PHYSICS IN MOTION
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Unit 1D
Vectors & Scalars
Note-Taking Guide and Questions to Consider TEACHER

Main Ideas, Key Points, Questions:

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

Objective(s):

- *Differentiate between vector and scalar quantities, and understand the properties of each type.*
- *Use vector and scalar quantities properly in calculations.*

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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Answer the following.

1. **What is the only component of scalar quantities?**

Scalar quantities consist only of a magnitude, which describes how much, how far, etc.

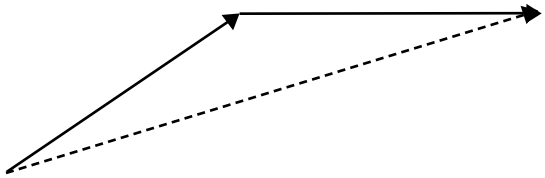
2. **Give three examples of scalar quantities.**

speed, mass, time, distance, area, volume, etc.

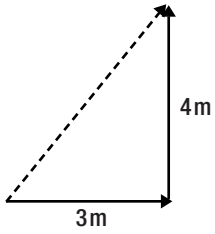
3. **What are the two components of vector quantities?**

Vector quantities consist of both a magnitude and a direction.

4. **Draw the resultant vector when the two vectors below are added together.**



5. **Find the numerical value of the resultant vector in the diagram below.**



$a^2 + b^2 = c^2$
$(3\ m)^2 + (4\ m)^2 = c^2$
$9\ m^2 + 16\ m^2 = c^2$
$25\ m^2 = c^2$
$c = 5\ m$

6. **Does the order in which the vectors are added together affect the value of the resultant vector? Explain.**

No. Regardless of the order in which the vectors are added together, the total value in each direction will be the same when applied toward the value of the resultant.

7. **Give three examples of vector quantities.**

velocity, acceleration, force, etc.