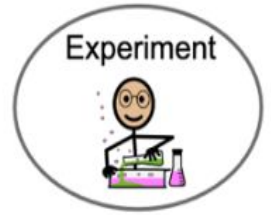




experiment



Egg Drop

NEED



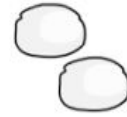
3 eggs (hard boiled)



small plastic container with lid



cotton balls



2 egg carton sections



duct tape



pint-sized empty milk carton (with top cut off)



hole punch



4 (8-in) pieces of yarn



small sticks



balloon (blow up)



What We Know:

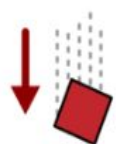


- Some birds build nests for their eggs.
- Eggs can crack when they fall to the ground.



Step 1: Ask a Question

- What kind of nest will protect an egg from a fall?





Step 2: Make a Guess / Hypothesis

I think...



A cotton nest will protect an egg.



An egg carton nest will protect an egg.



A balloon nest will protect an egg.



None of the nests will protect an egg.





Step 3: Do an Experiment

Make a cotton nest:

1. Put cotton balls on bottom of the plastic container. Put egg into the container.

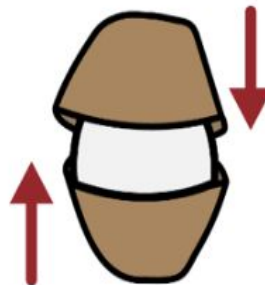


2. Put cotton balls around and on top of egg. Put lid onto container.

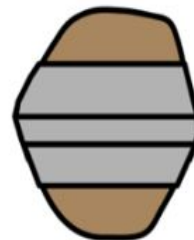


Make an egg carton nest:

3. Put egg into one egg carton section. Put the other egg carton section on top of the egg.

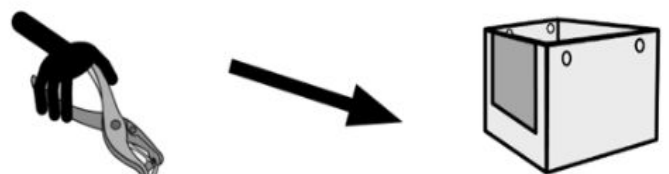


4. Put duct tape around the egg carton sections.



Make a balloon nest.

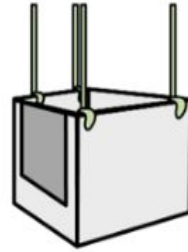
5. Punch 2 holes into one side of milk carton at the top. Punch 2 holes into opposite side of milk carton at the top.



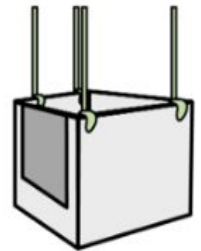


Step 3: Do an Experiment

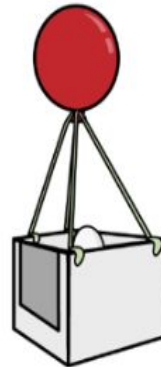
6. Tie one piece of yarn to each hole.



7. Put small sticks into milk carton. Put egg on top of sticks in milk carton.

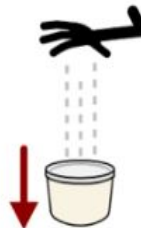


8. Tie all pieces of yarn to balloon.

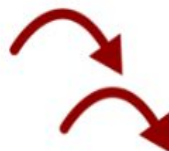


Test the nests:

9. Watch an adult drop the cotton nest. Observe the egg and record observations.



10. Repeat step 9 with the egg carton nest and the balloon nest.





Step 4: Organize Data

What happened to the egg?

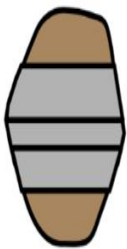


Cotton Nest

The egg cracked.



The egg did not crack.



Egg Carton Nest

The egg cracked.



The egg did not crack.



Balloon Nest

The egg cracked.



The egg did not crack.





Step 5: Find the Conclusion

Did the cotton nest protect the egg?



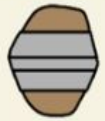
yes



no



Did the egg carton nest protect the egg?



yes



no



Did the balloon nest protect the egg?



yes



no



Were any of your guesses correct?



yes



no



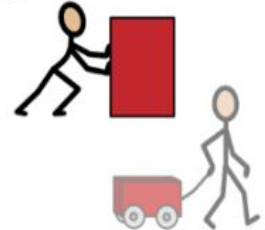


Step 5: Find the Conclusion

Explanation:

- A force is a push or a pull. Gravity is a special force that pulls objects together. Earth's gravity is what makes things fall when we drop them. In this experiment, we dropped 3 different nests. Gravity pulled the nests to the ground.

When an object hits the ground, the ground returns the force, or the push or the pull. It is this force that caused the eggs to crack in some of the nests we dropped.



A good nest will lessen the amount of force on the egg when the nest hits the ground. Force can be lessened by slowing down the fall of the nest or by using materials that absorb, or soak up, the force. In this experiment, we used cotton balls, egg carton pieces and sticks to try to absorb, or soak up, some of the force. In one nest, we used a balloon to try to slow down the fall of the last nest.

Extension:

- To extend this lesson, try using other materials and containers such as plastic cups, tape, plastic bags, paper, foam or towels to see if they protect an egg. Additionally, try using a plastic bag as a parachute to slow down the egg as it falls. Drop eggs from different heights and compare how the nests protect the eggs.

