EXPLORING GRAVITY

Investigation
Is the acceleration due to gravity the same across the Solar System?

Equipment
Gravity simulator
Stopwatch

1. Make a Plan:

List the things you could **change**	List the things you could **measure**

What will you **change** (independent variable)?

What will you **measure** (dependent variable)?

What **height** will you drop the ball from?

What will you keep **the same** (control variables)?

2. Get Results:

Location	Measurement 1	Measurement 2	Measurement 3	Average

3. Analyse Your Data:

Use your results and the equation on the right to find the acceleration due to gravity (**g**).

$$g = \frac{2h}{t^2}$$

h = drop height
g = acceleration due to gravity
t = average time

Location	g

Is the acceleration due to gravity (**g**) the same across the Solar System?

Which of the locations are most like Earth and which are the most different?

Most Like	Most Different

Why do you think gravity **varies** across the Solar System?

What are the **sources of error** in your investigation?

What **assumptions** have you made?

Was it **more difficult** to make measurements in some locations? Why might that be?

Was there **more variation** in your results in certain locations? Why might that be?