Queen Elizabeth's Girls' School
Founded in 1888
Educating Women of the Future

Physics Key Stage 4 Curriculum 2022/23

	Topic/Big Question	Focus
Year 10	**Energy: Radiation transfers energy**	**Radioactivity** (Triple Content) Students will learn about nuclear fission, nuclear fusion and nuclear issues.
	Energy: Electricity transfers energy	**Electric circuits** Students will learn about electrical charges and fields, current and charge, potential difference and resistance, component characteristics, series circuits and parallel circuits.
	Energy: Electricity transfers energy	**Electricity in the home** Students will learn about alternating currents, cables and plugs, electrical power and potential differences, electrical currents and energy transfer, appliances and efficiency.
	Matter: Structure determines properties	**Molecules and matter** Students will learn about density, states of matter, changes of state, internal energy, specific latent heat and the effects of temperature and volume on gas pressure.
	Forces: Forces predict motion	**Motion** Students will learn about speed and distance time graphs, velocity and acceleration, velocity-time graphs and analysing motion graphs.
	Forces: Forces predict motion	**Forces in Balance** Students will learn about vectors and scalars, forces between objects, resultant forces, moments at work, more about levers and gears, centre of mass, moments and equilibrium, the parallelogram of forces and resolution of forces.
	Forces: Forces predict motion	**Force and Motion** Students will learn about force and acceleration, weight and terminal velocity, forces and braking, momentum, using conservation of momentum, impact forces and forces and elasticity.
	Forces: Forces predict motion	**Forces and Pressure** Students will learn about pressure and surfaces, pressure in a liquid at rest, atmospheric pressure, upthrust and flotation.

	Topic/Big Question	Focus
Year 11	**Forces: Forces predict motion**	**Force and Motion** Students will learn about force and acceleration, weight and terminal velocity, forces and braking, momentum, using conservation of momentum, impact forces and forces and elasticity
	Forces: Forces predict motion	**Forces and Pressure** Students will learn about pressure and surfaces, pressure in a liquid at rest, atmospheric pressure, upthrust and flotation.
	Energy: Radiation transfers energy	**Wave properties** Students will learn about the nature of waves, the properties of waves, reflection and refraction, sound waves, the use of ultrasounds and seismic waves.
	Energy: Radiation transfers energy	**Electromagnetic waves** Students will learn about the electromagnetic spectrum, lights, infrared, microwaves and radio waves, communications, ultraviolet waves, x-rays and gamma rays and X-rays in medicine.
	Energy: Radiation transfers energy	**Light** Students will learn about the reflection of light, refraction of light, light and colour, lenses and using lenses.
	Energy: Radiation transfers energy	**Electromagnetism** Students will learn about magnetic fields, magnetic fields of electric currents, electromagnets in devices, the motor effect, the generator effect, the alternating current generator and transformers.
	Forces: Fields produce forces	**Space** Students will learn about the formation of the Solar System, the life history of a star, planets, satellites and orbits, the expanding universe and the beginning and future of the universe.