

## Forces

## 2. Gravity

## CONCEPT 2

## TEST YOURSELF

## UNDERSTANDING GRAVITATIONAL FIELDS, MASS AND WEIGHT

## KNOW

- Q1 In what direction does Earth's gravitational field pull objects?
- Q2 Describe what is meant by a gravitational field.
- Q3 Why is the force on an object due to Earth's gravitational field described as a **non-contact** force?

## APPLY

- Q4 A student makes the following statement: "I weigh 40 kg".
- (a) What is wrong with this statement?
- (b) How could it be corrected?
- Q5 On the surface of the Earth, what is the weight of an 8 kg dog?
- Q6 On the surface of the Earth, what is the mass of a bag of potatoes with a weight of 55 N?

## EXTEND

- Q7 Look at the image of the Earth which shows that the Earth bulges at the Equator. Explain why an object of the same mass as one at the North Pole will have less weight at the Equator.
- Q8 Two satellites, X and Y, orbit around the Earth. Satellite X orbits at a lower altitude than Y.
- Both satellites have the same mass. Will they both have the same weight? Explain your answer.
- Q9 If the Earth was the same size but with more mass, how would this impact on humans?

