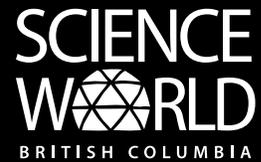


Sticky Stuff:

Science for 3–5 year-olds



AT SCIENCE WORLD, we know that early childhood educators are already providing many opportunities for young children to explore their world. We hope that these resource materials complement what you are already doing and offer additional ideas to inspire further exploration.

The activities have been designed for experiential learning. The intent is for children to experience each concept rather than simply talking about it. Each activity can serve as a starting point for further exploration.

The activities are divided into the following categories:

Introductions—These could be used to set the stage for the topic, or to find out how much the children already know. They're low-preparation, low-mess activities for a large group to do together.

Explorations—These require a bit more set-up and clean-up. They work best with small groups of children. They're intended to be open-ended, with a teacher or other adult available to pose questions and expand the activity as required.

Make This—These explorations result in a product that children could take home or display.

All Together—This big whole-group activity would make a great wrap-up to the topic.

Connections—Ideas for extending the topic in cross-curricular ways.

You know your group best! There is no perfect way to order or arrange these activities. They could be combined into a whole day on a theme, or taken one at a time over several weeks. Please pick and choose, expand or contract as makes sense for your group of children.

Topics Now Available

Round the Circle

Activities to explore round things, things that roll, and things that spin.

Wet & Dry

Activities to explore being wet and dry.

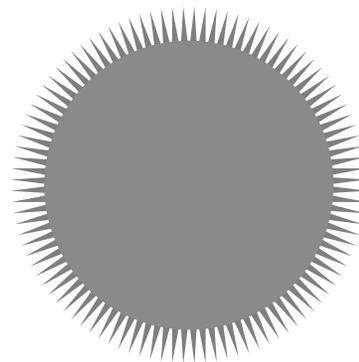
Sticky Stuff

Activities to explore stuff that sticks.

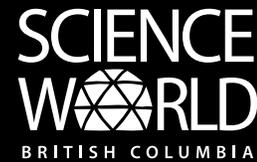
Size Matters

Activities to explore things that get bigger and smaller.

Check for more resource packages coming soon at www.scienceworld.ca/preschool.html



Sticky Stuff: Introductions

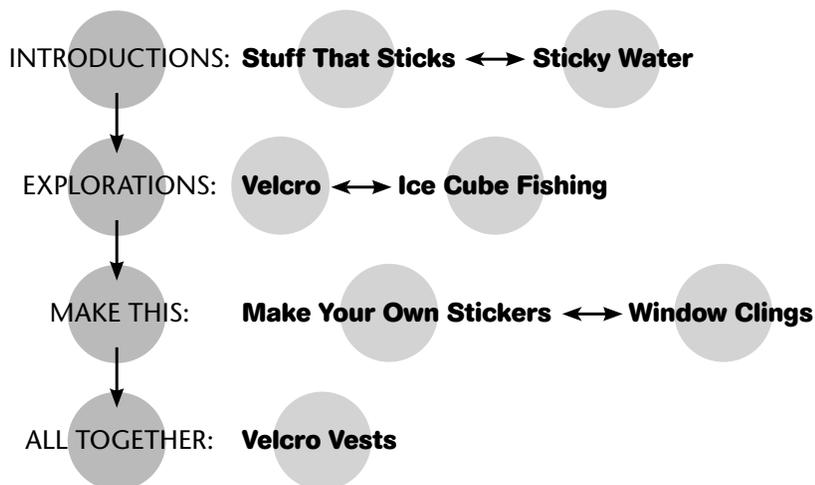


A Path Through 'Sticky Stuff'

Here's one possible way to put the activities in this resource together.

Do one or two **Introductions** at circle time in a large group.

Have the children try the **Explorations** and **Make This** in smaller groups at stations around the room. Try **All Together** just before the end of the school day, or at the end of a few days on the topic.



Big Science for Little Hands supports the learning goals outlined in the British Columbia Early Learning Framework, particularly those in the area of Exploration and Creativity.

To promote exploration and creativity, adults provide an environment where young children can do the following:

- explore the world using their bodies and all their senses
- build, create and design using different materials and techniques
- actively explore, think and reason
- identify and try possible solutions to problems in meaningful contexts and situations
- be creative and expressive in a variety of ways
- develop a sense of wonder for natural environments
- express a zest for living and learning

(BC Early Learning Framework http://www.bced.gov.bc.ca/early_learning/)

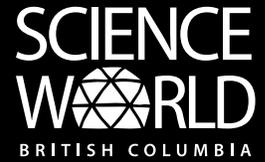
Thank you to the children and families around British Columbia who assisted with the testing of the activities in this package.

Share with us!

