

NAME _____

A Level Physics: Summer Task 2017

Q1	There are four fundamental forces in Physics, which force would have the greatest effect on two electrons in a vacuum?	A Strong	The correct answer is...
		B Weak	
		C Electrostatic	
		D Gravitation	
Q2	Fundamental particles cannot be split into smaller constituents. Which of the following is considered to be a fundamental particle?	A Muon	The correct answer is...
		B Proton	
		C Neutron	
		D Kaon	
Q3	Unstable nuclei may decay, releasing radiation. Which of the following decay mechanisms will cause the number of neutrons in a nucleus to increase?	A Beta minus	The correct answer is...
		B Alpha	
		C Beta plus	
		D Gamma	
Q4	Which of these waves cannot be polarised?	A Ultrasound	The correct answer is...
		B Infrared	
		C Seismic "S" waves	
		D Ultraviolet	
Q5	Physicists sometimes calculate the charge per unit mass of a charged particle. They use the equation: $\text{Charge per unit mass} = \frac{\text{Charge}}{\text{Mass}}$ What will be the units of the charge per unit mass?	A CKg	The correct answer is...
		B V/m	
		C CKg ⁻¹	
		D KgA	
Q6	Which of the following quarks might be found in a proton?	A Strange	The correct answer is...
		B Top	
		C Up	
		D Charm	
Q7	Which of the following will produce a coherent source of light?	A Candles	The correct answer is...
		B L.E.Ds	
		C LASERs	
		D The Sun	
Q8	Which of the following is a definition of stress?	A Summer homework	The correct answer is...
		B Length / Change in length	
		C Force / Area	
		D Force / Extension	
Q9	Which of the following answers is most likely to be the approximate mass of air in your bedroom?	A 1000 kg	The correct answer is...
		B 0.1 kg	
		C 20 kg	
		D 1x10 ⁻⁸ kg	
Q10	Which of the following will reduce in resistance as it increases in temperature?	A Iron	The correct answer is...
		B Titanium doped Ferric Oxide	
		C Barium Titanate	
		D Aluminium	

Research essay (Handwritten on one side of A4): **Read around the development of our modern understanding of the atom. Describe what you think were the most significant experiments from the past two hundred years and explain how you feel they have shaped our understanding of the atomic model and of the nature of subatomic particles.**