AQA Chapter 10 Checklist 2017
(Triple)

Can you…?	☺	😐	☹
Chapter 10: Force and motion			
Describe how the acceleration of an object depends on the size of the resultant force acting upon it.			
Describe the effect that the mass of an object has on its acceleration.			
Describe how to calculate the resultant force on an object from its acceleration and its mass.			
State what the inertia of an object means.			
Describe the difference between mass and weight.			
Describe and explain the motion of a falling object acted on only by gravity.			
State what terminal velocity means.			
State what can be said about the resultant force acting on an object that is falling at terminal velocity.			
Describe the forces that oppose the driving force of a vehicle.			
State what the stopping distance of a vehicle depends on.			
State what can cause the stopping distance of a vehicle to increase.			
Describe how to estimate the braking force of a vehicle.			
Calculate momentum.			
State the unit of momentum.			
Describe what momentum means in a closed system.			
Describe what happens when two objects push each other apart.			
Explain how momentum can be described as having direction as well as size.			
Explain why two objects that push each other apart always move away at different speeds.			
Explain what happens to the momentum of two objects when they collide.			
Explain what affects the force of impact when two vehicles collide.			
Describe how the impact force depends on the impact time.			
Explain what can be said about the impact forces and the total momentum when two vehicles collide.			
Explain why the impact force depends on the impact time.			
Describe how cycle helmets and cushioned surfaces reduce impact forces.			
Explain why seat belts and air bags reduce the force on people in car accidents.			
Explain how side impact bars and crumple zones work.			
Explain how we can work out if a car in a collision was speeding.			
State what elastic means.			
Describe how to measure the extension of an object when it is stretched.			
Describe how the extension of a spring changes with the force applied to it.			

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State what the limit of proportionality of a spring means.			
Chapter 10: Equations I need to know.			
resultant force (*F*) = mass (*m*) x acceleration (*a*) (N) (kg) (m/s^2) **weight (*W*) = mass (*m*) x gravitational field strength (*g*)** (N) (kg) (N/kg) **momentum (*M*) = mass (*m*) x velocity (*v*)** (kg m/s) (kg) (m/s) **force applied (*F*) = spring constant (k) x extension (*e*)** (N) (N/m) (m)			
Chapter 10: Equations I am given and need to use.			
None! Lucky you!			
Chapter 10: Key words I need to know			
Braking distance: *the distance travelled by a vehicle during the time it takes for its brakes to act.*			
Conservation of momentum: *in a closed system, the total momentum before an event is equal to the total momentum after the event. Momentum is conserved in any collision or explosion, provided no external forces act on the objects that collide or explode.*			
Directly proportional: *a graph will show this if the line of best fit is a straight line through the origin.*			
Elastic: *a material is elastic if it is able to regain its shape after it has been squashed or stretched.*			
Gravitational field strength: *the force of gravity on an object of mass 1kg (in newtons per kilogram, N/kg). It is also the acceleration of free fall.*			
Hooke's Law: *the extension of a spring is directly proportional to the force applied, as long as its limit of proportionality is not exceeded.*			
Inertia: *the tendency of an object to stay at rest or to continue in uniform motion.*			
Limit of proportionality: *the limit for Hooke's law applied to the extension of a stretched spring.*			
Mass: *the quantity of matter in an object – a measure of the difficulty of*			

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changing the motion of an object (in kilograms, kg).			
Momentum: *this equals mass (kg) x velocity (m/s).*			
Newton's Second Law of motion: *the acceleration of an object is proportional to the resultant force on the object, and inversely proportional to the mass of the object.*			
Stopping distance: *the distance travelled by the vehicle in the time it takes for the driver to think and brake.*			
Terminal velocity: *the velocity reached by an object when the drag force on it is equal and opposite to the force making it move.*			
Thinking distance: *the distance travelled by the vehicle in the time it takes the driver to react.*			
Weight: the force of gravity on an object (in newtons, N).			