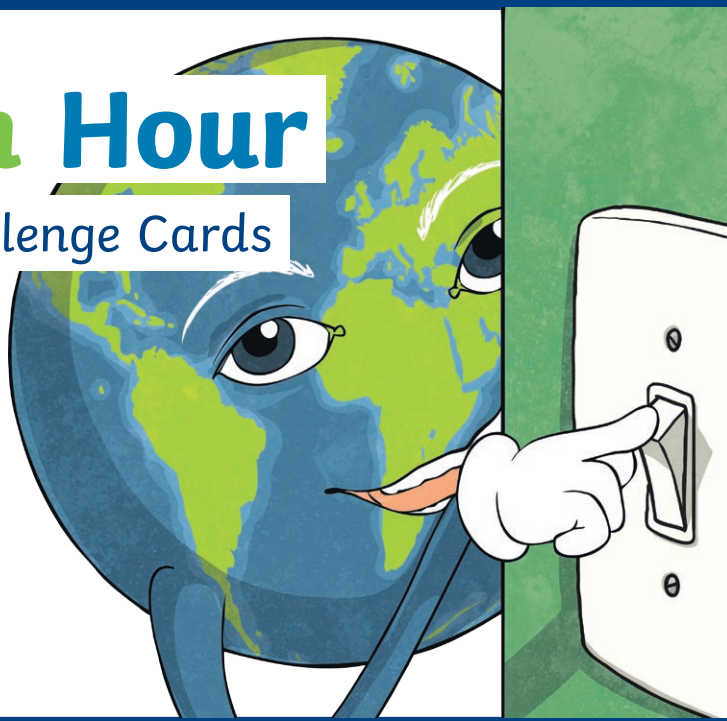


Earth Hour

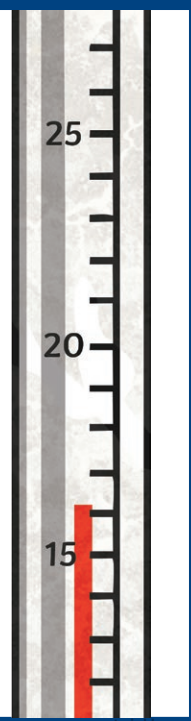
Maths Challenge Cards



Earth Hour Maths Challenge Cards

1. The average temperature of the Earth year round is 16.1°C and the average temperature in Melbourne is 15°C .

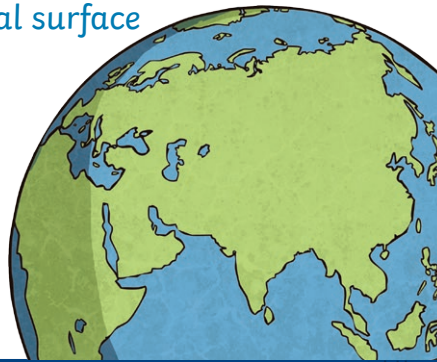
What is the difference between the two averages?



Earth Hour Maths Challenge Cards

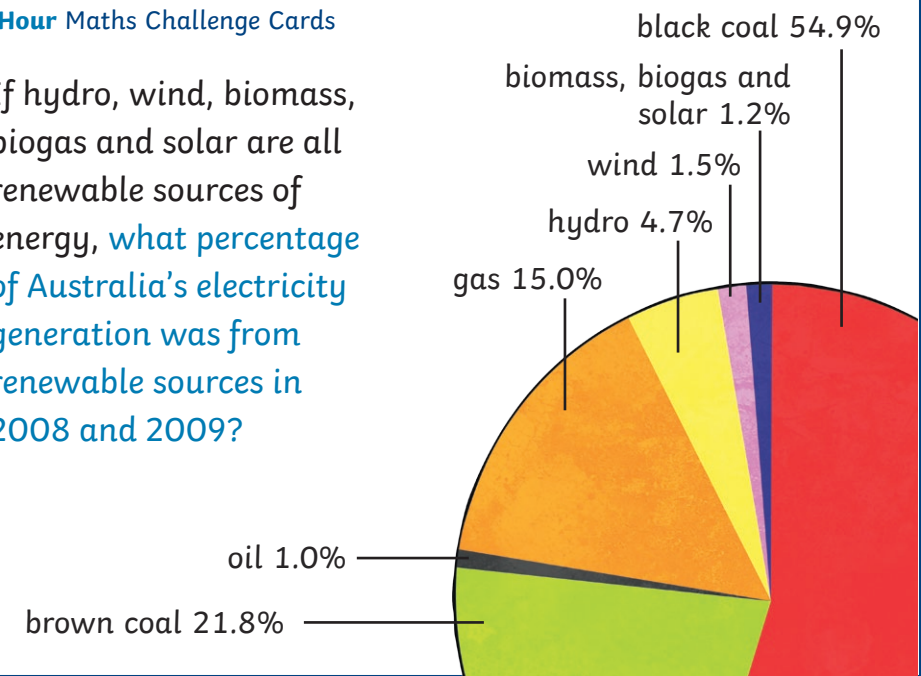
2. The Earth has a total water surface area of 71%.

