

# 3 Sticky Stuff Science for 3-5 year-olds

SCIENCE  
WORLD  
BRITISH COLUMBIA

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for Little Hands @ Home  
Science

Young children naturally build knowledge by being curious about the world around them.

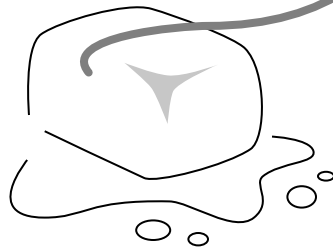
When you do science with your children, you can share their sense of wonder about the natural world. They'll develop self confidence when they ask and answer their own questions.

Hint:  
Dry, fuzzy,  
skinny string/  
wool works  
best.

## Ice Cube Fishing

Can you “fish” for an ice cube? “Stick” string to ice using only salt!

Ordinary water freezes at 0°C. When you add salt to water, it lowers the water's freezing temperature (that is, it has to get colder than 0°C to freeze). The salt causes the ice cube to start melting. A little pool of water forms on top of the ice cube and the string sinks into it. As the ice cube melts, it dilutes the salt/water mixture in the little pool; the freezing point starts to go back up again. The ice refreezes, trapping the string. As soon as the ice cube hardens, you can lift it by pulling up gently on the string.



### What you need

- A piece of long, thin embroidery wool about 15 cm (6 inches)
- Salt
- A plate
- Ice cubes

### Hands on

1. Place one ice cube on a plate. Observe the ice cube.
2. Lay one end of the string across the top of the ice cube and sprinkle a bit of salt on it. The string must be touching the ice cube.
3. Count slowly to 10 (or sing a song).
4. Gently lift the string. Presto! You've “caught” an ice cube.
5. Repeat as many times as you like!

### How to get the most out of your explorations:

- Dress for the mess  
*Science explorations can be messy.*
- Take your time  
*Play for as long as the activity holds your child's interest. Don't rush towards the 'right' answer.*
- Be curious  
*Ask “What would happen if...” and then find out. Let your child's questions guide you.*



### Questions to Ask

Is ice sticky or slippery?  
How does it feel?

Can you pick up the ice cube using the string? Can you catch the ice cube like a fish?

What made the string stick?

### What next?

- Try sticking several ice cubes to your string at once to make an ice necklace.
- Sprinkle salt on one ice cube then stack another ice cube on top. How high a tower can you make?

## Window Clings

White glue changes from white and opaque to colourless and transparent when it dries. It is very sticky when it's wet, but only a bit sticky when it's dry.

Wet glue sticks by soaking into 2 items and then drying into a solid between them.

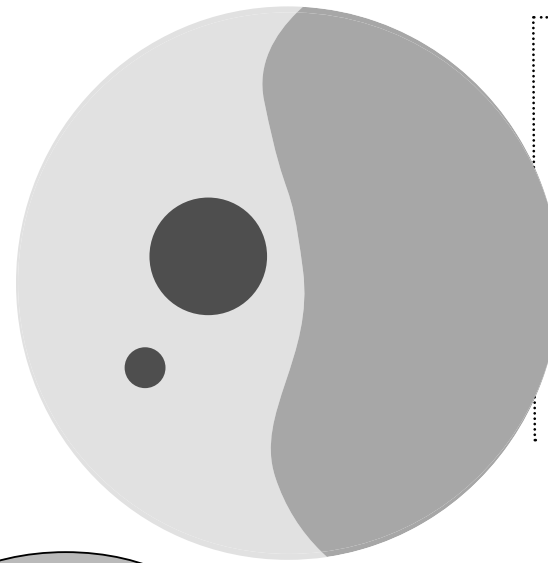
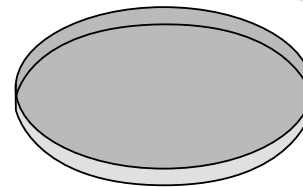
The smooth surface of the dry glue clings to smooth glass. That's because molecules in the glue are attracted to molecules in the glass.

### What you need

- White craft glue
- Food colouring
- Popsicle sticks
- Plastic lids (yogurt or deli container lids)

### Hands on

1. Place several drops for food colouring into a lid. Use one or two different colours.
2. Pour glue in to the lid until the bottom is covered.
3. Stir the glue with the Popsicle stick to distribute the colour throughout.
4. Put your creation aside and allow 24 hours for the glue to dry.
5. Peel your design off the lid and stick to a window or other glass surface.



### What next?

- Create free-form shapes by spreading glue on a transparency sheet or on plastic cling wrap instead of in the lids.
- Try adding glitter, flower petals or other items in to the glue before it dries.



### Questions to Ask

What does the glue feel like when it's wet? What colour is it (without the food colour added)? What will it stick to?

What does the glue feel like when it's dry? Is it sticky? What will it stick to? What colour is the glue now (without the food colour added)?

How does our creation stay on the window?



### Looking for More?

#### Online:

More science activities for young children can be found at [www.scienceworld.ca/preschool.html](http://www.scienceworld.ca/preschool.html)

This website has short videos, games and activities for 3-5 year olds [www.peepandthebigwideworld.com](http://www.peepandthebigwideworld.com)

#### Our favourite books:

Science Play by Jill Frankel Hauser ISBN 1-885593-20-1

Science Arts by MaryAnn F. Kohl and Jean Potter ISBN 0-935607-04-8