

Middle School Physics: Adrift Adrift Activity Worksheet – Answer Key

Step #1: Learn the Tools Understanding Ocean Currents and CODAR

List the forces you think would have an effect on a drifting boat:

Students may mention several factors, but be sure that the forces of surface currents, wind and tides are included. Other factors could include the size and shape of the ship, and unexpected or unpredictable events such as storms.

Do you think it would be easy to determine the eventual motion of a drifting boat using all the forces you have listed so far? Why or why not?

Through the activity of group brainstorming of different forces affecting the drift of a boat, students will hopefully gain an appreciation that it can be difficult to predict how it might drift on the ocean.

Step #2: Analyze Data Practice Analyzing CODAR Images

The velocity of the vector on the map is: ***~0.43 km/hr***

The distance between the starting point of the vector and the point on land is: ***~28.5 kilometers***

The amount of time it will take the wave to reach shore is: ***~66 hours***

Step #3: Practice Calculations Adding Vectors

The distance the boat traveled on Day 1: ***~27.8 kilometers***

The distance the boat traveled on Day 2: ***~18.5 kilometers***

The distance the boat traveled on Day 3: ***~24 kilometers***