

Year 5	
LO: To identify the effects of friction acting between two surfaces	
<p><u>National Curriculum Aims:</u></p> <ul style="list-style-type: none"> Identify the effects of air resistance, water resistance and friction, that act between moving surfaces <p>Scientific enquiry type:</p> <p>Comparative and fair tests Noticing patterns</p>	<p><u>Teaching (See Year 5 Friction Powerpoint)</u></p> <p>First section of presentation introduces Sika, what they do and that they usually have a stand at the Lancashire Sciences Festival.</p> <p>Explain to the children that today they are going to be scientists and that they are going to carry out an investigation on a variety of surfaces to see which one has the most friction and so would make moving an object on it most difficult.</p> <p>Slides 8-9 talk about friction</p> <p><u>Talking partners:</u></p> <p>Slides 10-11. Ask them how we can define friction?</p> <p>Children will share their ideas (Teacher can write up class definition and stick it on the science display)</p> <p><u>Main Activities</u></p> <p>Slides 12-13 Show examples of friction to the children.</p> <p>Slides 14-15 Introduce the children to a forcemeter and explain what they are used for. It may be an idea to show the children a real one at this stage.</p> <p>Slides 16-18</p> <p>These slides help start planning the investigating with prompt questions like, “How can we make this a fair test?” It also asks the children to predict what will happen. They can begin to fill out their worksheets naming the surfaces to be tested and what they predict will happen. Encourage proper use of technical vocabulary when they make their predictions. The children will carry out the investigation and then record their results in the table (see lesson resource sheet)</p> <p><u>Plenary</u></p> <p>Slide 19. What did they find out from our investigation? Ask for volunteers to explain what friction is and how it can be useful?</p>
<p><u>Key Vocabulary</u></p> <p>Push Pull Force Material Surface Investigate Weight Container Forcemeter Friction Gravity mass smooth rough movement</p>	<p><u>Resources</u></p> <ul style="list-style-type: none"> Forcemeter or Newton Meter Heavy container/Weight Large open space such as hall or classroom with desks pushed back against walls. Different surfaces chosen to test. Lesson Worksheet. Lesson Powerpoint.
<p><u>Working scientifically</u></p> <p>Working scientifically links:</p> <p>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, including taking repeat readings when appropriate</p>	

Assessment

All:

- Do the children understand what friction is?
- Do the children know that friction can be useful?
- Can the children give some examples of when friction can be useful?
- Can the children carry out a fair test?
- Can the children use a newton meter with accuracy?