are in the picture and tape them together.

They are now in a column.

3. Hold the column of containers over the bucket. Pour the dirty water over the pebbles in the top bottle. The water should filter all the way down into the bucket.



QUESTIONS:

Answer these questions in your notebook.

1. What does the water in the bucket look like? How is it different from the dirty water you started with?
2. What did the pebbles, sand and paper towel do?
3. What conclusions can you make about how kidneys work?