|  |  |
| --- | --- |
| TitleGravity | Date:Class: |
| Link to National Curriculum: Sc1, 2e, 2f, Sc4, 2b, 2e |
| Learning objectives:* Know that the Earth and objects are pulled towards each other
* Understand that gravitational attraction causes objects to have weight
* Know that weight is a force measured in Newtons
* Know that without air resistance, objects would accelerate towards Earth at the same rate
* Understand why people seem lighter walking on the moon
 |
| Resources* Worksheet “Gravity”
* Force meter
* Different weight bouncy balls and different volume bouncy balls of the same weight
* Powerpoint “Gravity”
 |
| Risk Assessment**Hazard:** Falling objects**Precaution:** Objects used to have minimal weight**Risk**: very Low |
| Lesson Outline |
| Structure | Time | Activity |
| Starter | 5 mins | Ask the children if they can think of why objects fall |
| Introduction | 10 mins | Get the children to measure the weights of various objects using a force meter. Reinforce the connection between gravitational pull and weight |
| Activity | 30 mins | Get the children to drop different masses of bouncy ball at the same time to demonstrate Galileo’s principle of falling objects. Do they fall at the same rate if they have the same volume but different mass? What about if the volumes change? Get the children to fill in the work sheet.  |
| Plenary | 5 mins | Go over the key points. Explain that the principal is affected by air resistance and so if we dropped a feather and hammer on the moon they would fall at the same rate (see powerpoint video) |
| Differentiation / Assessment opportunitiesAsk the children what forces are acting on the different objects, how are they affected by the size and shape of the objects, is there a way to make this effect useful? Like for a near space balloon parachute? |