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| Planet | Gravitational field strength (newtons per kilogram) |
| Mercury | 3·7 |
| Venus | 8·9 |
| Earth | 9·8 |
| Mars | 3·7 |
| Jupiter | 26 |
| Saturn | 11·2 |
| Uranus | 9·0 |
| Neptune | 11·3 |

(*a*) A vehicle exploring the surface of mars has a mass of 174 kilograms. Calculate its weight on the Martian surface.

(*b*) What would be the weight of:

(i) a 60 kilogram person on Earth;

(ii) a 60 kilogram person on Jupiter?

(*c*) An object has a weight of 63 newtons on the surface of Uranus. Calculate its mass.

(*d*) Calculate the weight of a 5 kilogram object on the surface of Neptune.

1. Calculate the weight of a 250g mass on Mercury, Venus and Jupiter
2. A mass of a spider is 10 grams. The **combined weight of two spiders** on planet X is 224N. What is the gravitational field strength on planet X?
3. What is the cause of gravity? A change in the fabric of space time!