Please send us your feedback, suggestions and ideas. Email bslh@scienceworld.ca or visit www.scienceworld.ca/preschool.html and fill in an online survey.

We gratefully acknowledge the financial support of the Province of British Columbia through the Ministry of Education.

Sticky Stuff: Introductions



Stuff That Sticks

What does 'sticky' mean? Find sticky stuff around you.

What you need:

- A variety of common sticky items (e.g. tape, Band-Aids, stickers, post-it notes, plastic cling wrap).

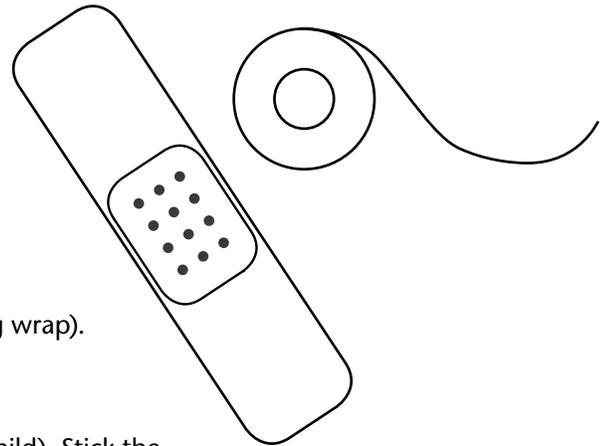
Hands on:

1. Explore and observe a piece of masking tape (one per child). Stick the tape to your clothes (or carpet) and peel it off again. Is anything stuck to the tape?
2. Collect sticky things and compare them. How are they similar? How are they different?
3. Make a sticky collage by attaching sticky items to a large sheet of paper.

Questions to ask:

- How does the tape feel? What do you notice about it?
- What does it stick to? Is there anything it doesn't stick to?

Notes for next time

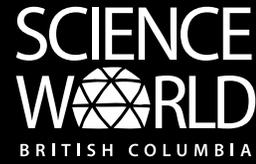


Where to next?

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Sticky Water
EXPLORATIONS
Velcro
Ice Cube Fishing
MAKE THIS
Make Your Own Stickers
Window Clings
ALL TOGETHER
Velcro Vests
CONNECTIONS
More Ideas



Sticky Stuff: Introductions



Sticky Water

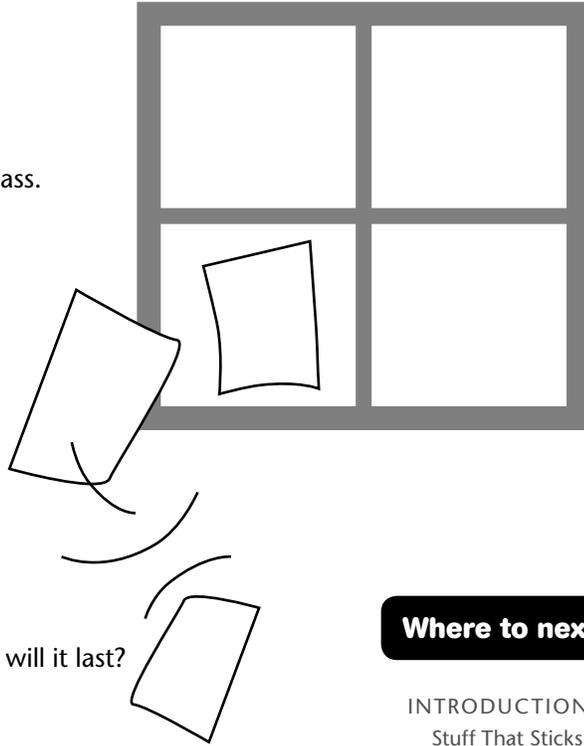
Use water as a temporary 'glue' to stick paper to glass.

What you need:

- Paper
- Water
- A window

Hands on:

- 1 Try sticking a dry piece of paper to a window.
2. Wet a piece of paper.
3. Try sticking the wet paper to the window.
4. Leave the paper stuck to the window. How long will it last?



Questions to ask:

- Does the dry paper stick to the window? Why or why not?
- What could you do to the paper to help it stick to the window?
- Do you think wet paper will stick to the window? Will it stick forever? What will happen to the water? What will happen if the paper dries?

What next?

- Use paper and water to make temporary art for your windows.
- Experiment with different kinds of paper (construction paper, cardboards, tissue paper, etc.). Which sticks the longest?

Notes for next time

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Sticky Stuff: Explorations



Velcro

Velcro uses tiny hooks to stick on to fabric. Burrs and other seed pods also have tiny hooks, spears, or barbs. They use their 'stickiness' to stick to people and animals which carry them to new places.

