

Propellers: Propeller Safety & Balancing

Lesson Overview

Media: Microsoft® PowerPoint® Presentation (26 slides)

Seat Time: 2 Classes | 100 minutes teaching

Goal:

To analyze safety tips when handling propellers and to understand how to balance propellers before flight.

Description:

This section analyzes safety procedures which should be applied when working with propellers. Students will learn the pros and cons of using prop guards and why they are an important aspect in safety. Also students will learn how to balance propellers and the reasoning behind balancing them.

Objectives:

1. To understand the safety which should be implemented when working with drone propellers.
2. To analyze propeller guards.
3. To understand how to balance propellers.

Lesson Plan

Class 1

Class Overview:

- *Propeller Safety & Balancing* Microsoft® PowerPoint® Presentation
- Action Plan
- Vocabulary Handout
- Key Concepts
- Comprehension Questions: Propeller Safety & Balancing Activity

Essential Questions:

1. Why do some individuals dislike prop guards?
2. Why are some prop guards important?
3. What are the ways an individual can balance a prop?

Step 1: Bell Ringer:



- Ask students why they think prop guards are used. Create a class discussion detailing their thoughts.

Step 2: Distribute the **Action Plan**, **Vocabulary Handout** and **Key Concepts**.



- The **Action Plan** lays out a list of tasks for students to complete during the lesson.
- The **Vocabulary Handout** is a list of terms used throughout the lesson.
- The **Key Concepts** is an outline which identifies the main ideas presented in the lesson which students can fill in to aid in note taking during the lesson.

Step 3: Show slides 1 to 13 of the **Propeller Safety & Balancing** PowerPoint® presentation.



- This portion of the presentation is 13 slides long.
- Be sure students utilize the **Key Concepts** for this unit of the lesson.

Step 4: Students should begin the **Comprehension Questions: Propeller Safety & Balancing Activity**.



- Students will answer the questions provided and then participate in a class discussion.

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Lesson Plan

Class 1 (continued)

Step 5: Exit Ticket:



- Students should provide an update on their activity.

Class 2

Class Overview:

- *Propeller Safety & Balancing* Microsoft® PowerPoint® Presentation
- Action Plan
- Key Concepts
- Comprehension Questions: Propeller Safety & Balancing Activity
- Propeller Safety & Balancing Check for Understanding

Essential Questions:

1. Why do some individuals dislike prop guards?
2. Why are some prop guards important?
3. What are the ways one can balance a prop?

Step 1: Bell Ringer:



- Ask students why they think it is important to balance a prop. Have them write down how an individual can adjust their blade if it is too heavy or light.

Step 2: Show slides 14 to 26 of the *Propeller Safety & Balancing* PowerPoint® presentation.



- This portion of the presentation is 13 slides long.
- Be sure students utilize the **Key Concepts** for this unit of the lesson.

Step 3: Students should complete the **Comprehension Questions: Propeller Safety & Balancing Activity**.



- Students will answer the questions provided and then participate in a class discussion.

Step 4: Administer the **Propeller Safety & Balancing Check for Understanding**.



- The Check for Understanding is a short review of the content presented in the unit.

Step 5: Exit Ticket:



- Ask students to imagine they are about to go fly a drone. Have them write down why they are flying the drone, such as racing, acrobatics or photography. They should then write down if they would use prop guard or not and why.

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Activity

Comprehension Questions

Students will answer the questions provided and then participate in a class discussion.

Accommodations:

Provide students more time.

Modifications:

Allow students to develop a list to answer the questions instead of requiring paragraphs.

Extension:

Have students conduct research to add content for five paragraphs instead of three.