I.D.E.A. KIT

Paper Tower Challenge

What You Need

Newspaper	Masking Tape
Paper	Baseball (or other weight)
Pencil	Measuring tape (or other measuring tool)

What You Do

1. Tell children that today they are going to engineer the solution to a challenge. They are going to create the tallest tower they can that will support the weight of a baseball. However, they can only use newspaper and masking tape to create their structure.
2. Have the children draw a plan of what they would like their tower to look like.
3. Have children build their towers. Measure their height.
4. Test their towers using the baseball.
5. Allow children the chance to improve their towers by making them more stable or increasing their height.

Questions to ask

- Did something inspire your tower design? What?

- What techniques have you tried to make your tower stronger or more stable? Did they all work?

- Engineers are always looking for ways to conserve supplies. Are there any nonessential parts to your tower?

What's The Science?

This activity is designed as a way to practice the Engineering Design Process, by having children **Ask** a question to solve a problem, **Imagine** solutions, **Plan** their solution, **Create** and test their solution and then **Improve** it.

There are many different types of problems that need to be solved, and many types of engineers working to solve these problems. In this challenge, the children were being structural engineers. Structural engineers design structures, such as buildings and bridges, and ensure that they can support the weight of the structure and everything in or on it, as well as withstand pressure from natural occurrences like wind.

Try This

Use science vocabulary: Use related science words such as engineering, structures, plan, and improve as you talk and play together. Children learn new vocabulary words when they hear grown-ups use them in context.

Extend the activity: Add an extra challenge or constraint. Here are some possibilities:

- Add a height requirement; 18 inches is a good starting point.
- It must withstand wind from a fan or a hairdryer.
- Limit the amount of each supply available.

Keep In Mind

Children are natural scientists; let them lead the way in their experimentation!
Encourage them to ask questions and make suggestions only when they are stuck/discouraged.

Additional Resources

Iggy Peck, Architect by Andrea Beaty
The Little Skyscraper by Scott Santoro

imagination STATION
pure science. pure fun.