

ANNEDROIDS

EPISODE 106

EYES UP

Watch as we work together to help Eyes fly!

EXPERIMENT SUMMARY

In our first two experiments, we tried to make Eyes fly, using a rocket and a helicopter. We hypothesized that the wings of the rocket and the blades of the helicopter would help lift Eyes into the air, but both attempts failed. Anne is not discouraged by failure, so we tried again.

EXPERIMENT: Make Eyes fly.

HYPOTHESIS: If we have enough helium balloons attached to Eyes, he will be lighter than air and will be able to fly!

METHOD: Fill up as many helium balloons as possible and attach them to Eyes.

RESULT: Eyes became lighter than air and was able to fly high up in the sky!

CONCLUSION: Helium is a powerful gas that is lighter than air.

EXTENSION ACTIVITY

Make your own straw-and-paper plane!

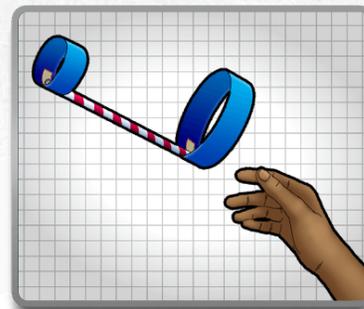
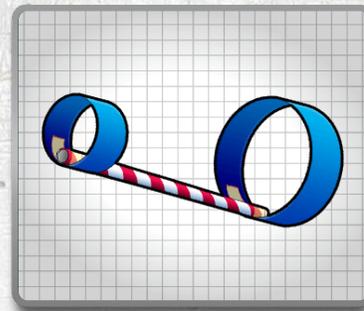
You will need:

1. Tape
2. Cardstock or firm paper
3. Scissors
4. A straw – if you want to make more than one plane, grab a few straws!

Once you've collected the materials, you are ready to create your straw-and-paper plane!

Follow these steps:

1. Cut 2 strips of paper that are about 1 inch wide (almost the width of two fingers together).
2. Take one strip and tape the ends together to make a loop. Make sure the ends overlap a little bit. Make another loop with the other strip.
3. Tape the paper loops to the ends of the straw (one loop on each end of the straw). The straw should be placed inside the loops.
4. Your plane is complete! Now, hold the straw in the middle, with the hoops on top, and throw it in the air.
5. Try experimenting by using different sized loops and see if the plane flies farther.
6. Record your observations.



SYNOPSIS FOR TEACHERS/PARENTS:

In this episode, Nick, Shania, Anne and the androids work together to help the android, Eyes, fly. They conduct multiple experiments by using rockets, wings, and blades, but are met with failure. Never discouraged for long, they finally decide to try attaching a bunch of helium-filled balloons to Eyes—and it works!

This episode teaches children how airplanes and helicopters work. It also introduces them to the elements of gases and how some gases can be heavier or lighter than air (specifically that helium is lighter than air, which is why they are able to make Eyes fly). Anne continues to highlight the components that make-up a scientific experiment (e.g. hypothesis, results, conclusion, trial-and-error approach).

CURRICULUM EXPECTATIONS:

GRADE 2 SCIENCE: UNDERSTANDING EARTH AND SPACE SYSTEMS – AIR AND WATER IN THE ENVIRONMENT

- 2.2 Investigate, through experimentation, the characteristics of air and its uses.
- 3.1 Identify air as a gaseous substance that surrounds us and whose movement we feel as wind.

GRADE 6 SCIENCE: UNDERSTANDING STRUCTURES AND MECHANISMS – FLIGHT

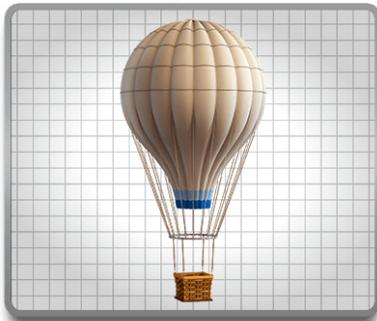
- 2.1 Follow established safety procedures for using tools and materials and operating flying devices
- 2.4 Use technological problem-solving skills to design, build, and test a flying device
- 3.1 Identify the properties of air that make flight possible
- 3.2 Identify common applications of the properties of air, such as its compressibility and insulating qualities
- 3.5 Describe ways in which flying devices or living things use unbalanced forces to control their flight
- 3.6 Describe ways in which the four forces of flight can be altered

MULTIPLE CHOICE



QUESTION #1: HOW DO PLANES FLY?

