

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

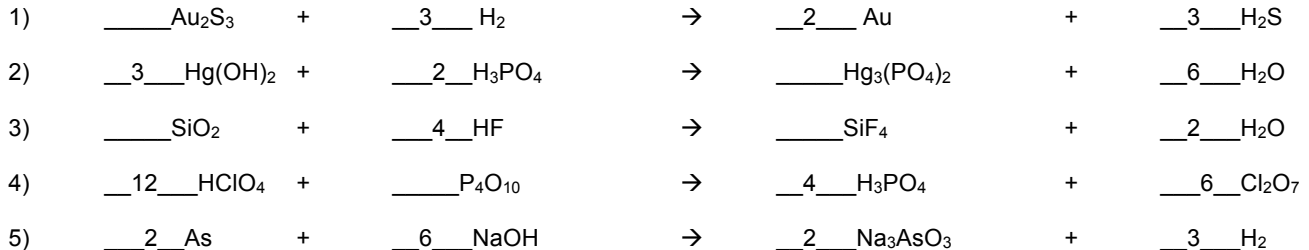
- List the 6 types of simple machines and give three examples of each one.
 - INCLINED PLANE: LADDER, STAIRS, WINDSHIELD
 - SCREW: JAR LID, LIGHTBULB, NUT AND BOLT
 - WEDGE: AXE, DOORSTOP, BOW OF A BOAT
 - PULLEY: FLAGPOLE, CRANE, CLOTHESLINE
 - LEVER: DOOR, CAN TAB, FISHING ROB
 - WHEEL AND AXLE: DOORKNOB, STEERING WHEEL, ROLLERSKATES
- Define the three types of levers and give an example of each.
 - FIRST: SEESAW
 - SECOND: PAPER CUTTER
 - 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 THAN 1
- 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



Formulas:

Speed= distance/ time

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

*** first points & last points ***

Force= mass x acceleration

Acceleration= $V_f - V_i / \text{time}$