Note-Taking Guide and Questions to Consider Date:   Main Ideas, Key Points, Questions: Objective(s):   After watching the video segment, write down key points, main ideas, and big questions. • Graphically and mathematically determine the relative velocity between two objects moving in the same direction, in opposite directions, and at right angles to one another.   Notes: During the video segment, use words, phrases, or drawings to take notes.	PHYSICS Unit INMOTION Rela	t 2F ative Velocity	Name:
	pb.org/physics-motion Note   Main Ideas, Key Points, Questions. Attent watching the video segment, write down key points, main ideas, and big questions.	•Taking Guide and Questions to Consider    Objective(s):   • Graphically and mathematically determine the relative two objects moving in the same direction, in opposite or right angles to one another.   • Notes:   • Notes:   • During the video segment, use we drawings to take notes.	Date: velocity between firections, and at vords, phrases, or

Summary:

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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?"



## Unit 2F Relative Velocity

Note-Taking Guide and Questions to Consider Date:

## Answer the following.

1. In your own words, define frame of reference.

- 2. What does the term relative velocity mean?
- 3. Draw a vector diagram of a person walking on a moving sidewalk in the same direction of motion as the sidewalk.

4. A moving sidewalk at the airport moves about 1 m/s relative to the ground around it. If you walk at a speed of 2 m/s relative to the sidewalk, how fast are you moving relative to the ground?

5. Draw a vector diagram of a person walking up a descending escalator.





**Relative Velocity** 

Unit 2F

Note-Taking Guide and Questions to Consider Date:

## Answer the following.

6. A descending escalator moves at nearly 1 m/s down the incline relative to the ground, and a person walks up the escalator at 2 m/s relative to the escalator. How fast does the person move relative to the ground?

7. Draw a vector diagram of a plane flying at a speed of 800 km/h north relative to the air that is moving at 100 km/h west relative to the ground.

8. Calculate the relative velocity of the plane to the ground from the previous question.

9. What mathematical operation did you use to determine the relative velocity of an object that is moving perpendicularly to a second object?

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