



Activity Time:
45 - 60 mins.

The Challenge: Imagine you are a product designer and you must create a device that will safely hold an egg as it is dropped from a height.

Materials:

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|--------------------------------|---------------------|
| 1) Cardboard | 6) Dowels |
| 2) Cotton | 7) Straw |
| 3) Fabric | 8) Tape |
| 4) Foam | 9) Glue |
| 5) Packing peanuts/bubble wrap | 10) Tarp |
| | 11) An uncooked egg |

Directions:

1. Lead a discussion using the following prompting questions to have your child make connections to things he or she may already know about related to the challenge and to make predictions about what they think will happen.
 - If your challenge is to prevent an egg from breaking, let's think about what causes an egg to break. What are the different ways to break an egg? How and why do those methods break the shell?
 - How do people package or transport fragile items, such as eggs, in order to keep them from breaking?
2. Have your child brainstorm and sketch a design for their container. As they are working, ask them open-ended questions about their design.
 - How does your design work? Why did you decide to build your design that way?
 - What materials are you planning to use and why?
3. Work together to build their device. As they are working, ask them open-ended questions about their container.
 - Can you describe the different parts of your container and their purpose?
 - What things do you think will affect how your device works?

4. Once the device is ready, have them test their device with an egg inside.
5. Follow up the activity with a discussion using the following questions:
 - How could you improve your device?
 - How would you adapt your device for something that you would use in your life?
 - What other materials would have been helpful in your design?
6. If you have extra time, have your child redesign their container after testing. Emphasize learning from testing and using ideas from other products.