What you need:

- Pieces of Velcro
- Various fabric scraps
- Burrs and/or other sticky seeds
- Optional: magnifying glass

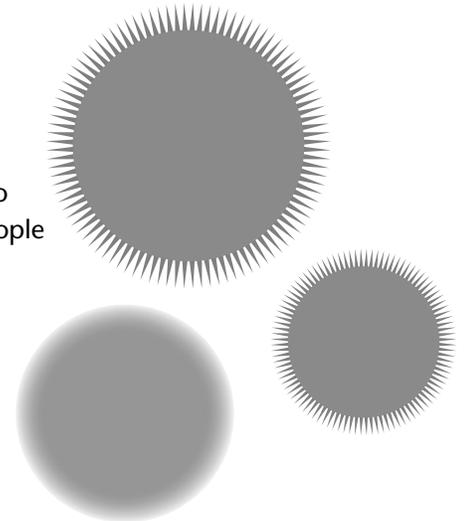
Hands on:

1. Try sticking Velcro to various types of fabric. Compare the hook side and the loop side. What do they stick to? What don't they stick to?
2. Take a closer look at the Velcro to observe the tiny hooks.
3. Try sticking your sticky seeds to the same fabrics. Were they more or less sticky than the Velcro? Do they stick to different things than Velcro does?
4. Take a closer look at the seeds to observe how they stick. Do they have hooks like the Velcro, or do they have a different way of sticking?
5. Look for Velcro around your house or classroom (shoes, jackets, etc.)
6. Look for more sticky seeds in your neighbourhood.

What next?

- Find an old pair of woolly socks, put them on over your shoes then go for a walk outside to find out what sticks to them. Try this in different seasons, or repeat over a few weeks to see how many different things you can find.

Notes for next time



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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 string about 15 cm (6 inches) long
- 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.
5. Presto! You've 'caught' an ice cube.
6. Repeat as many times as you like!

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 stacking several ice cubes with salt in between them, to build an ice cube tower.

Hint:

Dry, fuzzy,
skinny string/
wool works
best

Where to next?

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MAKE THIS

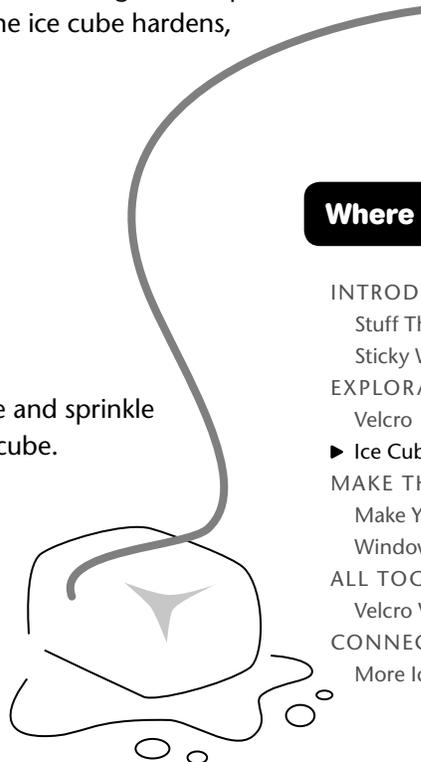
Make Your Own Stickers
Window Clings

ALL TOGETHER

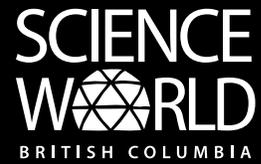
Velcro Vests

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Sticky Stuff: Make This



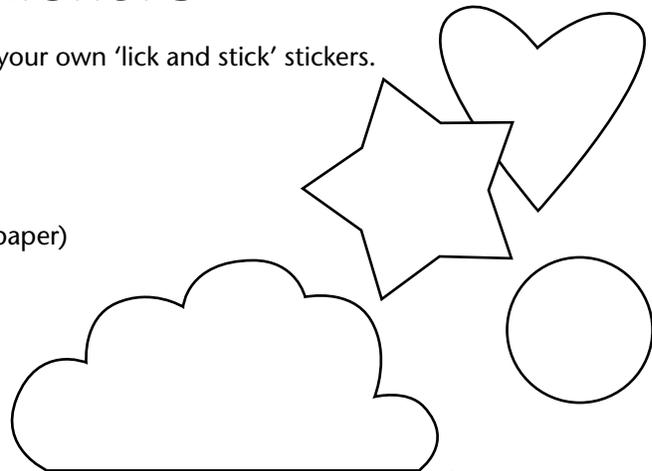
Make Your Own Stickers

Use the sticky properties of gelatine to create your own 'lick and stick' stickers.



