



There's a hole in my bucket

Do you know the tune to this well known song? If not see if you can find out about it. Sing it through with your buddy! Remember each line is repeated as shown.

**There's a hole in my bucket, dear Liza, dear Liza
There's a hole in my bucket, dear Liza, a hole.**

**Then mend it dear Henry, dear Henry, dear Henry
Then mend it dear Henry, dear Henry mend it.**

**With what shall I mend it, dear Liza? . . .
With a straw, dear Henry . . .**

**The straw is too long . . .
Then cut it . . .**

**With what shall I cut it? . . .
With a knife . . .**

**The knife is too blunt . . .
Then sharpen it . . .**

**With what shall I sharpen it? . . .
With a stone . . .**

**The stone is too dry . . .
Then wet it . . .**

**With what shall I wet it? . . .
With some water . . .**

**With what shall I fetch it? . . .
With a bucket . . .**

**BUT THERE'S A
HOLE IN MY BUCKET!**





Your challenge

Liza and Henry need your help. Can you find something that will stop Henry's bucket from leaking!

Before you start

- ★ Liza suggests using straw to fix the hole.
Do you think that would work well?
- ★ What about sticky materials? Would any of them be better for mending the hole in Henry's bucket?

Get ready to investigate

- ★ There are ideas on the back to help you.
- ★ What tests can you do to find out how well different materials stop water from leaking through?
- ★ Which materials will you test? How many different ones will you compare?
- ★ What equipment will you need?
- ★ Does it matter how you use your material to fill the hole?
- ★ What will you need to observe or measure in your tests?

Resources

To do these tests you will need:

- ★ A selection of different materials, eg: sticky tape, Blu-Tack, glue, gummed paper, chewing gum, etc.
- ★ Straw (you might want to try this)
- ★ Ruler and timers
- ★ Bucket with a hole or plastic containers with a hole cut into the bottom
- ★ Washing up bowl or container and measuring jugs
- ★ Scissors
- ★ Plastic apron
- ★ Paper towels

▼ Note keeping

You could use a grid like this one or you might think up a better way to make a record.

Material	How much water leaked through?
Blu-Tack	
sticky tape	
glue	
chewing gum	
straw	

★ Now put your ideas to the test.

Keeping safe

- ★ Cutting holes in buckets, cups or yoghurt pots can be dangerous so please ask an adult to help with this part of your test.
- ★ You may need aprons, paper towels and table coverings. Make sure you mop up any spills immediately.



What did you find out?



- ★ Were there any problems with your tests?
- ★ How could you improve your tests?
- ★ How easy did you think it was to keep your tests fair? Why?
- ★ Which material should Liza and Henry use to fix a hole in their bucket?
- ★ On which side of the hole should they stick it?
- ★ Why have you chosen this material?

Sharing your ideas

- ★ One way to share your ideas is to re-write the words of the original 'There's a Hole in my Bucket' song to include what you have found out about the different materials that you tested.
- ★ You could perform your song for other people and maybe even record it so you can play it back and listen again. You could create a podcast of the song.

Help!

Don't know what to do?

Here are some ideas to help you:

★ We are going to use clean plastic drinking cups, with the same sized holes cut in the bottom of each, then try out our ideas.



★ I think we should try to fix the hole, then put water in and just watch what happens.



★ We could do some timing to find out how long it is before the water starts to leak out.



★ Let's measure how much water leaks out in 10 minutes. We could put marks up the side of the 'buckets' to help us.



★ I've got another idea...

What will you do?

Good luck!

MegaStar