
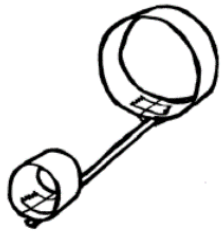
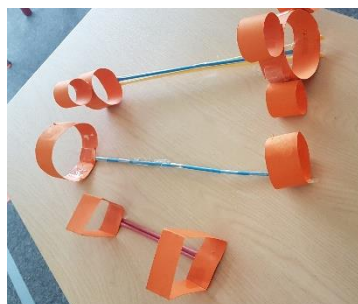


Topic: Forces	Primary 7 Age 10-11	Activity title: O-wing
Scientific skills focus Carry out: Manages identified control variables to ensure validity of results		Curriculum link By investigating how friction, including air resistance, affects motion, I can suggest ways to improve efficiency in moving objects. SCN 2-07a
Assessment focus <ul style="list-style-type: none"> • Can children identify what is changed (independent variable), measured (dependent variable) and kept the same (control variables)? • Can children pay attention to the control variables during testing? 		
<p>Activity <i>Today we are aerospace engineers</i> Make and fly an o-wing: small loop (wing) at front, larger loop at back, straw between (fuselage). Give children some time to make their own and explore how it flies. Pause to discuss variables e.g. wing size, fuselage size. Identify how to measure if changing one (independent variable) of these would make a difference (dependent variable) e.g. flight time or distance. Small groups to choose 1 change (indep), 1 measure (dep) and list variables which they need to keep the same (control). A planning board could help with this. Observe groups as they carry out their investigation and support as necessary. Discuss which variables are possible to control.</p> <div style="text-align: right;">  </div> <p>Adapting the teaching Support: Use planning boards or planning questions. Extension: Repeat readings. Consider different numbers of loops or different designs. Other ideas: Explore paper planes. <i>Linked scientists: Wright brothers, William Frost from Wales, Emma England (current eg)</i></p> <p>Questions to support discussion</p> <ul style="list-style-type: none"> • What are you changing (independent variable)? • What are you measuring (dependent variable)? • Which variables do you need to control? • Which control variables are hard to keep the same? • Did your independent variable make a difference to the dependent variable? <div style="text-align: right;">  </div>		
<p>Benchmark indicators Working towards: Pupils need to be continually reminded to keep their control variables the same. Achieved: Pupils can identify the variables when asked. They make a reasonable attempt at controlling the variables when carrying out and recording their results. Possible ways to go further: Pupils recognise that some variables are harder/easier to control and/or some variables are more/less important for the outcome.</p>		



Teacher box 5 - adapt teaching. See TAPS pyramid for more examples.