

Power

5E Lesson

The 5E model is a scientifically proven method to improve student engagement and learning in your classroom

- ✓ Engagement
- ✓ Exploration
- ✓ Explanation
- ✓ Elaborate
- ✓ Evaluate



Complete Teacher Instructions

Power 5E Lesson

Grades 6-8	Power	Ongoing Lesson
Lesson Objective: Students will learn about: • Power • Work • Energy • Watts • Electrical Appliances • Power Generating Stations • Horsepower • Energy Efficiency		
Possible Student Misconceptions: • Work and labor are the same thing • Power is not related to time • An engine's horsepower is a static measurement • Force and work are equivalent		
Materials: • 1 device (smartphone, Chromebook, laptop, tablet, or computer) per 3 students • A means of projecting a PowerPoint presentation • Internet access • General classroom objects • 3 objects of differing weight • A scale for weighing objects above		
Teacher Notes: ➤ All videos can be accessed directly from the PowerPoint. To retrieve the icon while in slideshow mode and it will automatically open for you. If it doesn't, right-click on the image and click Edit Hyperlink or something similar. ➤ I've created a video walkthrough if needed. It can be accessed here - https://youtu.be/oCIKIP9SaDQ ➤ I don't believe in long lessons. If you feel your students are losing their focus, Stop the PowerPoint and give them a 5-minute break. If you'd like to see my recommended video collection here - http://www.teachwithfergy.com/science are tons of brain-break videos to choose from all grouped by category.		

Power – 5E Lesson

Engagement Phase Your students will watch the video 'Power' and complete the questions found in the file – Engagement – Power Video . Teacher Notes: - The video is about six minutes long, but you will stop at 2:42 - You may need to show the video more than once or pause when an answer is given to one of the questions.	Duration: 10 min Teacher Role: Facilitate learning and keep students focused
Exploration Phase Exploration – Lab Station Activity • In groups of 2-3, have your students complete Exploration – Lab Station Activity. Once they're done, they will submit their passport to you. Teacher Notes: • The complete instructions for my Lab Station activity can be found in the START HERE – Instructions file.	Duration: 30 min Teacher Role: Distribute and collect evaluation
Explanation Phase PowerPoint Lessons • The lesson is found in the folder – Explanation – Lesson • This lesson is designed to be completed over one day • There are multiple embedded videos and plenty of opportunity to engage, interact and check for your students' understanding throughout the lesson • The lesson covers the following topics: ➤ Power ○ The rate of doing work ○ Watts ○ Power Generation Stations ○ Check Your Understanding ➤ Horsepower Teacher Notes: • All videos can be accessed directly from the PowerPoint. To retrieve them, click on the video icon while in slideshow mode and it will automatically open for you. If they don't open, right-click the image and select Edit Hyperlink or something similar. • I've created a video walkthrough if needed. It can be accessed here - https://youtu.be/oCIKIP9SaDQ • I have also enclosed a .PDF version of both the teacher and student versions.	Duration: 1 hour Teacher Role – Facilitate learning and keep students focused

Elaborate Phase Elaborate – Scavenger Hunt Your students will complete – Elaborate – Scavenger Hunt . This activity will require your students to move beyond what was covered directly in the lesson and allow them to further develop their understanding. Teacher Notes: - Students will work individually or in small groups - Students will need one device per group	Duration: 1 hour Teacher Role – Facilitate learning and keep students focused
Evaluate Phase Quiz Have your students complete - Evaluate – Power Quiz Teacher Notes: ➤ It's sometimes best to have the students peer evaluate ➤ Placing students in small groups and having them exchange papers to mark will accomplish two things 1) Provide immediate feedback on the questions they just completed 2) Significantly reduce your marking time ➤ Peer evaluation is not needed, only suggested when appropriate	Duration: 30 min Teacher Role – Distribute and collect evaluation

Each phase is clearly described

A Complete Lesson

Watts

- Watts (W) and kilowatts (kW) are commonly used to indicate the power of electrical appliances
 - How much power they consume per second of operation



← Make sure your students are on track
Student copies with blanks

Watts

- Watts (W) and kilowatts (kW) are commonly used to indicate the power of electrical appliances

— _____



Interactive and Engaging Activities

Device-Based Scavenger Hunt Power

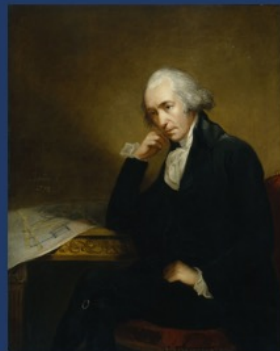


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Power Lab Station Activity



7 Lab Station Activities to get your kids out of their seats and engaged in their learning

Get away from tired practices and unengaged students



Provide a Scientifically-Proven means of instruction



Incorporate Technology and Increase Collaboration

