Acceleration Due to Gravity Concepts

We use the phrase "acceleration due to gravity" because gravity is a _____ acceleration. (_____ was the first person to realize and prove this.) This means that the velocity of an object changes _____ . We use the symbol ____ to represent this constant rate and it has a value of about _____ m/s^2.

When you drop things, they [speed up / slow down / fall with a constant speed] and they [change directions / always go in the same direction]. This is because gravity [pulls down / pushes up / has no effect] on the object while it falls.

When you toss something up in the air, it seems like two things are happening. First, while the object is going up, the object [speeds up / slows down / moves with a constant speed] because gravity [pulls down / pushes up / has no effect] on the object. Then, while the object is coming back down, it [speeds up / slows down / moves with a constant speed] because gravity [pulls down / pushes up / has no effect] on the object. At its maximum height, the object has a velocity of _____ m/s and gravity is [still pulling the object down / pushing the object up / not affecting the object]. When an object is tossed up in the air, the whole time in the air is actually a [changing acceleration / constant acceleration].

"Dropping" Objects only go down.	**"Tossing"** Objects go up and then down.
Keep everything positive (+)	Positive (+) = going up Negative (−) = going down
• gravity = +10 m/s^2 • objects always speed up • all numbers are positive	• gravity = −10 m/s^2 • initial velocity is + • v = 0 m/s at maximum height • + velocities when object going up • − velocities when object coming down • objects slow down, then speed up • time up = time down (when initial height and final height are the same)