Strange Maths

Name _____ Date _____

How much do you weigh in flies?

An average housefly weighs 65 milligrams. There are 1,000 milligrams in 1 gram and 1,000 grams in a kilogram.

The average man in the UK weighs 79.2 kg.

i. How many flies does the average person weigh?_____

ii. How many flies do you weigh?_____

How much do you need a drink?

In Sudan (a country in East Africa) poverty and the water shortage means that millions of Sudanese women spend several hours a day walking to get water.

Assume this involves a daily round trip of at least 5 kilometres.

i. How far will a Sudanese walk collecting water if she treks 5 kilometres every day for 40 years?_____

The circumference of the world is 40,075 kilometres.

ii. How many times around the world will a Sudanese woman walk the equivalent of, during her 40-year quest for water?_____

Strange Maths

By the time you complete this someone will be murdered.

IANSA – the international Action Network on Small Arms – estimates that 16 billion bullets are produced every year. (16 billion = 16,000,000,000)

i.   Based on a global population of 6.388 billion (6,388,000,000), how many bullets is that for each person? _____

It is said that during the Vietnam War, US forces fired 50,000 bullets per enemy killed.

ii.   If it takes 50,000 per 'kill', about how many people should be shot every year? _____

According to the World Health Organisation, there are 558,000 homicides worldwide every year.

iii.   How many murders do not involve guns? _____

Assuming the WHO's figure of 558,000 is correct.

iv.   How often is someone somewhere murdered? _____

v.   How often is someone murdered by a gun? _____

Strange Maths

Name _____ Date _____

Fancy a burger?

There are estimated to be 1,294,604,000 head of cattle on earth. There are 6.388 billion people.

i.   How many people per cow?_____

Each beef carcass gives about 310 pounds of edible meat. Assuming that all of this meat was turned into quarter-pounders:

ii.   How many quarter-pounders could be made using all of these cows?_____

iii.   How many is that each for the 6.388 billion people?_____
          ___

Each one of these cattle produces about 29.5kg of manure each day.

iv.   How many metric tonnes of cow manure are produced every day?_____

v.   How many metric tonnes is this per year?_____

vi.   How many tonnes of cow pat is this per person per year?_____

N1/L2.2 Carry out calculations with numbers of any size using efficient written and mental methods. MSS1/L2.5 Calculate with units of measure within the same system

Strange Maths

Name _____ Date _____

The eyes have it.

There are 6.388 billion people on earth. Technically they have two eyeballs each.

    i.   How many human eyeballs are there in the world?_____

An eyeball weighs about 7.5 grams. A metric tonne is 1,000 kilograms.

    ii.   How many metric tonnes should all of the eyeballs on earth weigh?_____

An eyeball is roughly spherical, about the size of a ping-pong ball, and has an average diameter of about 2.5cm. It has a volume, therefore, of about 8.58 cubic centimetres. 1 litre is 1,000 cubic centimetres.

    iii.   How many eyeballs per litre?_____

    iv.   What should the total volume of eyeballs on the earth be?_____

An Olympic-sized swimming pool has a capacity of the order of 1.5 million litres

    v.   About how many Olympic-sized swimming pools would all of the world's human eyeballs fill?_____

Strange Maths Answers

Flies

An average housefly weighs 65 milligrams. There are 1,000 milligrams in 1 gram and 1,000 grams in a kilogram.

The average man in the UK weighs 79.2 kg.

i.   How many flies does the average person weigh? 1,218,000

ii.   How many flies do you weigh? Depends on weight

Water

In Sudan (a country in East Africa) poverty and the water shortage means that millions of Sudanese women spend several hours a day walking to get water.

Assume this involves a daily round trip of at least 5 kilometres.

i.   How far will a woman walk if she treks 5 km every day for 40 years? 73,000km

The circumference of the world is 40,075 kilometres.

ii.   How many times around the world will a Sudanese woman walk the equivalent of, during her 40-year quest for water? 1.8 (nearly twice around the world!)

Guns

IANSA – the international Action Network on Small Arms – estimates that 16 billion bullets are produced every year. (16 billion = 16,000,000,000)

i.   Based on a global population of 6.388 billion (6,388,000,000), how many bullets is that for each person? 2.5 bullets per person

It is said that during the Vietnam War, US forces fired 50,000 bullets per enemy killed.

ii.   If it takes 50,000 per 'kill', about how many people should be shot every year? 320,000

According to the World Health Organisation, there are 558,000 homicides worldwide every year. If the last answer is the number of people murdered by guns:

iii.   How many murders do not involve guns? 238,000

Assuming the WHO's figure of 558,000 is correct.

iv.   How often is someone somewhere murdered? Every 56 seconds

v.   How often is someone murdered by a gun? Every 2.2. minutes

Burgers

There are estimated to be 1,294,604,000 head of cattle on earth. There are 6.388 billion people.

