Outdoor lesson

primary

Friction

Exploring friction and forces

Great for...

- **Science** friction, forces, scientific enquiry

Activity

1. Work with the children to identify a number of different surfaces within your school grounds suitable for testing the amount of resistance or friction that it creates when pulling a brick across it. Each surface needs to be around two metres in length to get a good reading on the Newton meter.
2. Create a table with the children to collect their results.
3. Ask the children to predict what they think the results will be. Which surface will be easiest to pull the brick across? Which will be the hardest?
4. Demonstrate how children should work in threes to get the best reading – one pulling the Newton meter, one recording results and one observing to make sure the same speed is maintained. The children should attach the brick to the Newton metre, pull the brick across each surface and record how much force is needed to do so.
5. The children should then return to the group and discuss their findings. Pose questions like 'which surfaces have more friction?' and 'what do these surfaces have in common?'

What you need

- **Bricks**
- **String**
- **Newton meters**
- **Paper and pencils**

Preparation

- Attach a brick to a Newton meter with a piece of string. Talk to the children about the measures of force being in Newtons.

Less challenging

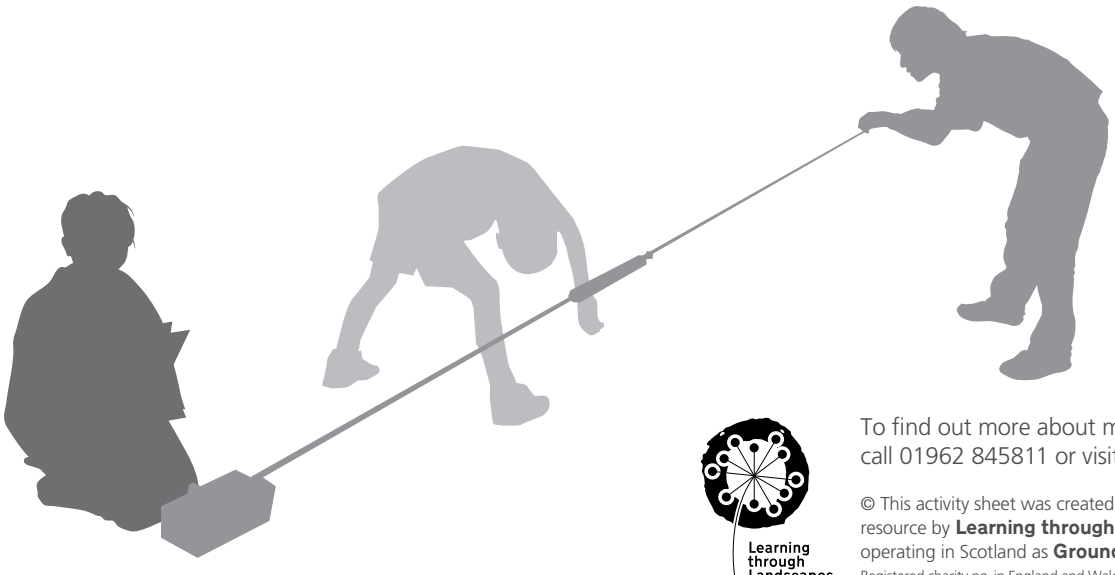
- Provide surfaces and a pre-made table for the children. Rather than getting the children to measure with a Newton meter ask them to record which surface was easier/harder.

More challenging

- Ask the children how they might try to reduce friction? What could they do to the surface or the brick? Prompt for answers such as putting pencils underneath, wetting the surface, tilting it, etc.

Your notes

Use this space to evaluate the activity



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