

**45 min**  
Science  
Workshop



**Ages**  
**3-8**

# Learn-Through-Play Workshop

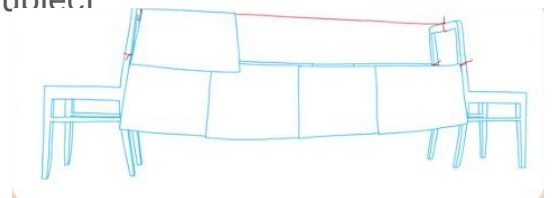
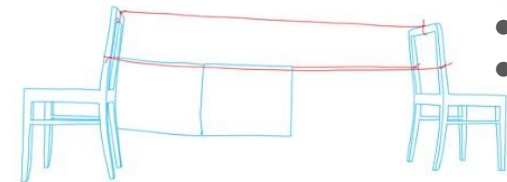
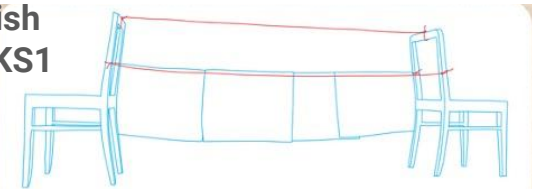
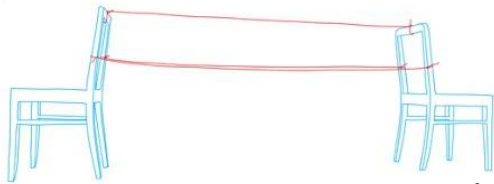
This OKIDO downloadable workshop is designed for families and can be easily delivered in the home by YOU. It is designed in collaboration with British Science Association and follows learning to facilitate Early Years and KS1 development using easy-to-find objects from around the home.

This 45 minute learn-through-play workshop includes:

- Watch an episode of Messy goes to OKIDO together
- Discuss the science with easy-to-follow pointers around the subject
- Complete a make-and-do science activity
- Reinforce the learning with a fun, follow-up worksheet

Theme - **Technology and engineering**  
Subject - **Bridges**

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### Watch and learn together

Together with your child, watch this 10-minute episode of Messy goes to OKIDO - 'Building Bridges'. [Link to Building Bridges episode.](#)

Messy is playing on his swing when it breaks – he wonders why the swing has broken. So off he goes to OKIDO to see if he can get some help.

In this episode Messy arrives in OKIDO to see that Zam and the team are building a suspension bridge across the river. Mayor Oki wants the bridge tested so everyone decides that Stan should skip across the bridge to test it. The bridge breaks but Messy and his friends realise that it's because Stan has taken his skipping rope from the bridge, which was being used to **suspend** it. We learn that four ropes are very strong for a **suspension** bridge, but three do not work.

### Talk about the science

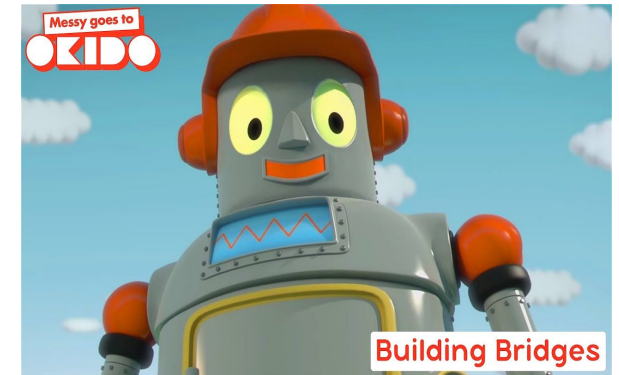
Right after watching, ask your child some questions about what they've seen:

- What sort of bridge do they build?
- How do they test it?
- Where does the robot get his skipping rope from?

Now talk to your child about what they've learned:

- Have you ever been on a bridge?
- What are bridges useful for?
- What about buildings? How many different type of buildings have you been inside? (Schools / houses / flats / libraries / shops / hospitals etc)

*If your child asks a question that you don't know the answer to - just investigate together to find out!*



Don't worry - all the information you need to know is explained in the episode : )

New words: Suspension, suspend



### Now let's get building

You will need:

- 2 chairs
- Scissors and string
- Glue
- Stapler
- Newspaper - the bigger the better

First, talk to your child about building. Have they ever made a den outside, or inside? What have they used before? Have you tried sheets, blankets, twigs, leaves? Learning to build with your hands is a fantastic **life skill** - talk to your child about how this could save them if they were in the jungle or on a deserted island.

There are two ideas on the next page to help you start building. One simple, and one more complex. Start with the simple version:

- Stretch three lengths of string between two chairs, one at the top, in the middle, the other two lower and at each side.
- Drape the newspaper over the lower strings until fully covered - this will make the sides of your tunnel.
- Next, drape over the top string so the sheets of newspaper lie on top of the sides - this is the roof of your tunnel.

### Experimenting and data collecting

You can experiment with:

- How long can you make your tunnel?
- Can you add any more details?
- What about putting cushions on the floor to make it soft to crawl through.

Young children will love to play inside this tunnel. You can set challenges for them to do inside like collecting objects that you've left in there or seeing how fast they can get from one side to the other.

How about having lunch in there? : )

Making the Dome Room is harder and will take a little more preparation time but once you have created your building triangles these can be saved and used again and again. Just use paper tape that can easily be taken off and dismantled after.