i.   How many people per cow? 4.9 people per cow

Each beef carcass gives about 310 pounds of edible meat. Assuming that all of this meat was turned into quarter-pounders:

ii.   How many quarter-pounders could be made using all of these cows? 6,053,089,960,000

iii.   How many is that each for the 6.388 billion people? 251 burgers each

Each one of these cattle produces about 29.5kg of manure each day.

iv.   How many metric tonnes of cow manure are produced every day? 38,190,818 tonnes a day

v.   How many metric tonnes is this per year? 13,939,648,570 tonnes per year

vi.   How many tonnes of cow pat is this per person per year? 2.1 tonnes per person

Eyeballs

There are 6.388 billion people on earth. Technically they have two eyeballs each.

i.   How many human eyeballs are there in the world? 12,776,000,000

An eyeball weighs about 7.5 grams. A metric tonne is 1,000 kilograms.

ii.   How many metric tonnes should all of the eyeballs on earth weigh? 95,820 tonnes

An eyeball is roughly spherical, about the size of a ping-pong ball, and has an average diameter of about 2.5cm. It has a volume, therefore, of about 8.58 cubic centimetres. 1 litre is 1,000 cubic centimetres.

iii.   How many eyeballs per litre? 116.55 eyeballs per litre

iv.   What should the total volume of eyeballs on the earth be? 109,618,080 litres

An Olympic-sized swimming pool has a capacity of the order of 1.5 million litres

v.   About how many Olympic-sized swimming pools would all of the world's human eyeballs fill? 73.07 swimming pools (call it 73)

Teaching Notes

I use this resource occasionally for numeracy. It looks at some unusual calculations and investigations. The focus is for learners to decide which mathematical operation is involved (for this exercise it is only multiplication and division). It also provides practice with working with very large numbers and converting between metric units of measure.

Strange Maths Answers

Methods

House fly question

a. First change the kilograms into milligrams (times kg by 1,000 to get grams then by 1,000 to get mg)

b. Divide this by weight of house fly (79,200,000 ÷ 65 = 1,218,000 flies)

Students need to weigh themselves and then follow the above method.

Drink question

a. Work out km per year (5km per day – how much per year? Calc by 5 x 365 = 1,825)

b. Multiply this answer by 40 (1,825 per year for 40 years = 73,000)

c. Once around the world is 40,075km. How many 40,075 are in 73,000? Divide one by the other.

Bullets question

a. 16 billion shared between 6.388 billion – divide16 billion by 6.388 billion (2.504)

b. 16 billion split into parts and each part = 50,000; divide 16 billion by 50,000 = 320,000

c. 558,000 altogether, 320,000 by guns; subtract one form the other = 238,000

d. Find out how many per day (total ÷ 365 = 1,610).

e. Work out how many seconds per day (hours x minutes per hour x seconds per minute; 24 x 60 x 60 = 86,400)

f. 1,610 murders in 86,400 seconds. To find out how many seconds for 1 murder, divide seconds by 1,610 = 56. 1 murder every 56 seconds

g. As in f above but using 320,000 murders per year – (320,000 ÷ 365) = 876. 86,400 ÷ 876 = 98. 1 person is murdered with a gun every 98 seconds (1½ minutes)

Burger question

a. People **per** cow so divide people by cows = 6.388 billion ÷ 1,294,604,000 = 4.93 (nearly 5 people per cow)

b. Cows x lbs of meat x 4 (quarter pounders) = 1,605,308,960,000 burgers

c. Burgers **per** person so divide burgers by people = 251 (251.3) burgers per person

d. Cows x kg = 38,190,818 kg per day

e. Kg per day x days = 38,190,818 x 365 = 13,939,648,570 tonnes per year

f. Tonnes **per** person so divide tonnes by people = 2.1 tonnes per person

Eyes question

a. Assume **each** person has two eyes, so people x 2 = 12,776,000,000

b. **Each** eyeball weighs 7.5g, so eyeballs x 7.5 = 95,820,000,000g. convert to kg ÷ 1,000. convert to tonnes ÷ 1,000 = 95,820 tonnes

c. Each eyeball is 8.58cm^2. How many eyeballs make 1 litre so divide litre by eyeball volume; 1,000 ÷ 8.58 = 116.55 eyeballs per litre

d. **Each** eyeball is 8.58cm^2 and there are 12,776,000,000 eyeballs, so x eyeballs by volume = 109,618,080,000. Convert to litres ÷ 1,000 = 109,618,080 litres.

e. Each swimming pool is 1.5 million litres and we need to find out how many make 1.5 million make 109,618,080; so 109,618,080 ÷ 1,500,000 = 73.0