SCIENCE

Understanding structures and Mechanisms: Flight

Grade 6

NAME

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TIME

45 Minutes

OVERALL EXPECTATION

D1 Assess the environmental impacts of flying machines

D2 demonstrate an understanding of the ways in which properties of air can be applied to the principles of flight and flying machines

SPECIFIC EXPECTATION

D1.1 Assess the impacts on society of aviation technologies, while considering both local and global perspectives

D2.1 Identify flight-related applications of the properties of air

D2.2 Describe the relationships between the four forces of flight – lift, weight, thrust, and drag – that make flight possible

D2.4 Describe ways in which the four forces of flight can be altered

LEARNING GOALS

Students will:

- Identify benefits and uses of flying machines
- Identify the four forces of flight and the relationship between them
- Identify the significance of the 4 forces of flight
- Understand the relationships between the 4 forces of flight

MATERIALS

- Aluminum Foil
- Cardstock
- Printer paper
- tissue paper
- Electric fan
- Each student should have a device for the kahoot

INTRODUCTION/HOOK

Hook: Which plane will go the furthest?

The teacher will have 3 different paper airplanes and the class will vote which plane will go the furthest when thrown. The teacher will then throw the planes.

LEARNING ACTIVITIES

Activity 1: Power point
Teacher will present power-point presentation to teach information about flying machines, forces of flight, the relationship between forces of flight, and how we can change and effect the forces of flight (See power point presentation)

ADDITIONAL LEARNING ACTIVITIES

Activity 2: Paper Airplanes
Students will each get a piece of tissue paper, a piece of printer paper, and piece of aluminum foil, and a piece of cardstock.
They will use each piece of paper to construct a paper airplane (each student should have 4 planes)
The whole class will stand at one end of the classroom and we will throw our planes one material at a time (whole class will throw tissue paper, whole class will throw aluminum foil etc)
Between each flight, we will quickly discuss why we think the planes went as far as they did depending on the forces of flight
After all of the students have thrown their planes, have them choose their strongest plane. Then set up the fan at the opposite side of the room and have the students throw their planes into the fan. Discuss how the outcome changes from the last flight

WRAP-UP / CONSOLIDATION

Kahoot
https://create.kahoot.it/my-library/kahoots/55e5e3e9-c385-4122-8a7c-22bb8652f3f3

SUMMATIVE ASSESSMENT

Formative Assessment
While the students are throwing their planes, we will confirm understanding by asking the students questions.
Questions to be asked examples:
Why do we think the printer paper planes went further than the tissue paper planes?
Why do we think Student X's plane went the furthest?
How can we make the planes go even further

Summative Assessment
Pass/Fail - did student make and throw paper airplanes and participate in kahoot