

## Physics 112

Friday, October 16/15

<http://mvhs-sherrard.weebly.com/>

---

### PROGRESS REPORTS

1. **Explain That Stuff #4 - Due Today**
  2. Freely Falling Bodies - Continue
  3. **Worksheet - Freely Falling Bodies - HW**
  4. Topics - Assignment: U1- S2+S3 (Earliest -> Tuesday Next Week)
-

## Text - Page 132

**Table 4.3** Free-Fall Accelerations Due to Gravity on Earth

Location	Acceleration due to gravity (m/s <sup>2</sup> )	Altitude (m)	Distance from Earth's centre (km)
North Pole	9.8322	0 (sea level)	6357
equator	9.7805	0 (sea level)	6378
Mt. Everest (peak)	9.7647	8850	6387
Mariana Ocean Trench* (bottom)	9.8331	11 034 (below sea level)	6367
International Space Station*	9.0795	250 000	6628

\*These values are calculated.

## Text - Page 133

**Table 4.4** Free-Fall Accelerations Due to Gravity in the Solar System

Location	Acceleration due to gravity (m/s <sup>2</sup> )
Earth	9.81
Moon	1.64
Mars	3.72
Jupiter	25.9

-9.80 m/s<sup>2</sup>

Ignoring air resistance (air friction), objects in free fall (rising or falling through air) have an acceleration of:

$$\vec{a} = -9.80 \text{ m/s}^2 \text{ (Earth)}$$

<http://safeshare.tv/w/HseCPCrwwr>



Objects in free fall or freely falling bodies are always accelerating - even when they may have zero velocity for an instant.

## Worksheet - Objects in Free Fall



**Topics - Assignment: U1- S2+S3**

1. types of motion - uniform motion and uniformly accelerated motion
  - definitions and examples
2. use the relationship between the directions of velocity and acceleration to determine the motion of an object
3. position-time graphs - interpret graphs
  - identify type of motion
  - slope = velocity
  - determine if/when an object changes direction
4. velocity-time graphs - interpret graphs
  - identify type of motion
  - slope = acceleration
  - area -> distance and displacement
  - be able to calculate average speed, average velocity and average acceleration
  - identify if/when an object changes direction
5. word problems - follow checklist to obtain full value
  - uniform motion - 1 formula
  - uniformly accelerated motion - 4 formulas
  - quadratic formula
6. acceleration due to gravity - influenced by mass of planet and distance from planet
  - symbol ->  $\vec{g}$
  - on Earth  $\vec{g} = -9.80 \text{ m/s}^2$
  - assume no air resistance when working with freely falling bodies
  - interpret ball toss graphs



## Physics 122

<http://mvhs-sherrard.weebly.com/>

Friday, October 16/15


---

### PROGRESS REPORTS

1. **Explain That Stuff #4 - Due Today**
  2. Return -> Lab - Experiment 10.2 - Torques
  3. Check -> Worksheet - Static Torque #1
  4. **Worksheet - Static Torque #2 - HW**
  5. Next Assignment - Torque and Relative Velocity
-

Science 10

Friday, October 16/15

 <http://mvhs.nbed.nb.ca/>

---

## PROGRESS REPORTS

1. Return Completed Assignments - Balance Reactions
  2. Check -> Worksheet - Combustion Reactions
  3. [Worksheet - Types of Reactions - HW](#)
  4. Video - Fireworks
-

## Attachments

---

P112 - C3 Motion Problems- Freefall.doc