**Motion**



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**Unit Description**

In this unit, you will be describing motion using calculations, storytelling, and graphing. Some quantities of motion we'll be looking at include displacement, velocity, acceleration, and time. We will be using these quantities with appropriate reference frames and directionality to describe motion.

**Learning objectives**

1. Understand the difference and give examples of vectors and scalars
2. Understand and apply the vectors with signs relative to the origin and a directional frame of reference
3. Understand and apply the concept of uniform motion in calculating displacement covered from average velocity
4. Provide situations for positive, zero, and negative acceleration
5. Understand and apply the concept of uniform acceleration in calculating velocity (average, final, and initial)
6. Interpret and draw conclusions from position-time, velocity-time, and acceleration-time graphs

**Assessment**

1. Homework/Hand-ins (class handouts, reflections, activities, and presentations - feedback and completion marks) - 25%
2. Labs - 15%
3. Quizzes - 20%
4. Unit Test - 40%

**Useful Links**

Relay Race video *"A close look at 4x100 relay mens final Sydney 2000"*:

https://www.youtube.com/watch?v=nt38AsO7eXQ

Knowza's Youtube videos on Motion:

https://www.youtube.com/channel/UCNkVBE3C9PU9zR0vo\_k6YtA

Veritasium's Youtube videos on interesting Science phenomena:

https://www.youtube.com/channel/UCHnyfMqiRRG1u-2MsSQLbXA

Motion game:

http://theuniverseandmore2.blogspot.ca/

PHeT simulations: The moving man:

http://phet.colorado.edu/en/simulation/moving-man

Khan Academy: Motion:

https://www.khanacademy.org/science/physics/one-dimensional-motion