

Name: _____ Class: _____ Date: _____

What can air do?

We cannot see air, but it is still there. We need it to breathe, but air can do quite a lot more things. You can find out what in the following experiments.

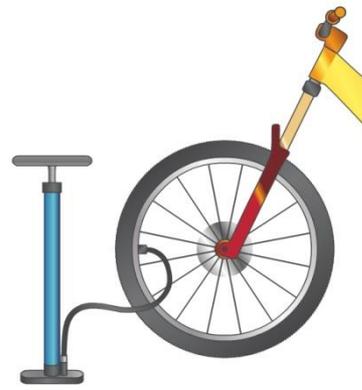
Experiment 1: Air takes up space – We pump up a bicycle tire

You need:

- 1 bicycle tire
- 1 air pump

What to do:

Pump up the bicycle tire. Your teacher will show you how.



Observe and note down:

What happens? Why does the tire fill with air?

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Experiment 2: Air acts as a brake – We make a parachute

You need:

- 2 pieces of cloth with different sizes
- 1 ball of string
- 1 pair of scissors
- Small weights (such as action figure, pencil, toy car)



What to do:

1. Cut eight pieces of string that are the same length (about 40 cm). (Be careful when you use scissors.)
2. Tie one of these strings to each corner of the two pieces of cloth.
3. Tie the ends of the four strings of each cloth together in a knot. You now have a large and a small parachute.
4. Drop the two parachutes from a good height. Observe what happens and write your observations in the table.
5. Now attach a weight to the small parachute and drop it again from the same height as before. Do this again with the other two weights. Observe what happens and write your observations in the table.
6. Now attach the three weights one at a time to the large parachute and drop it again from the same height as before. Observe what happens and write your observations in the table.

	Small parachute	Large parachute
With no weight		
First weight		
Second weight		
Third weight		

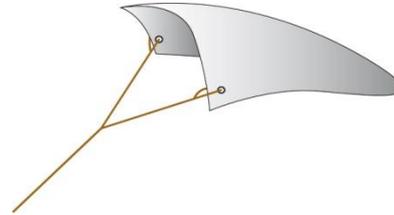
Finished? Think about what would happen if you dropped the objects without a parachute and write down your ideas.

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Experiment 3: Air carries – We make a kite

You need:

- 1 kite pattern
- 1 pair of scissors
- 1 hole punch
- 2 drinking straws
- Adhesive tape
- String



What to do:

1. Color the kite on the pattern however you like.
2. Cut out the kite. (Be careful when you use scissors.)
3. Punch holes in the kite at the marked points.
4. Tape the straws securely along the dotted lines.
5. Cut two pieces of string 45 cm long, tie them securely through the holes, and tie the strings together with a knot (see figure).
6. Now cut a piece of string 1 meter long and tie it to the knot.
7. Fly your kite in the school yard.

Observe and write down:

What happens? Why does the kite fly?

Finished? Now try running faster or slower and write down what happens.

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Experiment 4: Air propels – We make a pinwheel

You need:

- 1 pinwheel pattern
- 1 pair of scissors
- 1 split pin (brass fastener)
- Modeling clay
- 1 drinking straw



What to do:

1. Cut along the dotted lines on the pattern, starting from each corner. (Be careful when you use scissors.)
2. Fold every other corner toward the center to make four blades.
3. Now push the pin through all four corners and the marked center point.
4. Attach the end of the pin to the straw with modeling clay. Make sure that the pinwheel can still turn.
5. Take your pinwheel to the school yard and test it.

Observe and write down:

What happens? Why does the pinwheel turn?

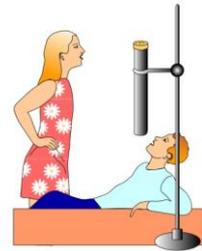
Finished? Now try blowing against the pinwheel and write down what happens.

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Experiment 5: Air transmits sound

You need:

- 1 cardboard tube
- 2 household rubber bands
- Paper or plastic wrap
- Grains of rice or sand



What to do:

1. Place a thin sheet of paper or plastic wrap over one end of the cardboard tube and stretch a rubber band around it to hold it securely on the tube.
2. Now place the grains on the surface.
3. Hold the cardboard tube with the opening downward over your mouth and shout into the tube. Your partner observes what the grains do. Note down what you observe:

1. Remove the grains from the surface again.
2. Now use the other rubber band to attach a piece of paper or plastic wrap over the other end of the cardboard tube.
3. Hold the cardboard tube vertically. Now place the grains on the upper surface and tap on the lower surface with your fingers? What do you observe now?
4. What role does air play in this experiment? Write down your ideas.