What you need:

- Gelatine or Mucilage glue
- White or coloured paper (not construction paper)
- Felts and/or crayons
- Scissors
- Wax paper or aluminum foil
- Paint brush



Hands on:

1. Cut some shapes from the paper (e.g. cloud, heart, etc.).
2. Decorate and/or colour the paper shapes.
3. Prepare the gelatine as per the package instructions. Be ready to use it quickly before it sets.
4. Use a paintbrush to apply the gelatine to the back of the paper shapes. Is this stuff sticky?
5. Leave facedown (sticky side up) to dry on wax paper or aluminum foil. Are our stickers sticky now? What can we do to make them sticky?
6. When ready to apply the stickers, lick the backs to wet (or use a wet sponge). Stick to paper or other surfaces. Are our stickers stuck? How did that happen?

What next?

- Try Jell-O instead of plain gelatine for flavoured stickers.
- Use magazine photos, greeting cards or clipart from a computer to create more elaborate stickers.

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Sticky Stuff: Make This



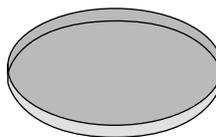
Window Clings

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)
- Plastic cups or containers for mixing (optional)



Hands on:

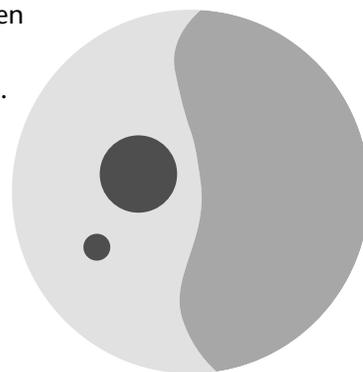
1. Place several drops for food colouring in to a lid. Use one or two different colours.
2. Pour glue in to the lid until the bottom is covered.
3. Stir the glue with the Popsicle stick to distribute the colour throughout.
4. Put your creation aside and allow 24 hours for the glue to dry.
5. Peel your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

Questions to ask:

- What does the glue feel like when it's wet? Is it sticky? 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).
- What else is different between the wet glue and the dry glue?
- How does our creation stay on the window?

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.



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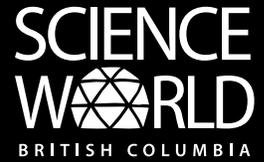
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Sticky Stuff: All together

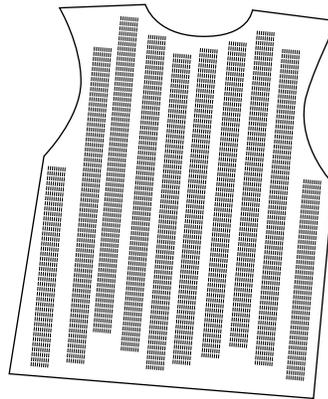


Velcro Vests

Use the sticky properties of Velcro to do some zany things!

What you need:

- Vest covered with hook side of Velcro
- Vest covered with loop side of Velcro
- Fabric scraps
- Small balls covered with Velcro (ping pong or other light plastic balls work well)



Hands on:

1. Have two children or two adults put on the vests.
2. Try sticking stuff to them.
3. Stick the two people to each other.
4. Hang the vests on a bulletin board. Try tossing the Velcro balls at the vests to see if they stick.

Questions to ask:

- What will stick to the Velcro? What doesn't?
- Can you get the balls to stick to the Velcro target?

Notes for next time

Hint:

To make Velcro vests, use safety vests, old fleece vests, or children's art smocks/aprons and attach strips or squares of Velcro.

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Sticky Stuff: Make This



More Ideas

Sticky songs, rhymes, circle games

- *Peanut, Peanut butter*
- Blob tag
- *5 Currant Buns at the Baker's Shop*
- *Going on Lion/Bear Hunt*
- *Bringing Home a Baby Bumblebee*
- *I Found Silver Dollar*

Sticky snacks

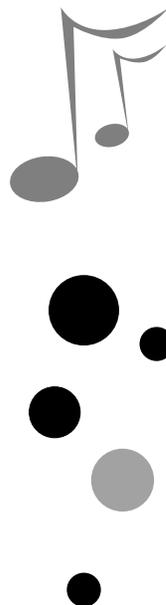
- Caramel corn
- Honey or maple syrup
- Taffy

Children's books about sticky stuff

- *Bartholomew and the Oobleck* by Dr. Seuss
- *Mud Puddle* by Robert Munsch
- *Bear with Sticky Paws* by Clara Vulliamy
- *Sticky Goes Camping* by Ken Trimber
- *Kid's Squish Book: Slimy, Squishy, Sticky Things to Do That Should Only Be Done When Wearing Your Oldest Clothes* by Lois Theovin and Marlin Bree
- *Sticky People* by Tony Johnston
- *The Icky Sticky Frog* by Dalmation Press

Resources for teachers

- *From Gecko Feet to Sticky Tape* by Toney Allman (ISBN 0737734892)
- *Zoom* by PBS Kids pbskids.org/zoom
(instructions on how to make your own glue)



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