Feel the Friction!

Experience the force and motion of a go-kart at Tapnell Farm Park, then test how they work!

During your visit you can ride the Pedal Go-Karts.

- As you pedal the tyres will grip the floor.
- If you try to walk on ice there is very little friction and you could fall.
- This lack of friction is because the icy surface is so smooth.
- You will feel the effects of friction as you pedal your go-kart.
- You will have to pedal harder on some surfaces.

AT THE PARK

1. Fill in the table to show the force you used as you pedal over different surfaces.
2. What happens when there are two of you in the go-kart?
3. Look at the different surfaces, are they rough or smooth?

Surface	Rough or smooth?	Amount of Force needed 1 = not much force 2 = some force 3 = lots of force Circle the number:
inside of barn	smooth	1 2 3
outside of barn	rough	1 2 3

4. Circle the best word:

   I had to pedal harder over the **rough/smooth** surface.

   There was more friction from the **rough/smooth** surface.

You will need:

▸ Model go-karts or toy cars

▸ String

▸ Force meter

What to do:

1. Tie a loop of string to your go-kart

2. Hook the force meter to the string

3. Use the force meter to pull your model go-kart/toy car

4. Pull your model go-kart/toy car across different rough/smooth surfaces, e.g. grass

5. Take a force reading for each different surface, and write it below:

Surface	Force (N)

What I learnt:

Finish these sentences. Choose your words from this list:

friction   *force*   *smooth*

» The rough surface needed more _____ to pull the car.

» The _____ surface needed less force to pull the car.

» The rough surface caused more _____ .