

## Q405: Saturday Science Session 1

**Lesson Topic:** What is energy?

**Grade level(s):** 1-2

**Instructor Names:**

Desired Results	
<b>Overarching Focus Question for the Session</b> ( <i>the phenomenon being explored across the 3-weeks</i> ) <ul style="list-style-type: none"><li>• How do we use energy in our everyday lives?</li></ul>	
<b>Central Focus/Topic for today:</b> Students will understand: <ul style="list-style-type: none"><li>• The concept of energy/what energy is</li><li>• Different activities/actions require different amounts of energy</li><li>• Ways they use energy in their daily lives</li></ul> Therefore, the guiding question for today's learning is: <ul style="list-style-type: none"><li>• What is energy?</li></ul>	<b>Relationship that this central focus has to the overarching big idea/question for the unit</b> <ul style="list-style-type: none"><li>• As students are exploring various types of energy and putting them into practice, students will begin to understand what energy is, what requires energy, and apply it to ways in which they use energy in their daily lives</li></ul>
<b>Student objectives (outcomes):</b> <i>(Remember, this is like the performance expectation statement in the NGSS, so you need to be incorporating Science Practice in this/these statement(s)).</i> Students will be able to: <ul style="list-style-type: none"><li>• Provide examples of activities that require energy</li><li>• Explain that there are different levels of energy and that different activities require various amounts of energy (example: sitting vs. running)</li><li>• Explain ways that they use energy in their lives</li></ul>	
Timeline of Activities for the Day	
<i>*Provide a breakdown of how long each activity will take, who will lead the segments of the activities, when breaks will occur or other transition points, etc.</i> <i>*Identify by <b>highlighting in blue</b> the portion of the lesson you team wants video-recorded each week. This should be ~45 mins</i> <ul style="list-style-type: none"><li>• 9:30-9:40→ Ice breaker</li><li>• 9:40-9:50→ Go outside and split into two groups (Group 1 Group 2:</li></ul>	

- 9:50-10:15→ Exploring Energy activity followed by discussion
- 10:15-10:25→ Whole group discussion about activity
- 10:25-10:40→ Read book “Energy” followed by discussion afterwards
- 10:40-11:10→ Bathroom and snack break
- 11:10-11:40→ Charades
- 11:40- 11:50→ Discussion about charades
- 11:50-12:00→ Wrap-up and exit slip

### Learning Plan (First three E’s of the 5E model)

*Any of these phases can be repeated should you have more than one activity to describe OR a complex activity with multiple iterations of some phases.*

#### ENGAGE

- **Ice Breaker Activity:** If you have been to Saturday Science before, what did you like about it? If this is your first time, what is your favorite topic about science? Why?

#### EXPLORE

- \*Going outside\* (10 minute transition from inside to outside and to split into groups)
  - **Exploring Energy activity and Discussion** in two different groups; **one group is led by** 20-25 minutes)
    - Students pair up and throw a ball back and forth → Discussion: Describe how you were throwing the ball. Was it fast or slow? What was your arm doing as you were throwing the ball?
    - Sitting→ Discussion: How do you feel when you are sitting? What else are you doing? (ex: breathing)
    - Walking→ Discussion: How do you feel now? How is this different from when you were sitting?
    - Running→ Discussion: How do you feel now? How is this different from when you were walking and sitting?
    - Jumping→ Discussion: How do you feel now? How is this different than when you were running, walking and sitting?
  - Come together as a whole group and talk about findings (5-10 minutes)

#### ENGAGE

- Read the book Energy: Heat, Light, and Fuel by Darlene Stille (10 minutes)-

#### EXPLAIN

- Mini-discussions about how different activities require different amounts of energy (ex: the difference between throwing, sitting, and running)

- Discuss what exactly energy is and come up with a class definition
- How do we use energy in our daily lives?
- Did all of these things use energy? How do you think energy was used?

**ELABORATING/EXTENDING Understanding**

- **Follow-up discussion:** How do we know that they all used energy?
- What does energy require? (ex: movement)

**EXPLORE**

- **Play charades** using action words that explore different kinds of energy (running, brushing teeth, sleeping, walking, etc.)-
  - Each student will have one action word that they will act out to the class
  - It is the goal that students will be able to guess the action that is being done
  - If time allows, every student will have a chance to go

**EXPLAIN**

- **Discussion:** What did you notice about all of the words that were acted out during charades? Did they have something in common?
- If they guess energy without probing→ do all of these things make you feel the same way after? Why or why not? Which ones do you think would use the most energy? Which would use the least amount of energy?

**ELABORATING/EXTENDING Understanding**

- End goal is to have a discussion about the different levels of energy that were being used, but to understand that they were all using energy
  - Does sitting and running make you feel the same? Are different levels of energy being used? How so?

**Assessment Evidence (\*This is the Evaluation Phase of the 5E approach)**

**Performance Task(s):**

- **Exit slip--** What uses more energy, throwing a ball or running? Why do you think that?

**Other Evidence:**

- **Student responses--** Is there a connection between what they are participating in (running, walking, jumping, throwing a ball) and how they require energy? In the charades portion, do the students understand that all of them require energy?·

**Materials + Quantity:**

- “Energy” book
- 24 Prepared cards with action words
- 24 pieces of paper-
- 12 soft balls for throwing and catching activity

**Required Accommodations/Modifications:**

- Outdoor activities are weather permitting, so if for some reason going outside is not a possibility we will use the atrium of the education building to conduct the above activities.

**Additional Modifications for Individual Students:**

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**Action Words for Charades:**

1. Throwing
2. Kicking
3. Swimming
4. Jumping
5. Sitting
6. Walking
7. Drinking
8. Eating
9. Brushing teeth
10. Brushing hair
11. Washing hands
12. Writing
13. Talking
14. Reading
15. Dancing
16. Clapping
17. Swinging a bat
18. Sleeping
19. Skipping
20. Spinning
21. Climbing
22. Typing
23. Waving
24. Playing a video game