- a) What percentage of the Earth's surface is land?
- b) If saltwater accounts for 69.03% of the Earth's surface area, what percentage of the total surface area of the Earth is fresh water?



Earth Hour Maths Challenge Cards

3. If hydro, wind, biomass, biogas and solar are all renewable sources of energy, what percentage of Australia's electricity generation was from renewable sources in 2008 and 2009?

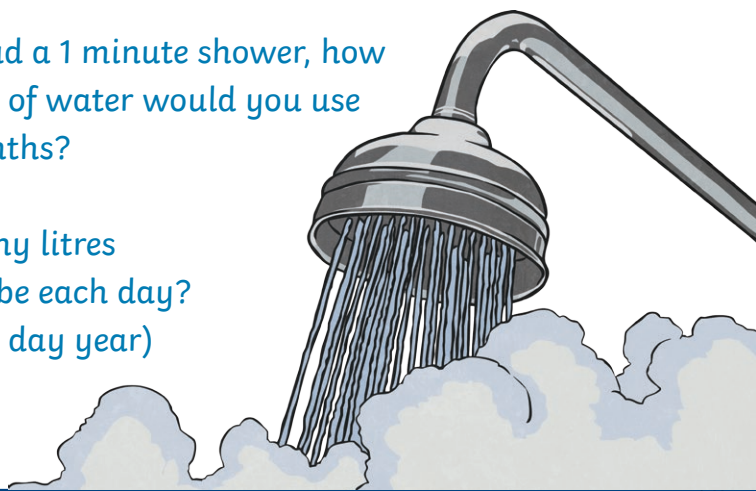


Earth Hour Maths Challenge Cards

4. 3 minutes in the average shower each day will use 13 140 litres of water per year.

a) If you had a 1 minute shower, how many litres of water would you use over 12 months?

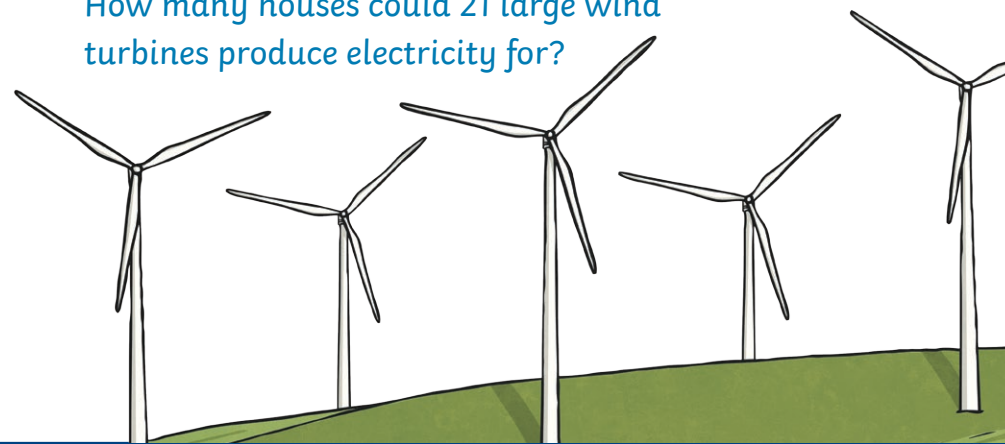
b) How many litres would this be each day? (with a 365 day year)



Earth Hour Maths Challenge Cards

5. One large wind turbine can produce enough electricity every year to power 750 homes for 12 months.

How many houses could 21 large wind turbines produce electricity for?



Earth Hour Maths Challenge Cards

6. The Snowy Mountains Hydro-electric scheme began construction in 1949 and was finished in 1974.

a) How many years did construction of the system take?

The project was completed to budget and cost \$820 million.

b) How much would it have cost if the total cost of the project was 1.5 times greater than the budget?



Earth Hour Maths Challenge Cards

7. Using specific light bulbs can help to reduce our electricity consumption in our house.

Light Bulb Type	Electricity Consumption (watts)
incandescent	100
halogen	70
CFL	40
LED	25

a) What would be the electricity consumption of 9 halogen light bulbs?

b) If 9 CFL light bulbs were used instead, what would be the reduction in electricity consumption?



Answers

- | | |
|----------------------------|-------------------|
| 1. 1.1°C | 5. 15 750 |
| 2. a) 29% | 6. a) 25 years |
| b) 1.97% | b) \$1230 million |
| 3. 7.4% | 7. a) 630 watts |
| 4. a) 4380 litres per year | b) 270 watts |
| b) 12 litres per day | |