ROSIE REVERE ENGINEER

Synopsis

Rosie may seem quiet during the day, but at night she's a brilliant inventor who dreams of becoming a great engineer. When her aunt Rose comes for a visit and mentions her one unfinished goal - to fly - Rosie sets to work building a flying machine. But when her contraption crashes, Rosie sees it as a failure. Aunt Rose however insists that Rosie's contraption was a raging success, saying that quitting is the true failure.

Lessons and objectives

When someone laughs at your creation, do not be discouraged or shy. If you try and fail, it's not a failure, it's just the beginning. You must try again until you succeed. You can only truly fail when you quit.

Materials Needed

- Plate
- Straw
- Duct Tape
- Balloons
- Scissors
- Felt Tip pens
- Cork pieces
- Craft sticks
- Cubes
- Rubberbands
- Clothes peg
- Clear glue
- Masking Tape
- Inventions sheet
- Pencil Crayons
- Pencils
- A4 paper
- Glue Stick

Discussion Questions

1. What does Rosie like to make at night?
2. Why does she keep it a secret?
3. What does Rosie make for her aunt Rose?
4. Why is Rosie discouraged?
5. What does Rosie's aunt Rose say to her?
6. Have you ever tried something that didn't work and quit?

Activities:

1. Vocab - Go fish
2. Balloon hover craft
3. Cork Launcher
4. Unique Inventions

BALLOON HOVERCRAFT

DAY 2

Lessons and objectives

Today the children will make a hovercraft. Explain that a hovercraft is an invention that hovers above the ground. We will make a balloon hovercraft -the air pressure from the balloon will cause an air pocket to form under the plate, allowing it to rise just slightly and move across the plate until the balloon runs out of air.

Materials Needed

- Plate
- Straw
- Duct Tape
- Balloons
- Scissors
- Felt Tip pens
- A4 paper
- Glue stick

Activity Instructions:

Cut a small hole in the center of your paper plate. Stick the thick straw through it.

Flip the plate upside down and move the straw so that the plate can lay flat on a table.

Cut off half of the straw sticking up from the plate.

Stick the balloon over the straw and tape with duct tape. Make sure no air can escape from the balloon through the hole in the top of the plate. Secure the whole thing to the plate with tape.

We will use duct tape so the children can decorate their hovercraft by drawing on blank paper and sticking it on top of the duct tape.

Blow up the balloon by blowing into the straw.

Pinch the end of the balloon to hold the air inside.

Flip the plate upside down so that the balloon is standing upright.

Hold it high above your head and let go so that the balloon can deflate and the plate can fly.

reference: https://lifeovercs.com/rosie-revere-engineer-storybook-stem-challenge-paper-plate-hovercraft/

CORK LAUNCHERS

Lessons and objectives

Today the children will practise their engineering skills to make cork launchers!

Materials Needed

- Cork pieces (1 per child)
- Craft sticks (6 per child)
- Cubes (3 per child)
- Rubberbands (2 per child)
- Clothes peg (1 per child)
- Bostick glue
- Masking Tape

Instructions

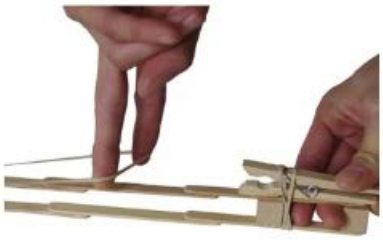
Glue three sticks together d**escending from right to left.** This is necessary because the rubber band will be released from right to left. If the edge of the craft stick is exposed, it may catch the rubber band and cause the shooter to not work properly. Do the same for the other 3 sticks making sure the the same length as the other 3.

Glue the cubes to the sticks. Placing 1 on one side and place the other 2 together on one end to support the trigger.

Glue the peg to the top of the sticks and secure with a rubber band

Tape the rubber band on to the front of the shooter.

To load: use two fingers to pull the rubber band back into the open trigger. Close the trigger, then let go of the rubber band. Insert the cork between the strands of the taut rubber band.



reference: https://www.instructables.com/Cork-Shooter/

DAY 4

UNIQUE INVENTIONS

Lessons and objectives

Today the children will be using their engineer minds to design their own invention.

Materials Needed

- Inventions sheet
- Pencil Crayons
- Pencils

Give each child the Invention worksheet.

Ask the children to think of a problem they have or a difficult task and design an invention for that. Encourage them to be as creative as possible - inventing something new, not something that exists already. They can do this by creating something that is totally unique or even by combining two inventions together.

Once everyone is done they can report back and take a vote on the best invention.