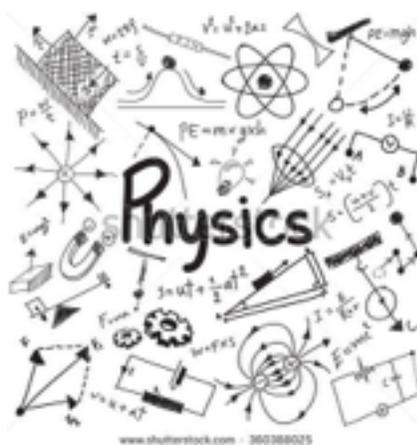


Physics

essential understanding:



Everything we call real is made of things that cannot be regarded as real.

Niels Bohr

Overview: You will observe and analyze all aspects of motion. Motion can be observed on the microscopic scale while looking at atomic movement and interactions. It can also be observed on the macroscopic level when your body moves or you see a car on the freeway. What “things” can you observe and calculate about both examples? What laws can you derive to govern both scales?

guiding question 1: How do you begin building a rocket? ([Weeks 1-3](#))

All daily work should be completed by the end of class.

Lesson:

_____Mechanics

group work: To be presented at the end of week 3**DATE:Nov14-18**

Motion Lesson

A type of motion will be chosen to your group and each group will need to become the “expert” on the topic by creating a lesson explaining this type of motion to the entire classroom

Each lesson must include

15-20 minute presentation explaining the type of motion including necessary vocabulary

An interactive activity

Example word problems demonstrated to the class

Create an assignment for the to do as classwork that will ensure each person understands the concept and can do the problems

Topics:

- Energy
- Circular Motion
- Center of Gravity/Universal Gravitation
- Rotational Mechanics

individual work:

___ Lab write up of group laboratory experiment: see handout “how to write a notebook laboratory write up”

___ Complete all Review Problems at end of chapter that are for your topic (pg)

___ Example problem sets created by each group

___ Review Problem Set

assessment:***DATE:Nov 28-Dec 2***

Quiz: Mechanics (week 3)

handwritten, no notes

guiding question 2: What laws do we see in SPACE? (weeks 4-6)**Lessons:**

___ Where do you see Physics in SPACE?

group work: To be presented at the end of the week 6 DATE:Jan 9-13

Lesson

A type of motion will be chosen to your group and each group will need to become the “expert” on the topic by creating a lesson explaining this type of motion to the entire classroom

Each lesson must include

15-20 minute presentation explaining the type of motion including necessary vocabulary

An interactive activity

Example word problems demonstrated to the class

Create an assignment for the to do as classwork that will ensure each person understands the concept and can do the problems

Topics: Chose 1:

-Gravitational Interactions

-Satellite Motion

-Special Relativity-Space and Time

-Special Relativity- Length, Momentum, and Energy

individual work:

___ Lab write up of group laboratory experiment: see handout “how to write a notebook laboratory write up”

___ Complete all Review Problems at end of chapter that are for your topic (pg)

___ Example problem sets created by each group

___ Review Problem Set

assessment: Week 7-8 Jan 16-20

DATE _____ Project: Build a contraption (week 7)

DATE _____ Exam: Space Motion (week 8)

readings:

Conceptual Physics pages

Conceptual Physics Laboratory Manual handouts

links

The Physics Classroom

<http://www.physicsclassroom.com/>