


Topic: Forces/Materials	Primary 2 Age 5-6	Activity title: Dunlop balls
Scientific skills focus Plan & design: Contributes to the design of procedures for carrying out scientific investigations.		Curriculum link By investigating forces on toys and other objects, I can predict the effect on the shape or motion of objects. SCN 1-07a
Assessment focus <ul style="list-style-type: none"> • Can children make suggestions about how to carry out the test? • Can children make ongoing suggestions to refine the test? 		
<p>Activity <i>Today we are engineers</i></p> <p>Tell children about John Dunlop who created a new inflatable rubber tyre for his son's tricycle. He compared his new wheel and the old metal wheel by rolling them across the yard together and found that the metal wheel stopped but the new wheel continued until it hit the gatepost and bounced back. You could also explore your setting's wheeled vehicles. (See PSTT's 'Standing on the shoulders of giants' book for more info).</p> <p>We are going to investigate materials like Dunlop using balls down a ramp and/or against a wall. Discuss the children's ideas about how to do this and how to make a fair comparison between the balls. A plasticine ball could also be used for comparison.</p> <p>As children investigate, observe and discuss with them how they are carrying out their enquiry, noting children's comments as appropriate.</p> <p style="text-align: right;"></p> <p>Adapting the teaching</p> <p>Support: Help to set up the investigation. Provide a smaller number of balls.</p> <p>Extension: Compare ball performance for distance rolled and for distance bounced back off a wall.</p> <p>Other ideas: Try on different surfaces. Try different ways of measuring bounciness e.g. height bounced, number of bounces when dropped from a set height.</p> <p>Questions to support discussion</p> <ul style="list-style-type: none"> • What could we do to compare the balls? • How can we make it a fair comparison? • What should we keep the same each time? • What do you think will happen? • What could you do to make it easier to check how far the balls have gone? • What else could we try? 		
Benchmark indicators <p>Working towards: Pupils are reluctant to contribute or make impractical suggestions. When investigating they are not systematic, for example, trying to make all balls bounce the further.</p> <p>Achieved: Pupils make practical suggestions to investigate ball rolling or bounciness e.g. where to put the ramp after trial runs, using sticky notes to mark where balls have stopped.</p> <p>Possible ways to go further: Pupils may begin to compare the balls by recording measurements. They may recognise when a comparison is unfair and decide to repeat it.</p>		