**Objectives Unit 3 – Motion**

**Chap 11.1 “Measuring Motion”**

* Why is it important to have a **Frame of Reference** or a **Reference Point** when determining the motion of an object?
* What is the difference between **Distance** and **Displacement**?
* What is the difference between **Speed** and **Velocity** and how do you calculate it?

$$v= \frac{d}{t}$$

* How can you determine velocity from a d vs t graph?

**Chap 11.2 “Acceleration”**

* What is **Acceleration** and how do you calculate it?

$a= \frac{∆v}{t}$ or $a=\frac{v\_{f}- v\_{i}}{t}$

* Why does a change in direction mean there is acceleration?
* How can you determine the acceleration of an object from a v vs t graph?

**Chap 11.3 “Motion and Force”**

* What is a **Force** and what does it have to do with mass and acceleration?



* What are the **Fundamental Forces of Nature**?
	+ **Gravity**
	+ **Electromagnetic**
	+ **Strong Nuclear Force**
	+ **Weak Nuclear Force**
* What is the difference between **Contact Forces** and **Field Forces**?
* What is **Net Force**?
* What can you determine about the motion of an object by knowing the Net Force acting on it?
* What is **Friction** and what are the different types?
	+ **Static Friction**
	+ **Kinetic Friction**
		- **Sliding Friction**
		- **Rolling Friction**
* What causes friction and what can be done to reduce it?