You can drape fabric or paper over the Dome Room structure to offer more of a hiding spot!

*Talk to your child about why building with paper is so good for the environment - their dens can be recycled and made into new paper products after being played with!*

## The dome room

**You will need:**

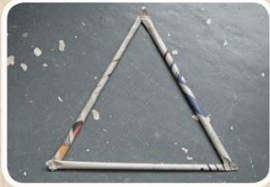
- Some old newspapers, the bigger the better
- Sticky tape & a stapler



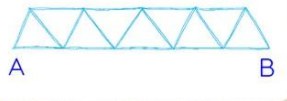
**1** Make tubes by layering 2 sheets of newspaper and rolling diagonally. You need 25 tubes.



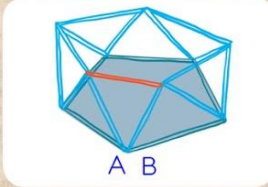
**2** Tape the tubes with sticky tape.



**3** Start by using 3 tubes to make a triangle. Staple the ends together.



**4** Add more tubes to make a row of 9 triangles. Then bring A and B together to make a pentagon.



**5** Add an extra tube (red on diagram) to make a pentagon.



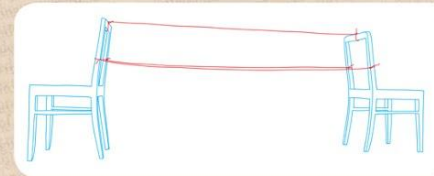
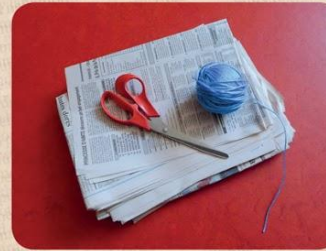
**6** Tape the last 5 tubes together to make a five-point star. Staple each point of the star to each corner to make the roof.



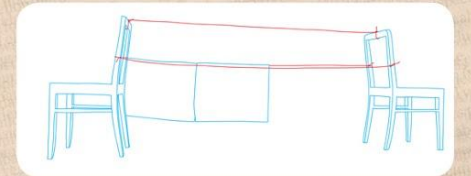
## Build a secret newspaper tunnel

**You will need:**

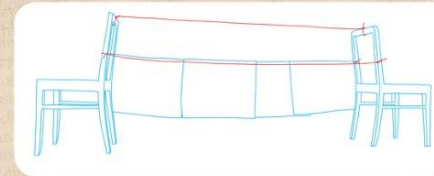
- 2 chairs
- Some old newspapers, the bigger the better
- Scissors & string



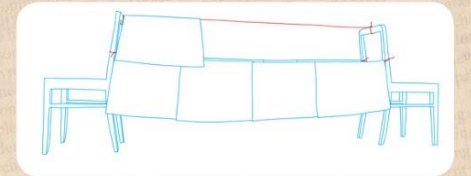
**1** Stretch 3 strings between the chairs: one in the middle and two lower down on the sides.



**2** Then lay the newspaper sheets across the lower strings.



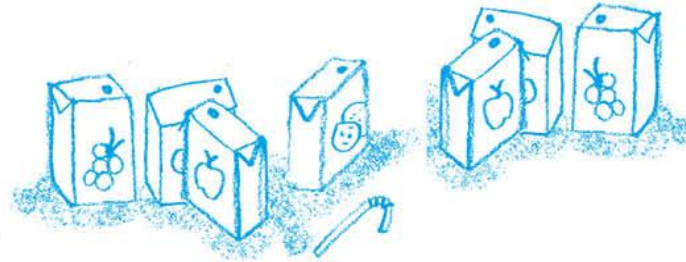
**3** Cover the bottom sides completely.



**4** Finally, lay newspaper sheets across the top string so that they rest on the bottom newspapers. Your tunnel is done!

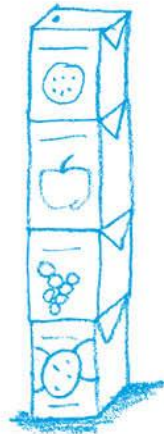
## The tower and bridge experiment

You will need:



About 6 or 7  
small juice car-  
tons

Build your own towers.

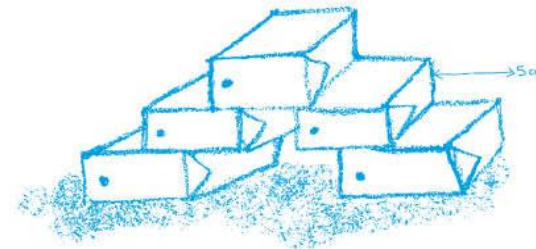
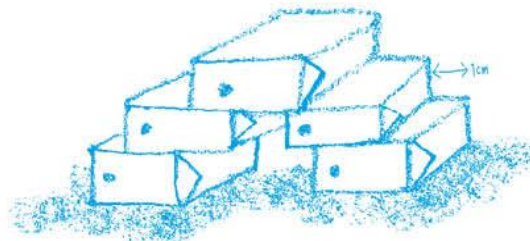


Look at these towers; which one is the strongest? Now build your own. How can you make it stronger?



Build a strong bridge.

Look at these bridges; which one looks more stable? Try to build your own. How wide can you make the bridge before it collapses?



# A growing town

This village has grown into a town. Draw more houses and buildings.

