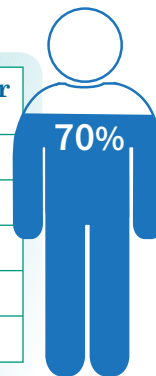# Water World

You need ☑ a classmate

Activity One

The students in Tamahou's maths group have to work out how much water is in each of their bodies. They find out that 70 percent of the mass of a human body is water, and they know that 1 litre of water weighs 1 kilogram.

Tamahou works out how much water is in his body.

> 10 percent of my mass would be 3 kilograms, so 70 percent would be $7 \times 3 = 21$ kilograms.

1. Tamahou draws this table:

Name	Mass (kilograms)	Amount of water (litres)
Tamahou	30	
Rangi	40	
Jessica	35	
David	42	
Kate	34	

70%

Complete Tamahou's table for him.

2. We sweat about 9 percent of the water in our bodies in a day if we are active and 8 percent in a day if we are passive. How much water should each person drink to replace the water they lose if Tamahou, Jessica, and David are active all day and Rangi and Kate spend the day relaxing?

Solving problems involving percentages

3. About 72 percent of the Earth's surface is covered in water. If the Earth's total surface area is about 500 million square kilometres, how much is covered with land? Discuss with a classmate how you worked it out.

Activity Two

1. This jug shows the percentage of water the average household uses in different ways.
   a. An average household uses 400 litres a day. Estimate how many litres an average household would use in each part of the house and property.
   b. Kate's family uses 43 litres in the kitchen in a day. If this is 10 percent of the total amount of water that Kate's family uses, how much water might her household use altogether in a day?
   c. David's house uses 186 litres of water a day in the bathroom and toilet. Based on the percentages shown in the jug, about how much would they use altogether in a day?

2. During a drought, everyone was asked to cut their water usage by 20 percent.
   a. How much should the average household use each day?
   b. Estimate how much the average household would use in each part of the house and garden now.

3. If you leave a tap running while you brush your teeth for 3–5 minutes, you use about 10 litres of water. If you wet your brush and have a quick rinse at the end of brushing, you use 100 millilitres. What percentage of 10 litres is 100 millilitres?

Kitchen 10%

Outside (for example, garden) 19%

Laundry 21%

Bathroom 24%

Toilet 26%