⚗ Science in the Movies: Flubber (1997)

Grade Level: 4–8 | Topics: Chemistry · Material Science · Engineering Design · Innovation

Scene Focus

Clip: Professor Brainard accidentally discovers a bouncy, energy-storing green substance called 'Flubber.'
Timestamp: 00:27:00–00:31:00
Focus: Chemical reactions, energy transfer, and innovation through experimentation.

Before You Watch

1. What happens when we mix different substances together in a science experiment?
2. What do you think scientists do if they create something unexpected?
3. How can creativity and mistakes both lead to discovery?

> Prediction Time! What do you think Flubber might be made of? What properties do you expect it to have?

A. Science Connections

1. What kind of reaction does Professor Brainard create when Flubber forms — physical or chemical? Explain.

2. What properties does Flubber have that make it unique (e.g., elasticity, energy storage, density)?

3. Why is testing and observing materials important before using them in real life?

4. How is the scientific method used during Brainard's experiments?

B. Data & Analysis

1. If Flubber can bounce to 10 times its drop height, how high will it bounce if dropped from 0.5 meters? From 1.2 meters?

2. Brainard's experiment releases stored energy. Discuss how kinetic and potential energy are shown in the scene.

3. What safety steps should scientists take when handling unknown materials?

🌍 C. Real-World Connection

1. What are some real materials that behave like Flubber (e.g., polymers, rubber, slime)?

2. How do engineers test materials for strength, flexibility, or safety before use?

3. Research one example of a material that was discovered by accident (e.g., Teflon, Silly Putty, Post-it Notes).

💭 D. Reflection

• What does Flubber teach us about curiosity and persistence in science?

• Why are “failed” experiments sometimes the most valuable?

• Complete this sentence: 💡 “In science, mistakes can lead to…”

💡 Did You Know?

Flubber acts like a polymer — long chains of molecules that can stretch, store energy, and bounce back! This process is called polymerization, and it’s how real materials like rubber, glue, and plastic are made.

🧪 Extension (Optional)

Design your own 'Flubber Lab!' Draw or describe an experiment where you test different ingredients (safe household materials like glue, cornstarch, or baking soda) to create your own unique substance. Label your hypothesis, procedure, and results.