HOW TO MAKE A MOUSE FLY!

Worksheet

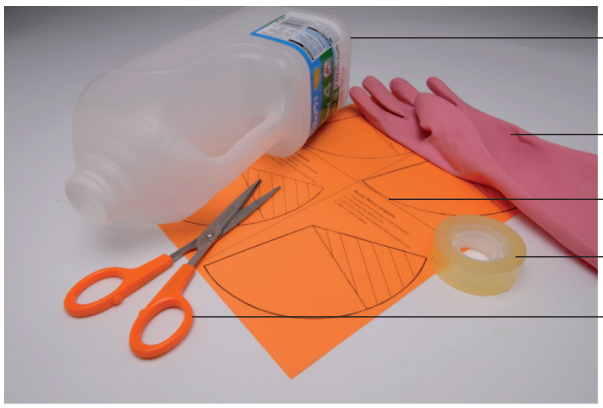
Keith Kelly

SCIENCE

Exercise 1 — Vocabulary: Materials

Label the diagram with the materials you used for this experiment.

a roll of tape		plastic milk bottle
pink rubber-glove	mouse template	scissors



Exercise 2 — Vocabulary: Verbs

Complete the instructions for the experiment with the correct verb from the box.

decorate	put	roll
cut out	hit	stick

1 First, _____ the template.

2 Then _____ and _____ it into a cone shape.

3 Next, _____ your mouse by giving it ears and a tail.

4 After that, _____ your mouse on the top of the bottle.

5 Finally, _____ the bottle with both hands to send your mouse into the air!

Look at your experiment sheet and check your answers.

Exercise 3 — Conclusions: Speaking, Writing

What did you learn from this experiment? What is making the mouse move? What direction are you applying a force? What direction is the mouse travelling? Talk with a partner then complete the sentences together.

Use the words in the box to help you.

inwards	upwards	sides	top

1 We apply a force _____ on the _____ of the bottle.

2 The air is forced _____ and out of the _____ of the bottle.

Exercise 4 — A scientific report: Writing

Now write a report on your experiment. Use the language provided to help you.

Useful Language box

Useful language for writing a scientific report

1. Say what you made

We made ...

2. Say how you made it

First, we cut ...

Then we rolled and stuck ...

Next, we decorated ...

After that, we put ...

Finally, we hit ...

3. Say what you predicted would happen

When we made the mouse (longer /shorter), we thought it would ...

When we made the mouse (ligher / heavier), we thought it would ...

SCIENCE

4. Say what happened

When we made the mouse _____ , it ...

When we made the mouse _____ , it ...

How to Make a Mouse Fly

Adrian Tennant

SCIENCE

Learning objectives

Pupils learn that air can be used to move objects and that squeezing air through a small opening can produce a strong force to move objects long distances.

Content summary

When you hit a bottle filled with air, and the air is forced through a small opening, the forice created by the expelling air is such that you can send an object high into the air. Pupils learn that they can alter the height and direction of the flight of the object by using weight and different shapes of objects.

Skills

Reading, speaking, writing

Grammar

Past simple; present simple

Vocabulary

Nouns: *blastoff, space, template, cone, shape, rubber glove, air, top, sides*
Verbs: *launch, roll, stick, decorate, hit, send*
Adverbs: *inwards, upwards*
Connectors: *first*, *then*, *next*, *after that*, *finally*

Time needed

60–90 minutes

Age group

7–11

Materials needed

1 mouse template
1 plastic milk bottle (2-litre or 3-litre bottles work best)
Tape
Scissors
Pink rubber-glove material or paper and pens (optional)

Practicalities

Flexible plastic bottles such as milk bottles work better than firmer fizzy-drink bottles.

Procedure

1. Tell pupils they are going to conduct a scientific experiment and measure how far they can make an object fly just by using air.
2. Introduce/pre-teach the core nouns and verbs that pupils will need: Nouns: *blastoff, space, template, cone, shape, rubber glove, air*, *launch, roll, stick, decorate, hit, send.* Point to the objects, demonstrate the verbs and drill pronunciation.
3. Hand out the experiment sheet and have pupils read out the instructions in class.
4. Ask them to work in groups and decide on the size and shape of their mouse rocket. They should make a prediction about which shape and size they think will fly the highest and furthest. You may need to give them a little time to think and talk about this. They can do this first in their own language but should then try to express it in English. (They should use *will* e.g. *We think a … x … mouse will fly highest and furthest*.)
5. They work in groups and follow the instructions on the experiment sheet. Monitor and help where required. Help them to say what they are doing in English.
6. Pupils try out their experiment. This will be noisy! Get them to record the result. They can make notes in English or in their own language.
7. Ask students to discuss in their groups these questions: What is making the mouse move? Which direction are you applying a force? Which direction is the mouse travelling? What difference do the size of the bottle and the force of the push make? Can you think of other ways to make the mouse move?
8. Hand out the worksheet and ask pupils to work their way through exercises 1, 2 and 3. They can check their answers with a partner. These exercises consolidate the vocabulary used in the experiment and get them to come to a conclusion about what kind of mouse object flies best.
9. Pupils then write up their findings in the form of a scientific report – encourage them to use the language in the useful language box. This exercise could be done for homework.

Open-ended investigation

For a more inquiry-based activity, ignore the template and challenge the children to make a paper mouse or rocket to launch into the air using only household materials.

Extra ideas to explore with your students

Can you direct the mouse to hit a target?

What can you do to make the mouse travel further or faster?

What is the heaviest mouse you can launch?

Try adding measured quantities of modelling clay inside the mouse's nose cone and make a graph of weight and height/distance travelled.

Links to everyday life

Trombones and other wind instruments – such as swanee whistles – produce sound by vibrating a column of air which can be lengthened or shortened: The longer the column, the lower the pitch.

How to Make a Mouse Fly

Adrian Tennant

Exercise 1

1 – points to the mouse template

2 – points to a plastic milk bottle (2-litre or 3-litre bottles work best)

3 – points to the roll of tape

4 – points to scissors

5 – points to pink rubber-glove material or paper and pens (optional)

Exercise 2

1 Cut out the template.

2 Roll and stick it into a cone shape.

3 Decorate your mouse by giving it ears and a tail.

4 Put your mouse on the top of the bottle.

5 Hit the bottle with both hands to rocket your mouse into the air!

Exercise 3

1 We apply a force inwards on the sides of the bottle.
2 The air is forced upwards and out of the top of the bottle.