Name _____ JMJ Date _____
Period _____ Physical Science

Trimester 2 Review

Chapter 1

- What is needed to fully describe your position? REFERENCE POINT, DIRECTION, & DISTANCE
- Explain reference direction. THE POSITIVE DIMENSION…. RICARDO AND JOE'S FROM HW SHEET
- What is the difference between distance and displacement? (remember what are the 2 question with displacement)
  - DISTANCE IS THE LENGTH OF THE PATH
  - DISPLACEMENT IS THE SHORTEST ROUTE
- Compare and contrast the different types of speed.
  - INSTANTANEOUS: PARTICULAR INSTANT IN TIME
  - CONSTANT: SAME DISTANCE EVERY SECOND
  - AVERAGE: TOTAL DISTANCE OVER TOTAL TIME
- What is the unit of speed? What is the equation to find average speed? METERS/ SECOND…….S=D/T
- How do you find the average speed of an object on a distance-time graph? FIRST POINT AND LAST POINT
- What is velocity? SPEED IN A CERTAIN DIRECTION
- What is acceleration? What are the three ways an object can accelerate? CHANGE IN VELOCITY OVER A PERIOD OF TIME….. SPEEDING UP, SLOWING DOWN, CHANGING DIRECTION
- What is the formula for acceleration? A=VF-VI/T
- Mark is riding his bicycle uphill. At 5s, his speed is 25m/s. But 5 s later, his speed is 15 m/s. What is the acceleration? -2 M/S/S
- Make sure you can distinguish the difference between distance-time and speed-time graphs. JUST D-T GRAPHS

Chapter 2

- List 3 contact and 3 noncontact forces.
  - CONTACT: FRICTION, AIR RESISTANCE, FOOTBALL TACKLE
  - NONCONTACT: GRAVITY, MAGNETIC, ELECTRIC
- What is the difference between weight and mass? WEIGHT CHANGES, MASS DOES NOT CHANGE
- Explain gravity and the law of universal gravitation. WEIGHT EXERTED ON AN OBJECT… DISTANCE AND MASS
- Give an example for each type of friction.
  - STATIC: NOT MOVING- PUSHING A BUILDING
  - SLIDING: MOVING- PUSHING A DRESSER AND IT MOVING
  - FLUID: SKYDIVING
- Explain Newton's Laws of Motion. Give an example of each.
  - FIRST: CAR CRASH
  - SECOND: PUSHING AN EMPTY DESK VERSUS ONE WITH SOMEONE IN IT
  - THIRD: A BAT HITTING A BALL
- Describe balance and unbalanced forces.
  - BALANCED: DOES NOT CHANGE THE MOTION OF THE OBJECT
  - UNBALANCE: MAKES AN OBJECT ACCELERATE
- Why does the coffee in the cup go flying forward when the driver suddenly stops? INERTIA
- More inertia= more _____ MASS
- What is the formula for Newton's second law? F=MA
- What keeps an object moving in circular motion? CENTRIPETAL FORCE
- What is momentum? What is the formula? MOMENTUM IS HOW HARD IT IS TO STOP A MOVING OBJECT…DO NOT NEED TO KNOW FORMULA
- What has more momentum: a slow moving skateboard or a fast moving truck?
- Explain the two different types of collisions.
  - ELASTIC: TWO BASKETBALL HITTING AGAINST EACH OTHER
  - INELASTIC: CARTOON RUNNING INTO A WALL

Chapter 3

- List the 6 types of simple machines and give three examples of each one.
  - INCLINED PLANE: LADDER, STAIRS, WINDSHIELD
  - SCREW: JAR LID, LIGHTBULB, NUT AND BOLT
  - WEDGE: AXE, DOORSTOP, BOW OF A BOAT
  - PULLEY: FLAGPOLE, CRANE, CLOTHESLINE
  - LEVER: DOOR, CAN TAB, FISHING ROB
  - WHEEL AND AXLE: DOORKNOB, STEERING WHEEL, ROLLERSKATES
- Define the three types of levers and give an example of each.
  - FIRST: SEESAW
  - SECOND: PAPERCUTTER
  - THIRD: BASEBALL BAT
- Explain the difference between the three classes of levers (**F**irst= fulcrum, sec**o**nd= output, th**i**rd= input)
- What is the mechanical advantage of each type of lever?
  - FIRST: EQUAL TO 1

    - SECOND: GREATER THAN1
    - THIRD: LESS THAN 1
- What is the MA of a pulley? A screwdriver?
    - PULLEY: COUNT THE SECTIONS OF ROPE EXCLUDING THE ONE YOU PULL DOWN ON
    - SCREWDRIVER: GREATER THAN ONE
- What are the three ways that a simple machine can make work easier?
    - CHANGE THE SIZE OF THE FORCE
    - CHANGE THE DISTANCE THE FORCE ACTS ON
    - CHANGE THE DIRECTION OF THE FORCE
- Output work never exceeds input work because >>> SOME INPUT WORK IS CONVERTED INTO THERMAL ENERGY BECAUSE OF FRICTION
- What is IMA? THE MECHANICAL ADVANTAGE WHEN FRICTION DOES NOT EXIST. MACHINES CANNOT OPERATE AT THIS
- What is work? FORCE APPLIED OVER A DISTANCE What is power? WORK AT A RATE IN TIME

YOU DO NOT NEED TO KNOW THESE!

- What are they measured in?
- What are the formulas for each?
- If the object is moving, it has what type of energy?
- If the object is getting lifted, it has what type of energy?

Balancing equations

1) _____Au_2S_3 + __3___ H_2 → __2___ Au + __3___H_2S

2) __3___$Hg(OH)_2$ + ___2__H_3PO_4 → _____$Hg_3(PO_4)_2$ + __6___H_2O

3) _____SiO_2 + ___4__HF → _____SiF_4 + __2___H_2O

4) __12___$HClO_4$ + _____P_4O_{10} → __4___H_3PO_4 + ___6__Cl_2O_7

5) ___2__As + __6___NaOH → __2___Na_3AsO_3 + __3___H_2

Formulas:

Speed= distance/ time

*** Don't forget Distance-time graphs***

** first points & last points**

Force= mass x acceleration

Acceleration= V_f-V_i / time