



STEM

starts now

Building Rain Shelters

Recommended Age: 31–36 Months

STEM concepts: Science (weather), Engineering (design process, building)

Materials: Squirt bottle, a toy person, building materials such as foam blocks, cardboard, craft sticks, straws, tape

What to do: Layout the various building materials that you've collected for your child to use. Having a variety of materials will allow your child to think creatively and make his own choices when building. Have a discussion about what happens when it rains and other open-ended questions that require problem solving. Some questions are "How can we keep the toy dry from the rain?", "What can hold up a roof?", and "What makes for a strong wall?". Allow him to come up with his own answers and an idea for a structure to keep his toy dry. Then, sit back and watch as he builds his structure. Lots of learning can come from play and hands-on experience so let him build on his own. He may surprise you! Once she has built a shelter, take a squirt bottle and squirt water onto the top of the shelter to simulate rain. After it has "rained", check to see if the toy stayed dry. If not, encourage your child to problem solve and change her shelter to keep the rain out more efficiently! A key concept in engineering is that there is no failure. If something doesn't work, that just means some problem solving needs to happen to create something that does work.

Language and Communication: When you introduce this activity, be sure to use words like engineer and engineering. Many children believe that an engineer is simply a person who drives a train. Explaining that engineers solve problems in the world by creating new things is the first step in understanding engineering.

Expand the Activity: One way to expand this activity is to simulate wind by placing a fan next to your child's shelter. Another thing you can do is have him explain to you how he built the shelter once he has built one that he is happy with. Ask what materials he used and why he used them. This will help him begin to recognize the design process, which he will have more experience with in elementary school.