Name: _____ Date: _____

PHYSICS
Visual Interpretations of Velocity & Acceleration

Part 1. Velocity and Acceleration. Each diagram shows the same car at different positions while it is in motion. All six cars are moving from right to left, and start from zero (0 sec). Identify if the car is moving at a constant velocity, speeding up, or slowing down.

Car #1 _____ Car #4 _____

Car #2 _____ Car #5 _____

Car #3 _____ Car #6 _____

CAR #1



CAR #2



CAR #3



CAR #4



CAR #5



CAR #6



LIVEWORKSHEETS

2. Force, acceleration and direction. Identify the direction of the force and acceleration acting upon the moving object. The answer will be a geographic direction (North, South, East, or West). If the object is not being accelerated, choose Constant Velocity.

Moving east, getting faster	
Moving west, getting slower	
Moving north, getting slower	
Moving north, getting faster	
Not moving. 0 m/s	
Moving east, + 10 m/s to +5 m/s	
Moving south, -25 m/s to -25 m/s	
Moving south, -25 m/s to -30 m/s	
Moving west, -15 m/s to -5 m/s	
Moving north, 12 m/s to 12 m/s	

Part 3: Motion Diagrams. Match the motion diagrams with the written descriptions (#1 to #12). Type the number of the description on the line next correct diagram.

How to read motion diagrams

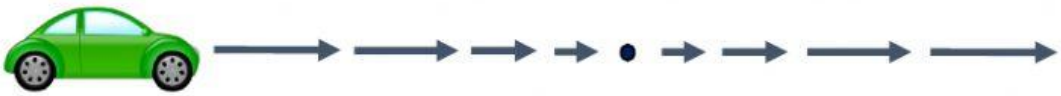
- Short arrows are slow velocities.
- Long arrows are fast velocities.
- Dot is motionless
- Arrows of equal length are constant velocities
- Arrows of changing length are changing velocities
- To the right is (+) velocity, North or East
- To the left is (-) velocity, South or West

LIVEWORKSHEETS

	Descriptions
#1	A car is motionless. It does not move.
#2	The car moves at a constant slow velocity to the west or to the south.
#3	The car moves at a constant fast velocity to the east or to the north.
#4	Starting from motionless, the car had a constant acceleration to the east or to the north. It got faster with time.
#5	Starting from motionless, the car had a constant acceleration to the west or to the south. It got faster with time.
#6	Car moved at a constant fast velocity to the east or to the north. It slowed with constant acceleration to a stop. It remained stopped for a period.
#7	Car was motionless for a period. The car then got faster with constant acceleration. It moved at constant fast velocity to the east or to the north.
#8	Car was moving to the east or to the north. It slowed with constant acceleration to a stop. It immediately changed direction. It got faster with constant acceleration to the west or to the south.
#9	Car was moving to the east or north, getting slower with time. It was stopped for an instant. It then moved to the east or to the north, getting faster with time.
#10	Starting from a stop, the car accelerated by getting faster to the east or to the north. It reached its maximum velocity, then the car accelerated by getting slower to the east or to the north, eventually coming to a stop.
#11	Car moved at constant slow velocity to the east or to the north for a period of time. It accelerated by getting faster. It then moved at constant fast velocity to the east or to the north for a period of time.
#12	A ball was thrown to the east. It hit a wall, and bounced off the wall to the west. The ball rolled to a stop after the bounce.

LIVEWORKSHEETS

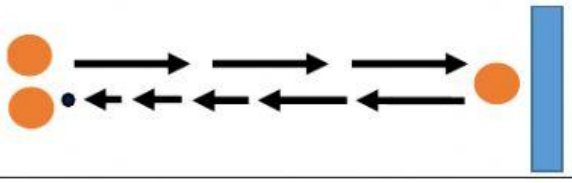


















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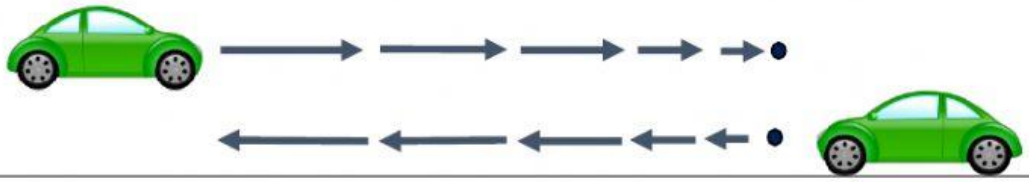

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