

Science investigation – based on Mr. Massey’s lessons in year 5

Forces Game

Play this forces game on any smooth table. You will need a few coins or other flat objects.

Coin snooker

Scatter the coins around on the table. Choose one coin to be the special ‘cue-coin’.

You can **flick** the cue-coin, but you can’t touch any of the other coins.

You **win** if you manage to knock all of the other coins off the table but you **lose** if the cue-coin goes off the edge or if you accidentally touch any other coin.

Things to try:

Try choosing different coins for the cue-coin. Which ones are the best?

Using a tablecloth or sheets of paper on the table may or may not help you. Find which coverings are helpful.

If you use buttons or other flat objects instead of coins, which work best?

What has this got to do with Forces?

Forces are everywhere. Every time something speeds up, slows down or changes direction, it is because of force. What forces are involved in this game?

Here are some other things to think about. You can write down your ideas.

Padawan level questions

After you flick a coin, what force is slowing it down?

Would you rather flick a 5p piece at a 50p piece or the other way around? Why does it matter?

Jedi Knight level questions

Think about the coins. **Before** you flick them, are there any forces acting on them? How do you know?

When you flick the coins, sometimes they go a long way and sometimes hardly any distance. Why is this? There are lots of possible reasons. How many can you think of?

Jedi Master level questions

Design an experiment to see how far each type of coin will go when you flick it. How will you keep it a fair test?

Go around your house (or just your room) and you will find how lots of things are designed around forces. List some things and say how they are affected by forces.