

$$S = \frac{1}{2} g t^2$$

$$v = g t$$

$$g_{\text{earth}} = 9.81 \text{ m/s}^2$$

$$g_{\text{moon}} = 1.62 \text{ m/s}^2$$

Motion of a falling object (Earth & Moon) - Level 2

1. As stone is dropped from rest on **Earth**. Calculate the **distance** it falls in **4 seconds**.



2. A ball is dropped on the **Moon** and falls for **5 seconds**.

- a. What its **final velocity (v)**?

- b. State **ONE** reason why this **velocity** is smaller than on **Earth**.

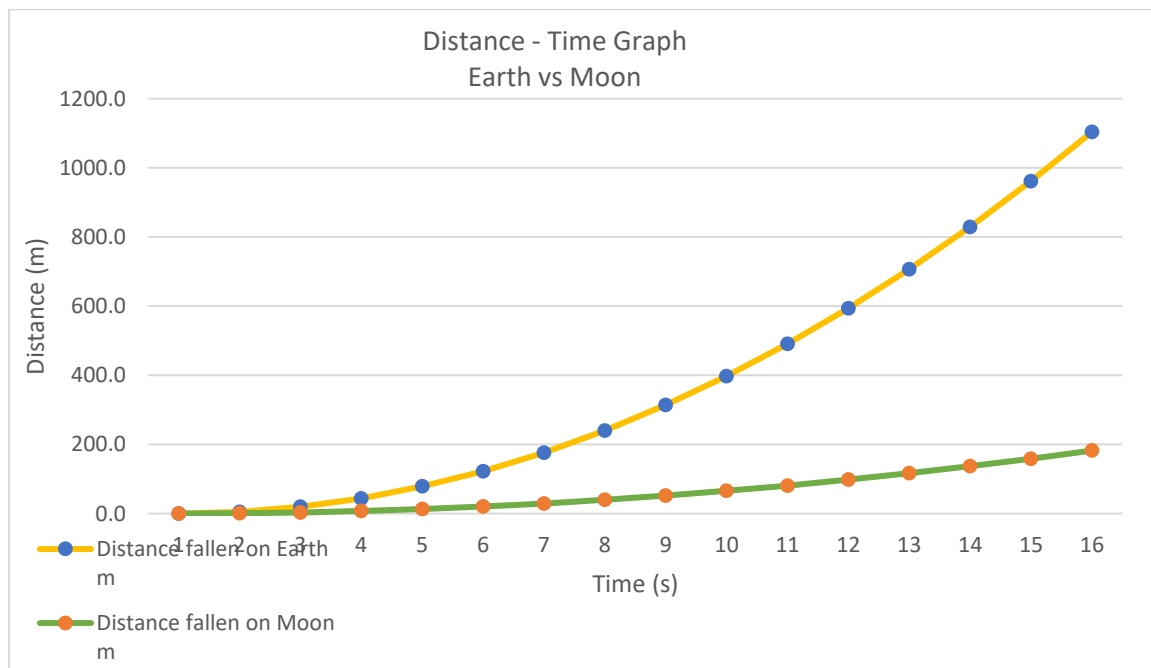


3. An object falls freely on Earth and reaches a **velocity** of 19.6 m/s.



Calculate the **time** taken _____

4. The **Distance** - **Time** Graph of a falling object on **Earth** and on the **Moon** are shown.



- a. Which **graph** is steeper? _____
- b. What does this tell you about **gravity**? _____
- _____
5. Explain why the **Distance** - **Time** graph of a falling object is curved rather than straight.
