# Is gas matter? Task cards

## Balloon balance

**Investigation question:** Write an investigation question in your Science journal.

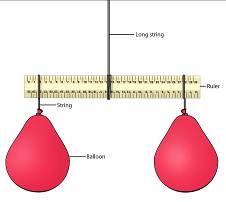
#### Materials:

* 2 balloons
* ruler
* 2 pieces of string of equal length
* 1 piece of longer string
* tape
* needle
* safety goggles

#### Remember: Predict what you think will happen and record this in your Science journal.

#### Method:

1. Put on safety goggles.
2. Blow up both of your balloons so that they are the same size.
3. Tie the longer string to the middle of the ruler.
4. Use some tape to secure the string to the middle of the ruler.
5. Tie one of the equal lengths of string to each of the balloons.
6. Tie the string to the ruler (one balloon on each end).
7. Hold the string attached to the middle of the ruler in the air so that the ruler and balloons are balancing.
8. Push the needle slowly into a balloon (insert the needle near the knot in the balloon where the rubber is not so stretched). Try not to make it pop.
9. Observe the results as the balloon loses air.



#### Analysing observations:

1. How well did your prediction match your results?
2. What happened when the balloon lost its air?
3. Why do you think this happened?
4. What does this experiment show us about air having mass?

## Invisible barrier

**Investigation question:** Write an investigation question in your Science journal.

#### Materials:

* empty soft-drink bottle
* clay or similar
* funnel (with a narrow stem)
* jug of water

**Remember:** Predict what you think will happen and record this in your Science journal.

#### Method:

1. Stand the soft-drink bottle on the table.
2. Place the funnel into the mouth of the bottle.
3. Pack the clay tightly around the mouth of the bottle where the funnel is, creating a seal so that no air can escape or enter the bottle.
4. Pour some water slowly into the funnel until it is ¾ full.
5. Observe what happens.
6. Hold the funnel and then remove the clay.
7. Observe what happens.



#### Analysing observations:

1. How well did your prediction match your results?
2. What did you observe happening when the water was poured into the funnel and the clay seal was tight?
3. Why do you think this happened?
4. What happened when the clay seal was removed?
5. Why do you think this happened?
6. What does this experiment show us about air taking up space?

## Keep a tissue dry in water

**Investigation question:** Write an investigation question in your Science journal.

#### Materials:

* transparent plastic cup
* ping-pong ball
* some tissues
* transparent container with water (must be large enough for the cup to fit into it)

**Remember:** Predict what you think will happen and record this in your Science journal.

#### Method:

1. Scrunch a tissue up and press it in the bottom of the cup so that it will not fall out.
2. Turn the cup upside down so that the open end is facing the water.
3. Make sure the cup is straight and not on an angle.
4. Push the cup slowly into the water until it is completely under water.
5. Observe what happens.
6. Take the cup out of the water and test if your tissue is wet.
7. Repeat the experiment with the ping-pong ball in place of the tissue.

#### Analysing observations:

1. How well did your prediction match your results?
2. What did you observe happening to the water level when you placed the cup into the water?
3. Was the tissue wet when you took the cup out of the water? Why do you think this happened?
4. What happened when you placed the ping-pong ball into the water?
5. What does this experiment show us about air taking up space?