- A. Magic.
 - B. They go so fast that air goes over their wings and lifts them up.
 - C. Electricity has enough power to lift them up.
 - D. They have helium balloons stored inside.
-



QUESTION #2: WHICH OF THE FOLLOWING GASES IS LIGHTER THAN AIR?

- A. Oxygen.
 - B. Carbon dioxide.
 - C. Helium.
 - D. Sulphur hexi-fluoride.
-



QUESTION #3: WHAT IS A PROJECTOR?

- A. A machine that is able to produce images on a screen using rays of light.
 - B. A machine that helps airplanes fly.
 - C. A type of instrument that can display sound waves.
 - D. A machine that can build stuff.
-

THIS OR THAT!

QUESTION #1:

Which of the following is like an airplane?



QUESTION #2:

Voice modulators simulate the effect different gases have on your voice. Which of the following is a voice modulator?



QUESTION #3:

Which of the following contains helium inside?



TRUE OR FALSE

← Grownup—fold this part over before handing to a child!

QUESTION #1:

Curiosity is the foundation of science.



TRUE!

Without curiosity, many scientific discoveries would have never been made.

QUESTION #2:

Helium is a gas that is heavier than air.



FALSE!

Helium is a gas that is lighter than air.

QUESTION #3:

Humans need air to survive.

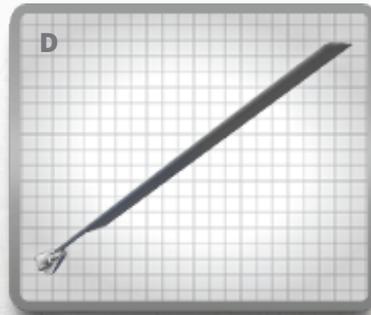
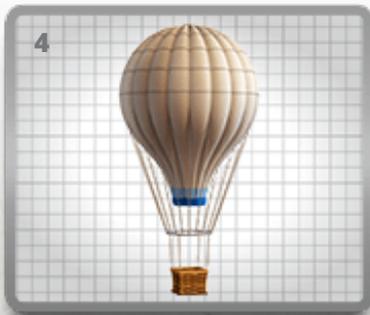
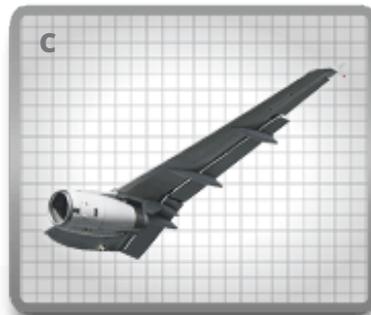
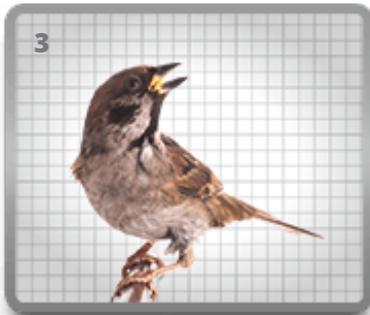
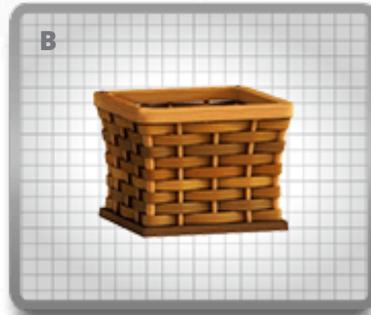
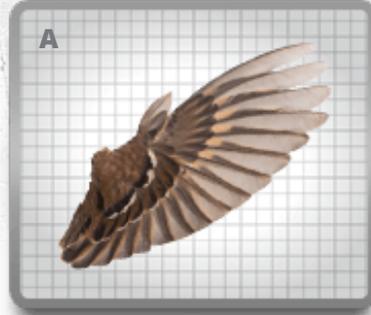


TRUE!

Air is all around us, we just cannot see it because it is invisible.

COLUMN MATCH

Match the following!



SEARCH AND FIND

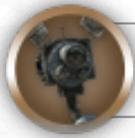
Can you find the following?



Balloons



Rocket



Eyes



Titan



Butterfly



Voice modulator