



Introduction (5 minutes)

Welcome to our lesson on historic engines and devices! Today, we will be exploring levers and pulleys and how they are used to make things move.

This lesson aligns with the UK National Curriculum and is designed to develop your understanding of simple machines and their applications in everyday life.

Learning Objectives (5 minutes)

By the end of this lesson, you will be able to:

1. Understand the basic principles of levers and pulleys.
2. Learn about historic engines and devices that utilize levers and pulleys.
3. Develop problem-solving and critical thinking skills through hands-on activities.

Activity 1: Exploring Levers (15 minutes)

Look at the pictures of levers below. Can you identify the different parts of a lever?


 Lever Picture

1. What is the name of the part that pivots around a fixed point?

2. What is the name of the part that applies force to the lever?

Activity 2: Exploring Pulleys (15 minutes)

Look at the pictures of pulleys below. Can you identify the different parts of a pulley?

 Pulley Picture

1. What is the name of the part that has a grooved rim and a rope or cable wrapped around it?

2. What is the name of the part that changes the direction of force or motion?

Activity 3: Design a Simple Machine (20 minutes)

Design and draw a simple machine that uses a lever or pulley. Explain how it works and what it can be used for.

[Space for students to draw and write]

Activity 4: Historic Engine Research (20 minutes)

Research and create a short presentation about a historic engine or device that uses levers and pulleys. Present your findings to the class.

[Space for students to write and draw]

Conclusion (10 minutes)

In conclusion, this lesson has provided you with a comprehensive understanding of simple machines and their applications. Through hands-on activities and explorations, you have developed your critical thinking skills, creativity, and problem-solving abilities.

Remember, simple machines are all around us and are used to make our lives easier. Keep exploring and learning about the amazing world of historic engines and devices!

Assessment (10 minutes)

Can you:

1. Identify and name different types of simple machines, including levers and pulleys?

2. Explain the basic principles of how levers and pulleys work?

3. Design and build a simple machine using everyday materials?

Extension Activity (20 minutes)

Design and build a Rube Goldberg machine that uses levers and pulleys to complete a task.

[Space for students to draw and write]

Glossary (5 minutes)

Here are some key terms to remember:

1. Lever: A simple machine that consists of a rigid bar that pivots around a fixed point.
2. Pulley: A simple machine that consists of a wheel with a grooved rim and a rope or cable wrapped around it.
3. Simple machine: A device that makes work easier by changing the direction or amount of force needed to perform a task.

