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Unit 5D

Electric Potential Energy and Electric Potential

Note-Taking Guide

Name:

Date:

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, and understand 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?"

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Questions to Consider

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Date:

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? List an object that has one type of potential energy but not the other.**

   _____

   _____

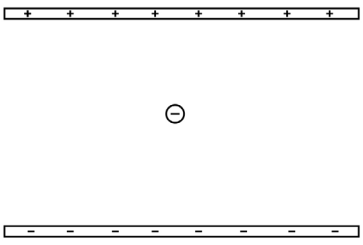
3. **What is the difference between electric potential energy and electric potential?**

   _____

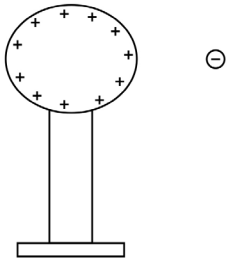
   _____

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

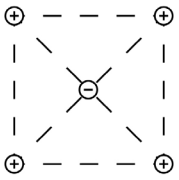
Scenario 1 - YES / NO



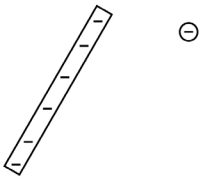
Scenario 2 - YES / NO



Scenario 3 - YES / NO



Scenario 4 - YES / NO



questions continued on next page

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Questions to Consider

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Answer the following.

5. **Explain what it means when an object has potential energy.**

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.**