

Exemplar 2

A unit of work based on forces

infant classes

Strand unit from the curriculum	Development of the unit	Working scientifically
<p>The children should be enabled to</p> <ul style="list-style-type: none"> • explore, through informal activity with toys, forces such as pushing and pulling • explore how the shape of objects can be changed by squashing, pulling and other forces • investigate how forces act on objects <i>group objects that will sink or float.</i> 	<p>The children should learn that</p> <ul style="list-style-type: none"> • a push is needed to make things move • a pull can also make things move • pushes and pulls can speed up or stop a moving object (although a barrier is the most effective way of stopping something) • squashing, squeezing, stretching and twisting involve pushes and pulls and can change the shape of an object, e.g. squeezing a sponge or squashing a can • some things float and some things sink in water • the material from which an object is made is important and affects buoyancy • objects can be grouped into floaters and sinkers • some things float high in the water. 	<p>Children should be enabled to</p> <p>observe observe characteristics of objects to be tested</p> <ul style="list-style-type: none"> • it is made of wood/metal/plastic • it is big, small, light, heavy • it is squashy, stretchy <p>question ask questions such as</p> <ul style="list-style-type: none"> • What happens when you put x or y in the water? • Does all wood float? • What makes a thing move? <p>predict guess what will happen</p> <ul style="list-style-type: none"> • I think it will float/sink • I think it will go faster <p>sort and classify sort and group objects</p> <ul style="list-style-type: none"> • sets of objects that float/sink • set of things that can be squashed <p>investigate and experiment carry out simple investigations on floating and sinking</p> <ul style="list-style-type: none"> • test which objects float and sink in water • investigate ways of moving a large, heavy box
<p>Methodologies</p>	<p>Assessment</p>	
<p>Among the methods and teaching approaches that may be used are:</p> <ul style="list-style-type: none"> • discovery learning • teacher-guided learning. 	<p>Among the techniques that may be used are:</p> <ul style="list-style-type: none"> • teacher observation <i>outcomes of pupil-pupil and teacher-pupil discussions</i> • teacher-designed tasks <i>pictures or diagrams of ideas</i> • portfolio assessment <i>samples of recording and communication completed by pupils</i> • concept-mapping <i>maps of children's ideas about forces, levers and friction.</i> 	<p>estimate and measure describe weight and length</p> <ul style="list-style-type: none"> • this object is heavier/lighter than the last one we tested • when I gave it a big push it went as far as the door <p>record and communicate record findings pictorially</p> <ul style="list-style-type: none"> • charts or posters of things that sink/float <p>describe observations orally</p> <ul style="list-style-type: none"> • to make the table move you push it/pull it.