Forces	Space	Working Scientifically	DT
Forces • explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • identify the effects of air resistance, water resistance and friction, that act between moving surfaces • recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. **Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears Push, pull, stretch, compress, newton, balanced, unbalanced, accelerate, decelerate, mass, up thrust, pivot**	**Earth and Space** • describe the movement of the Earth, and other planets, relative to the Sun in the solar system • describe the movement of the Moon relative to the Earth • describe the Sun, Earth and Moon as approximately spherical bodies • use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. **Earth, Sun, Moon, (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune) spherical, solar system, rotates, star, orbit, planets, universe, day, month, year, axis, lunar, light source, shadow, phase (of the moon)**	**Year 5** With help, recognise which type of enquiry is best to answer a question Decide what observations and measurements to make (controlling variables with help) Make accurate observations and measurements using simple equipment Record data and observations systematically (including tables and scientific diagrams) Present the results in a range of formats (including line graphs and frequency charts) Draw reasonable conclusions from my data and observations considering the reliability of the results Suggest how to extend my work by making the results more reliable or considering further questions **Year 6** I can describe my own and others' scientific ideas I can evaluate my own and others' scientific ideas using	**Knowledge: Materials, Textiles and Construction** • Know how to use craft knife, cutting mat and safety ruler • Know the purpose and how to use more technical tools such as bradawl and hand drills. • Understand the different properties of materials/textiles and how they can be combined to achieve a desired effect. **Skills Progression** **Design** • Investigate products/images to collect ideas • Sketch and model alternative ideas • Develop one idea in depth • Combine modelling and drawing to refine ideas • Record ideas using annotated diagrams • Use drawings to help formulate design ideas • Make prototypes • Use sound information to inform decisions • Draw plans which can be read/followed by someone else • Give a report using correct technical vocabulary **Make**

		evidence from a range of sources I can ask questions about the scientific phenomena I am studying and select the most appropriate enquiry type (e.g. observation over time, noticing patterns, grouping and classifying, fair/ comparative testing and research using secondary resources) I can recognise and control variables where necessary I can use a range of scientific equipment to take accurate and precise measurements I can decide when to take repeat readings I can record data and results using scientific diagrams and labels, classification keys, tables and scatter graphs I can explain and evaluate my methods, communicating these in a variety of ways I can explain and evaluate my findings, communicating these in a variety of ways	• Cut accurately and safely using scissors or craft knife. • Measure, mark and cut accurately to 1mm • Build support frameworks • Use a glue gun with close supervision • Pin, tack and join fabric using an over stitch, back stitch or blanket stitch (if appropriate to chosen fabric for kite design). **Evaluate** • Use the design criteria to inform their decisions about ways to proceed • Justify their decisions about materials and methods of construction • Reflect on their work using design criteria stating how well the design fits the needs of the user • Identify what does and does not work in the product. • Make suggestions as how their design could be improved

		I can raise further questions that could be investigated based on my data and observations **hypothesis, prediction, plan, fair, identify, comparative, fair, accurate, precise, variables, observations, record, repeat, quantitative measures, evaluation, diagrams, classification keys, present, charts and graphs, patterns, conclusions, questions, raise questions, investigate, research, explain, relationships, evidence , confirm, refute, validity, reliability**	