

What do things weigh on the moon?

You can use a forcemeter to measure the weight of different objects. It measures the pull of gravity or the gravity force on an object - which is much less (one sixth) on the moon. Your results can be recorded in a **spreadsheet** and the program can be used to calculate how much things weigh on the moon. To do this you enter a formula to divide the earth weight by six. What can the children say about the weight of things on the moon? What would a kilo of sugar weigh on the moon? And what would you weigh? Enter your weight on the spreadsheet to find out.



How long does a jump in the air take?

The children can measure the time of a jump in the air using a **pressure mat**. This is a sensor that responds to an event, such as a foot pressing on it, while the computer measures the time taken. The activity will provide good practice in measuring and once you have got the technique, you can find out who can jump and stay in the air the longest.

IT: Measuring

Which will fall faster, a lump of metal or a lump of wood?

Other things being equal, objects fall to earth and land at the same time. It is fun to drop things such as eggs and fruit from windows to see if this is true. But you can also use **pressure mats, light gates** or light switches connected into your sensor box and actually measure the fall time.

IT: Measuring

How does the slope of a hill affect the speed of a car?

As above, you can again use **light gates** or light switches. These connect into your sensor box and allow you to measure the time taken for a toy car to roll past the sensor. You can try this at different angles of a table to see how the car's speed increases with the steepness of the slope. You will need to fix a square card to the roof of the car so that it triggers the sensors.

IT: Measuring

Does a car speed up as it rolls down a hill?

As a car rolls down a hill it speeds up because of gravity. Use **light gates** or light switches

| | A | B | C | D | E | F | G |
|---|------------------------------------|-----|-----|-----|-----|---------|----------|
| 1 | What affects the bounce of a ball? | | | | | | |
| 2 | Ball | Try | Try | Try | Try | Average | Diameter |
| 3 | A | | | | | | |
| 4 | B | | | | | | |

connected into your sensor box and measure the speed of a toy car at different places along a table. The speeds should increase as you measure them further down the slope.

IT: Measuring