



Department: Science: Physics – Energy Transfer, Forces and Waves
Year Group: Eight

Working toward	Working at	Working above
- Identifies sources of energy like the Sun and batteries. - Recognizes that energy can move from one place to another. - Understands that some energy is lost as heat. - Identifies pushes and pulls as forces. - Recognizes that forces can change the shape or motion of objects. - Understands that gravity pulls objects down. - Recognizes that sound and light travel in waves. - Identifies sources of sound and light. - Understands that waves can be reflected.	- Describes energy transfers in systems using diagrams. - Explains conduction, convection, and radiation. - Understands efficiency and energy conservation. - Describes different types of forces (e.g. friction, gravity, air resistance). - Explains balanced and unbalanced forces. - Understands how forces affect motion. - Describes properties of waves (e.g. amplitude, wavelength, frequency). - Explains reflection and refraction. - Understands differences between transverse and longitudinal waves.	- Calculates energy efficiency using formulas. - Evaluates methods to reduce energy loss. - Can explain how levers work and calculate moments. - Calculates force, mass, and acceleration using Newton's laws. - Evaluates the effects of multiple forces on an object. - Analyses force diagrams and motion graphs. - Explain in depth why we see different colours - Explain why objects have different colours when using filters - Evaluates similarities and differences between the eye and the camera