Which material is best?

Who and what is Primary Connections?

- A primary school science education program of the Australian Academy of Science funded by Australian Government.
- Recognised by 94% of primary teachers (1) and used by more than 75% of Australian primary science teachers since beginning in 2004 (2).
- An inquiry approach to primary science education.

What is inquiry learning?

- An approach that promotes curiosity and supports knowledge construction by engaging students in practical and hands-on activities.
- Students demonstrate learning by drawing, making models, videos and in many other ways called representations.

What is the Primary Connections inquiry approach?
A five phase model called the 5E inquiry model.

Phase	From the student's perspective
Engage	What do I think? What do I know about this topic? What am I curious about? What questions do I have about this topic?
Explore	I'll do some activities to investigate.
Explain	What have I learnt so far? How do I know?
Elaborate	I know a bit more now so I'm ready to do more investigating. What have I learnt? How do I know?
Evaluate	How has my thinking changed?

Watch this video for more information about the Primary Connections approach.

(1) Primary Science Teaching Survey, Australian Science Teachers Association, 2014 asta.edu.au/programs/assist/primary_science_teaching_survey
(1) Primary Connections: linking science with literacy Stage 6 Research Evaluation, University of Technology Sydney, 2018
(2) primaryconnections.org.au/sites/default/files/files/primary-connections-stage6-evaluation-report-uts.pdf

At a glance: Which material is best?

Lesson	Phase of learning	What students will do	What you will need	What students will produce
1	The ENGAGE phase of learning: Stimulate students' interest and thinking about the topic.	• Look at different types of gloves. • Discuss what the gloves are made of and what they're used for. • Draw a labelled diagram of the gloves. • Create a word chart and finish sentences about materials	• A variety of gloves • Paper • Pens or pencils Optional: a device for taking photos	Labelled drawings showing what gloves are made of and what they're used for.
2	The EXPLORE phase of learning: Students explore the topic in a hands-on way.	• Predict which material will soak up the most water. • Complete a fair-test investigation on each material. • Make and justify claims about which material soaks up the most water.	• 3 materials to investigate (paper, foil, plastic, cloth etc) • Water • 1 small measuring cup • Paper • Pens, pencils, Optional: a device for taking photos	A table showing their predictions, a series of notes and images taken during their investigation, and a paragraph explaining what their claim is based on their investigation.
3	The EXPLORE phase of learning: Students explore the topic in a hands-on way.	• Predict what will happen to the material when it is scrunched, stretched and torn. • Complete a fair-test investigation on each material. • Make and justify claims about the strength of each material.	• *3 samples of the same material* to investigate (paper, foil, plastic, cloth etc) • Paper • Pens, pencils, Optional: a device for taking photos	A table showing their predictions, a series of notes and images taken during their investigation, and a paragraph explaining what their claim is based on their investigation.
4	The EXPLORE phase of learning: Students explore the topic in a hands-on way.	• Predict how far each material will stretch and if it will return to its original state after stretching. • Complete a fair-test investigation on each material. • Gather data on the distance each material stretched to. • Use this data to create a column graph. • Make and justify claims about the elasticity of each material.	• 3 stretchy materials to investigate (cloth, rubber band, hair tie etc) • Paper • Pens, pencils, Optional: a device for taking photos	A table showing their predictions, a series of notes and images taken during their investigation, a data table and graph representing the numerical results of their investigation, and a paragraph explaining what their claim is based on their investigation.
5	The EXPLAIN phase of learning: Opportunity for students to explain what they think, based on previous activities. They look at current scientific research about the topic.	• Decide which bag is made of the most suitable material to carry certain objects. • Read current scientifically accepted information about plastics and create a Plus, Minus, Interesting (PMI) chart about plastics.	• Paper • Pens and pencils Optional: a device for viewing a website	A table explaining which bag is most suitable to carry which objects and why, and a PMI chart about plastics.

Check with your child's teacher for guidance about the Elaborate and Evaluate phases of learning.