

AUGUST 13, 2014

3 Which of these equations best shows the reactants and products of cellular respiration?

- A carbon dioxide + water \rightarrow sugar + oxygen
- B water + oxygen \rightarrow sugar + carbon dioxide
- C sugar + oxygen \rightarrow carbon dioxide + water
- D sugar + carbon dioxide \rightarrow oxygen + water

You must explain why your answer is correct.

Please write the page number in your book that supports your explanation.

Use the index of your book to help you.

REVIEW!

COMPLETE ON YOUR WHITE BOARD.

A ball traveled 35 meters at a speed of 5 meters per second.

$$\text{Time} = \frac{\text{Distance}}{\text{speed}}$$
$$t = \frac{d}{s}$$

How long did it take the ball to travel the 35 meters?

- F** 7 seconds
- G** 30 seconds
- H** 40 seconds
- J** 175 seconds

SPEED PROBLEMS

<http://sciencespot.net/Media/speedmach.pdf>

I will hand this back to you. Use a calculator to make corrections.

We will then go over together.

SCIENCE

CHAPTER 13

DAY 3

DISTINGUISH BETWEEN SPEED AND VELOCITY.

IDENTIFY AND EXPLAIN HOW NEWTON'S LAWS OF MOTION RELATE TO THE MOVEMENT OF OBJECTS.

WHAT YOU WILL LEARN

What acceleration is

What velocity is

WHAT MASTERY LOOKS LIKE...

A car is traveling forward at an initial velocity of 10 meters per second. The car then accelerates forward at a rate of $\frac{1}{2}$ meter per second² for 20 seconds.

$$V_f = V_i + at$$

Velocity(final) = velocity(initial) + acceleration × time

What is the final velocity of the car?

- F** 10 meters per second
- G** 20 meters per second
- H** 25 meters per second
- J** 30 meters per second

FROM YESTERDAY...

On your white board: Put the definition of speed in your own words.

The definition I taught you...

Speed is the distance traveled divided by the time needed to travel that distance.

VELOCITY

Velocity is the speed of something in a given direction.

VELOCITY INCLUDES DIRECTION!!!



ACCELERATION

Acceleration is the change in velocity divided by the amount of time required for the change to occur.

Since velocity includes speed and direction, so does acceleration.

If an object changes its speed, direction, or both, it is accelerating.

<http://science360.gov/obj/video/844d3b8f-5fe2-4907-928c-70f83023bd5c/science-nfl-football-kinematics>

When an object speeds up OR slows down, it is accelerating.

TURNING: When an object turns or changes direction, its velocity changes. This means that any object that changes direction is accelerating.

<http://www.brainpop.com/science/motionsforcesandtime/acceleration/>

FINAL VELOCITY FORMULA

Q: A car is at velocity of 20 km/h. If the car traveled 120 km in 3 hours at constant acceleration, what is its final velocity?

$V_f =$

$V_i = 20 \text{ km/h}$

$A = 40 \text{ km}$

$t = 1 \text{ h}$

The diagram shows the formula $V_f = V_i + (a \times t)$ in red. Blue leader lines connect the variables to their labels: V_f to 'final velocity', V_i to 'initial velocity', a to 'acceleration', and t to 'time'.

$$V_f = V_i + (a \times t)$$

final velocity initial velocity

acceleration

time

NOW, YOU TRY!

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SOMETHING TO THINK ABOUT...

<http://www.sciencechannel.com/tv-shows/head-rush/videos/head-rush-terminal-velocity.htm>