Bellerive FCJ Catholic College
KS3 Scheme of Learning 2014 updated 2020 JY

KS3 Unit Overview – Big Picture

Subject/Year group/Unit Title	**Big picture questions**	**Pupils will focus particularly on the following statements from the programme of study:**
Year 7 **Physics** **Energy** 1. Energy stores 2. Transfer of energy 3. Energy in food 4. Calculating energy transfer 5. Conservation of energy 6. Applications of conservation of energy 7. Efficiency 8. Non-renewable energy resources 9. Renewable energy resources 10. Comparing fuels 11. Generating electrcity	What is energy? How do we measure energy? How do we use energy? How do we generate energy?	PEnCa1: comparing energy values of different foods (from labels) (kJ) PEnCa3: comparing amounts of energy transferred (J, kJ, kW hour) PEnCa5: fuels and energy resources PEnCh3: other processes that involve energy transfer: changing motion, dropping an object, completing an electrical circuit, stretching a spring, metabolism of food, burning fuels. PEnSy1: energy as a quantity that can be quantified and calculated; the total energy has the same value before and after a change PEnSy2: comparing the starting with the final conditions of a system and describing increases and decreases in the amounts of energy associated with movements, temperatures, changes in positions in a field, in elastic distortions and in chemical compositions

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Assessment tasks	**As FCJ educators, we will focus on the FCJ values by:**	**We will ensure students skills in reading, writing, communication and mathematics are enhanced by:**
End of Unit Test Essential homework 1 – energy stores and transfers Essential homework 2 – energy resources Essential practical – energy in food Essential practical – calculating energy transfer	Excellence – set highest possible standards for all learners Companionship – teamwork when completing practical investigations, respect during class discussions Dignity – class discussions and Q&A, ensuring everyone is listened to and their views heard Justice - Hope – highlight progress in science and innovation to inspire learners Gentleness – classroom management in a firm but fair and gentle manner	Mathematics – lots of numeracy is using equations. Graph skills. Writing – write-up of practical investigations. Possible project work on renewable energy sources. Reading – comprehension activities. Reading from books etc. Communication – Q&A, possible presentations on renewable energy.
We are supporting progression from KS2 in this unit by:	**We are supporting progression to KS4 in this unit by:**	**Misconceptions and how they will be addressed**
Pupils have met the topic of electricity at KS2 which is a way of us transferring energy	Links to GCSE equations for power, work done and possible link to specific heat capacity with energy in foods. Renewable sources, generating electricity and conservation of energy are all met in GCSE AQA course.	Difference between stores and transfers of energy – separate the lessons into one for stores and one for transfers and use flow diagrams to represent them. Additional reading for teachers: https://spark.iop.org/collections/shifting-energy-between-stores-physics-narrative