Try these fun Fairy-tale science experiments at home with your own children. Aimed at the 3 – 7 age range but fun for all. Read the story first to give context. Easy peasy and fun!

**Design a raft for The Three Billy Goat’s Gruff**

Read the story or retell it in your own words. Present the problem to your child/ren – the Three Billy Goat’s Gruff need you to design them a raft to cross the stream so they don’t have to cross the bridge. What materials will you use?

**Materials!**
- Kitchen sponge
- Corks
- Glue/Double sided tape
- Paper
- Kitchen roll
- Lolly Sticks
- Toy Goat (we used our Playmobil Animals)
- Washing up bowl (rectangular type or sink/bath)

I think that ___________ will be the best material because ________________________________

I think that ___________ will sink.

**Method!**

Using the different materials and a washing up bowl, or a sink, carry out your investigation.

The best raft material was __________.__ The worst was ____________________________

Ask your children to explain WHY they think this happened.

**Extra Activities!**

Use a straw to blow the boats across a calm surface of water, what happens when you blow gently and then with more force?

Does the boat move faster if you blow the air close to the boat or far away?

Can you use the straw to create waves across the water?

**Make a bridge for The Gingerbread Man**

Read the story or retell it in your own words. Help the Gingerbread man escape from the wicked fox by building him a bridge!

**Materials!**
- LEGO
- Lolly sticks
- Sticks
- Straws
- Paper
- Card
- Scales
- Anything else you want to test!

I think that the best material for the bridge will be ____________________________

because ________________________________

**Method!**

Build rests for your bridge, we used LEGO, but you could use cardboard or anything else that would work.

1. Place your materials you want to test on the rests and add some weight.
2. Add more weight until the bridge breaks.
3. Observe what happens.
4. Repeat for your next material.

**Things to think about!**

Make sure you use the same weight to test each bridge. Each bridge should be roughly the same size to make it a fair test. Can you record the weight at which each bridge first starts to bend and the weight at which it breaks completely?

I found out that _________________

because ____________________________

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A collaboration between Mrs MA & Science & Sparks
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Jack and The Beanstalk

Read the story or retell it in your own words. Can you help Jack to grow his beanstalk?

Materials!
- Broad bean seed
- Jar
- Kitchen roll or a napkin
- Water

I think that plants need ____________________ and ____________________ and ____________________ to grow.

Method!
1. Swirl a small amount of water around the jar.
2. Fold your napkin or kitchen roll and place in the jar. (we made the kitchen roll very slightly damp also)
3. Place the bean seed in the jar resting on the napkin.
4. Spray some water on the bean every few days.

The bean should start to grow roots after a few days, this is called germination.

What did you find?
I found out that ____________________ because ____________________

(We kept one bean in the dark and one in the light, both germinated and grew into small bean plants. This shows that light is not necessary for germination.)

Make Your Own Witches House!

- Hansel and Gretel

An experiment which looks at the properties of different sweetie type materials!

Read the story or retell it in your own words. Can you make your own sweetie house?

What makes the best bricks?
- Marshmallows or fudge?

I think that ____________________ will make the best bricks because ____________________

I think that ____________________ will make the best cement because ____________________

Method!
1. Try a variety and combinations of these materials and leave overnight to harden, see which makes the best wall.
2. Complete your house with roof tiles made from either biscuits or chocolate thins!

What did you find?
I found out that ____________________ because ____________________

Which makes the best cement?
- Marshmallow goo, icing or buttercream?

(We kept one bean in the dark and one in the light, both germinated and grew into small bean plants. This shows that light is not necessary for germination.)