

**Main Ideas, Key Points, Questions:**

*After watching the video segment, write down key points, main ideas, and big questions.*

**Objective(s):**

- *Define electric potential and electric potential energy - know how they are different.*
- *Understand how voltage in a circuit depends on electric fields.*

**Notes:**

*During the video segment, use words, phrases, or drawings to take notes.*

**Summary:**

*After watching the video segment, write at least three sentences explaining what you learned. You may ask yourself: "If I was going to explain this to someone else, what would I say?"*

**Answer the following.**

1. How is electric potential defined, and what is another name for it? Circle the correct answer:

- a. Electric potential energy, momentum
- b. Force acting on a charge, Coulomb
- c. Potential energy per charge, Voltage
- d. Force per unit charge, kinetic energy
- e. Force times electric field, force field

2. What is the difference between electric potential energy and gravitational potential energy? Name one example of an object having one type of potential energy but not the other.

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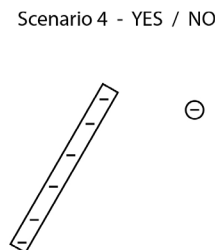
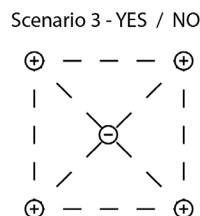
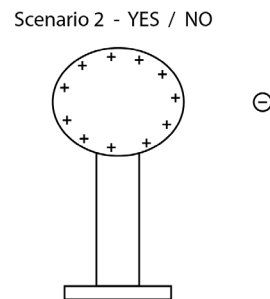
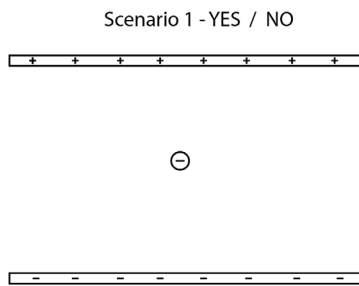
3. What is the difference between electric potential energy and electric potential?

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4. For the following scenarios, circle YES or NO to indicate whether the negative charge has electric potential energy.



**Answer the following.**

5. When an object has potential energy, what does that mean?

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6. In the following statement, circle INCREASES or DECREASES to indicate how quantities change:

“When work is done on a positive test charge to move it from one location to another, electric potential energy (INCREASES / DECREASES) and electric potential (INCREASES / DECREASES).”

7. Why is electric potential a useful concept? Give your answer in terms of the electric field created by a source charge.

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