Year 8 : Forces

Forces recap (from Year 7)	
1. What are forces?	Forces are pushes and pulls
2. What is the unit for force	Newton (N)
3. Name the force which pulls objects towards the centre of the Earth	Gravity
4. Name the force which pushes a car forwards	Driving force
5. Name the force that occurs when 2 objects are rubbed together	Friction
6. Name the force which slows down an object when it is travelling through air	Air resistance
7. What will happen to the stationary box? ◁ 4N ▢ 4N ▷	It will stay where it is
8. What will happen to the stationary box? ↑ 2N ▢ ↓ 4N	It will move down
9. What will happen to the moving box? ◁ 2N ▢ 4N ▷	It will accelerate to the right
10. What happens to a stationary object when the forces are balanced?	It stays still
11. What happens to a stationary object when the forces are unbalanced?	It starts to move or change shape
12. What happens to a moving object when the forces are balanced?	It carries on moving at the same speed and in the same direction
13. What happens to a moving object when the forces are unbalanced?	It changes speed, stops moving or changes direction
14. What do we call the overall force acting on an object?	Resultant force

Weight, mass and gravity	
1. State the units for mass	**Kilograms (kg)**
2. State the units for weight	**Newtons (N)**
3. State the units for gravity	Newtons /kilogram (N/kg)
4. What is mass?	**Amount of material (stuff) on object has**
5. Weight is the ……….. on an object due to gravity	force
6. How can weight be measured?	**With a Newton meter**
7. How does the gravitational field strength change as the mass of an object increases?	Gets bigger
8. What is the equation to calculate weight?	**Weight = mass x gravity**
9. If a boy has a mass of 50kg, what is his weight? (g= 10 N/Kg) (4 marks)	**Weight = mass x gravity (1mark)** **= 50 x 10 (1 mark)** **= 500 N (1 mark for 500, 1 mark for N)**
Pressure	
1. What is the equation to calculate pressure?	Pressure = force ÷ area
2. The weight of an animal is 500N. The total area of its feet is $2m^2$. Calculate the pressure the animal exerts on the floor.	Pressure = force ÷ area (1mark) = 500 ÷ 2 (1 mark) = 250 N/m^2 (1 mark for 250, 1 mark for N/m^2)
Work	
1. When is work done?	**When a force moves an object**
2. State the unit for work	**J (Joule)**
3. What is the equation to calculate the work done?	**Work done = Force x distance**
4. An object is lifted 10m by a force of 45N. How much work is done to lift the object? (4 marks)	**Work = force x distance (1)** **= 45 x 10 (1)** **= 450 J (1 for 450, 1 for J)**