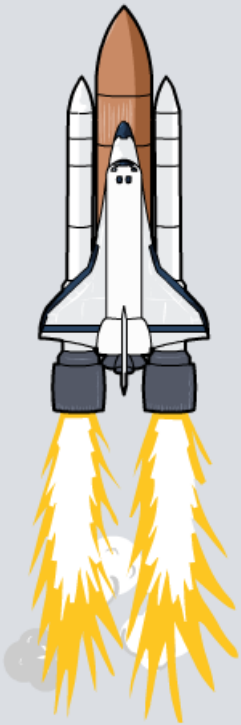
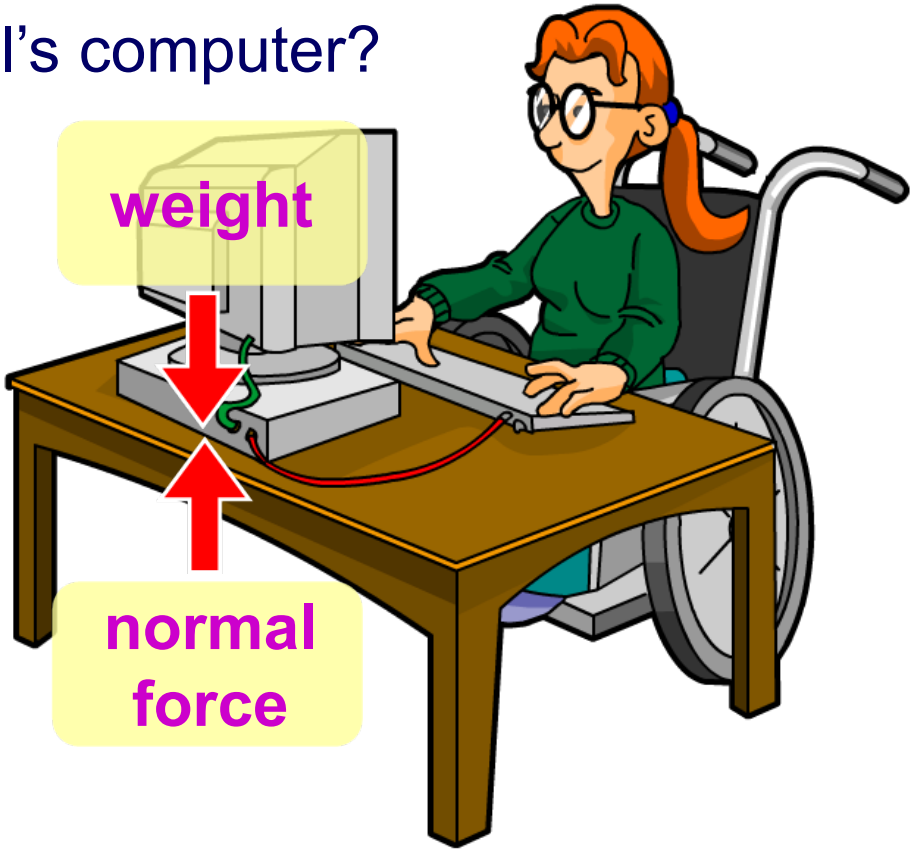
Newton's Third Law



What forces support objects?

What forces are acting on Mel's computer?

The computer is pulled downwards by the force of **gravity**, which means that it has **weight**.



The table exerts an **equal and opposite** force pushing upwards on the computer. This is called the **reaction force**.

These forces are **balanced**.

What forces act on Mel as she works at her computer?

What is Newton's third law?

A force cannot exist on its own – there is always a second force acting against it.

This forms the basis of **Newton's third law of motion**, which states:

If object A exerts a force on object B, then object B exerts an equal but opposite force on object A.

These pairs of forces that act between two objects are sometimes called **action–reaction** pairs.

Action–reaction pairs

Balanced and unbalanced forces

How many pairs of balanced, unbalanced and action–reaction forces can you find?