

DIY Umbrella Challenge

Umbrellas were invented 4,000 years ago! While it is now a springtime essential for surprise rain showers, originally they were designed to shade people from the sun. Today, on World Creativity and Innovation Day, you'll design your own umbrella!

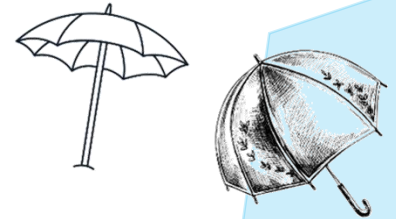
Materials:

Any building supplies you think you'll need like: Testing supplies like:

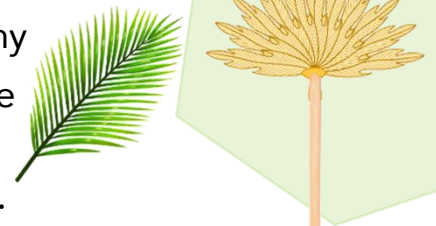
- Tape, glue, or sticky supplies
- Scissors
- Paper
- Small Plastic Toys
- Spray Bottle
- Tray

Procedure:

1. Sketch out a design for your umbrella. Will it fold? How will you store it? What shape will it be when it is open? What about when it is closed?
2. Build a prototype for your umbrella with household materials.
3. Test out the design by placing your small toys under the prototype and gently sprinkle water on them with the spray bottle. Did they stay dry or get wet?
4. Make another prototype and try it again! Will it keep out the sun? Is it fashionable? Make it a competition with siblings or friends!



What's happening? In Egypt, those that were wealthy simply used palm leaves or feathers to create a canopy shape to shade them from the sun. Later, in China, a waterproof version was invented by coating paper with wax and lacquer. Today, we have all kinds of umbrellas: bubble-shaped, compact, and automatic!



DID YOU KNOW?

A **materials scientist** is someone who studies structures and chemical properties of different materials to make new products or enhance existing ones! If you liked exploring this activity, maybe materials science is for you!

