

GRAVITY

- The force that attracts (or pulls) the earth and an object towards each other is called gravity.
- Basically it is gravity that holds things to the Earth's surface and prevents them from floating away.

Mass

- The mass of an object tells us how much material (matter) it contains.
- Weight is the pull of the Earth's gravity on the mass of an object.
- Mass should be measured in grams or kilograms.

1kg

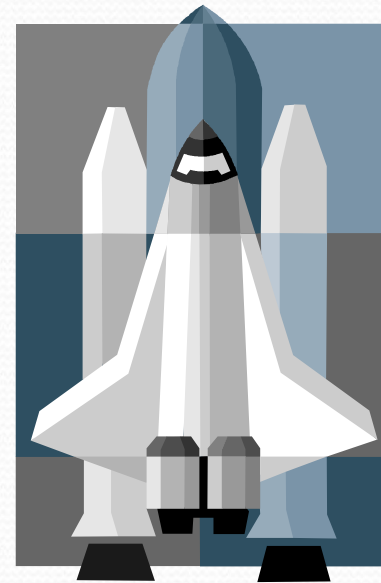
- **On Earth – gravity pulls on every 1 kg with a force of 10N**



On the moon – gravity is one-sixth as strong, so it pulls 1kg with a force of 1.7N

1kg

- In a spacecraft – there is no gravity, so there is no pull on an object, so nothing will register on a Newton meter



Gravity

- All objects attract one another.
- The force of attraction depends on mass.
- For small objects this attraction is tiny.
- But in the case of the Earth (which has an enormous mass) the force of attraction is noticeable and it is known as gravity.

Dropping a ball

- If you drop a tennis ball and a football from the same height at the same time they would hit the ground at the same time.
- All objects fall to earth at the same rate regardless of their mass.