

# мтс study guide Doktor Kaboom

### **About the Show**

Science is an incredible field that allows us to understand the world around us better. By combining education with entertainment, shows like Doktor Kaboom's Look Out Science is Coming! can ignite a passion for science and encourage students to explore and appreciate the wonders of the natural world. This show is filled with fun



demonstrations that showcase scientific principles. Encouraging your students to raise their hands to volunteer and participate can make the experience even more interactive and enjoyable for them.

## Questions for the Bus on the Way Home

- Who is Doktor Kaboom, and what does he make science lessons feel like?
- What fun things does Doktor Kaboom do to teach us about science?
- How does Doktor Kaboom make us laugh and join in the science fun?
- Why is it funny when Doktor Kaboom pretends to be a scientist from Germany?
- How does watching Doktor Kaboom's show make us excited to learn more about science?



## **About the Artist**

Doktor Kaboom, also known as the real-life David Epley, is a brilliant comedian with a passion for science, and he's here to deliver a fantastic, kid-friendly show! Your students are in for a treat as they watch him transform into a zany scientist, using improvisational comedy to add an extra dose of excitement to the performance. Get ready for unexpected laughs and delightful surprises as Doktor Kaboom combines humor and science to create a fun and educational experience that will captivate and inspire kids of all ages.

#### ACTIVITY:

### "Simple Machine Scavenger Hunt"

This activity not only makes learning about simple machines enjoyable but also encourages children to be more observant of the world around them, fostering their curiosity and understanding of basic physics concepts. Have fun exploring the world of simple machines!

**Objective:** To identify and explore different types of simple machines in everyday objects.

**Materials needed:** "Simple Machines Scavenger Hunt Worksheet" (on next page) and pencils or crayons.

#### Instructions:

- Introduction: Begin by introducing the concept of simple machines to your students in a simple and playful manner. You can say something like, "Hey, young scientists and engineers! Did you know that simple machines are all around us, making our lives easier? Today, we are going to go on a scavenger hunt to find these magical machines!"
- 2. Introduction to Simple Machines: Show your students pictures or illustrations of different simple machines, such as a lever (see-saw), pulley (elevator), wheel and axle (bicycle wheel), inclined plane (ramp), screw (screwdriver), and wedge (doorstop). Explain briefly what each machine does and where they might find them in their surroundings.

- 3. Scavenger Hunt Instructions: Provide students with the "Simple Machines Scavenger Hunt Worksheet" (on the next page) where they can check off the simple machines they find. The goal is to identify as many simple machines as they can during the scavenger hunt. Take your class on a walk around the schoolyard, playground, or a nearby area, encouraging them to look for and point out different simple machines they encounter. They might find a seesaw (lever), a pulley on a flagpole, a bicycle wheel (wheel and axle), a ramp at the entrance, or a doorstop (wedge) in a building.
- 4. Observations and Discussion: After the scavenger hunt, gather your students together and discuss their findings. Ask them to share which simple machines they discovered and where they found them. Encourage them to describe how these machines make their lives easier.
- 5. Create Simple Machines Drawings: Back in the classroom or at home, have the children draw and color the simple machines they found during the scavenger hunt. They can also write a sentence or two about each machine's purpose.
- 6. Simple Machine Show and Tell: Let the children share their drawings and explain the simple machines they found with their classmates or family members. This helps reinforce their understanding and boosts their confidence. Can they present their information in a funny way just like Doktor Kaboom did?

## **Vocabulary Words**

To be a good scientist, you need to talk the talk. Listen during the show to hear if Doktor Kaboom uses these words as he performs his experiments:

- Chemical: a liquid, solid, or gas that can undergo a change.
- Chemical Reaction: when two different substances come together and at least one of them changes its composition.
- **Experiment:** a scientific test used to find out or prove something.
- Force: something—such as a push or pull—that changes an object's speed or direction.

- Fulcrum: the point where a lever turns or is supported when it is moving or lifting something.
- **Hypothesis:** a theory that a scientist tests to see if it's true.
- Lever: a bar that rests on a support (fulcrum) and uses one end to lift or move loads.
- Simple Machine: a device that makes work easier by allowing us to push or pull over increased distances.
- **Theory:** one or more scientific ideas that we use to explain something without actual proof.
- Personal Protective Equipment (PPE): items such as goggles, gloves, and lab coats scientists wear to protect their bodies.

# **Simple Machines Scavenger Hunt**

Your mission, should you choose to accept it, is to find as many simple machines as you can and check them off below.





## **Useful Resources:**

These resources should help teachers create an enjoyable and educational experience when teaching young children about simple machines. They provide a mix of hands-on activities, explanations, and engaging content to make the learning process exciting and memorable.

#### BOOKS

**"Simple Machines: Wheels, Levers, and Pulleys"** by David A. Adler. This book provides clear explanations and illustrations of different types of simple machines, making it easy for young readers to understand the concepts. It's a great introduction to the topic.

"How Do You Lift a Lion?" by Robert E. Wells. In a playful and engaging way, this book explores the science behind levers, pulleys, and other simple machines. It includes interactive questions and scenarios that encourage critical thinking. **"The Way Things Work Now"** by David Macaulay provides middle school students with clear explanations and detailed illustrations to explore the workings of machines, including simple machines like levers, pulleys, and wheels.

#### WEBSITES

**NeoK12:** Simple Machines: provides a series of short videos that explain different types of simple machines using clear visuals and examples. Visit the website below and search Simple Machines! www.neok12.com

**TeachEngineering** - Simple Machines: provides middle school students with a range of interactive lessons, activities, and resources to learn about and explore simple machines in an engaging manner. Visit the website below and search for Simple Machines! www.teachengineering.org

#### **TEACHERS, PLEASE SHARE WITH PARENTS**



At MTC we love our partner teachers so much that they receive **2 FREE TICKETS** to see any family show at the theater!

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# MTC presents Rosie Revere, Engineer & Friends APR 20, 2024 - 3pm

Join Rosie, Iggy, and Ada in a fun-filled musical inspired by Andrea Beaty's books. This STEM-focused show celebrates the wonders of science, technology, engineering, and math. Get ready to be inspired as these young thinkers showcase their dreams and problem-solving abilities. Embrace the joy of learning and the power of imagination in this engaging and uplifting production.













