Let's Find Out!

Preschoolers as Scientific Explorers

Scientific explorers, both tall and small, ask questions about objects, living things, and events that interest or puzzle them. Young children are often described as natural scientists. They earn this description because they engage in many of the same behaviors scientists do.

“Cold water! Cold water!”
“Put ‘em on your hands. Then put ‘em in the water.”
“Which one is freezing? That one or that one?”

It was winter in the northeast United States, so a scientific exploration of the ways that people and animals stay warm in cold environments was of great interest to the preschoolers in this class. During large group time one day, the children and teachers discussed ways humans protect themselves from the cold. The children knew a lot about this topic, so it made a good starting point for exploring related ideas. Then the teacher asked, “How do animals stay warm when it is very cold outside?” The children knew less about this, so the teacher helped them research the question. Then she introduced a science activity to let the children find the answer to the question themselves.

Why do a science activity?
Science is not just a list of facts that other people have discovered. It’s a process that anyone can participate in and contribute to. Firsthand investigations and experiences make learning more meaningful to children. Engaging in scientific investigation supports children’s language, mathematics, science, and reasoning skills. Applying the scientific method is useful for all kinds of problem solving. As children’s learning partners, teachers can plan experiences that allow children to share their clever ideas and inspire them to keep exploring their world in scientific ways.

Blubber glove experiment
The teachers decided to adapt a demonstration found in multiple activity resources for young children. They designed a hands-on investigation so children could use the scientific method to explore the insulating properties of various materials.

1. Gather materials. You will need zipper-top plastic bags, vegetable shortening (blubber), a spoon, a small ice chest, and ice water.

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vegetable shortening. Then they turn another bag inside out, place it inside the first bag, and press the closures together to seal the blubber inside. Use duct tape to reinforce the closures.

3. Make an unfilled glove. Children turn an empty bag inside out, place it inside another empty bag, and press the closures together.

4. Test. Children take turns wearing both gloves and putting their gloved hands into the cold water. (Remind children to keep the top parts of the gloves above the water level.)

5. Record the findings. Provide paper, pencils, and clipboards so children can draw or write about their observations. Children can write tallies or names on a chart to indicate their findings.

6. Expand the activity. Try using a different material, such as feathers or fabric, inside a glove. Then repeat the experience.

Comparing the two gloves makes the investigation a true science experiment. Because the gloves are the same except for the blubber, children will know that it is the blubber (the vegetable shortening), and not some other difference, that insulates their hands from the cold of the ice water. **TYC**

**Vocabulary**
- Blubber
- Insulate
- Experiment
- Trial
- Test
- Predict
- Hypothesis
- Conclusion

**Books**
- *No Two Alike*, by Keith Baker
- *Animals in Winter*, by Henrietta Bancroft and Richard G. Van Gelder
- *The First Day of Winter*, by Denise Fleming
- *Over and Under the Snow*, by Kate Messner

**Questions**
Use these questions to get children thinking about this science activity.
1. Which glove do you think will keep your hand warmer?
2. Which hand feels cold? Which hand feels warm?
3. What pattern do you notice on the record chart?
4. What do you think would happen if we put feathers in the glove?