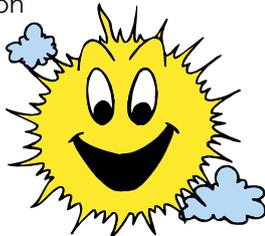




TAKE THIS QUIZ TO FIND OUT WHO REALLY KNOWS THEIR SOLAR FACTS FROM THEIR SOLAR FICTION.

1) Using the sun to heat your water is called?

- A. Solar power generation
- B. Steam power
- C. Solar water heating
- D. Sun baking



2) Which colour gets hottest in the sun?

- A. Black
- B. White
- C. Orange
- D. Yellow

3) How do cows contribute to greenhouse gases?

- A. By eating too much grass
- B. By burping methane
- C. By release CO₂ through their skin
- D. By mooing loudly



4) Replacing an electric water heater with a solar water heater in a home saves as much greenhouses gas as:

- A. Closing down a small power station
- B. Turning off 10 light bulbs
- C. Taking a four cylinder car off the road
- D. Taking a bus off the road



5) True or false, when water is heated it rises.

- True
- False



6) True or false - there is a solar water heater in operation in the Antarctic.

- True
- False



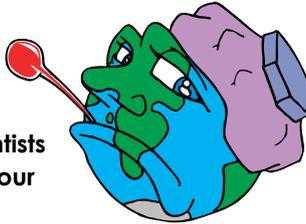
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7) Which of the following is not a greenhouse gas?

- A. Nitrogen
- B. Carbon Dioxide
- C. Methane
- D. Nitrous Oxide

8) If we don't reduce greenhouse gases what do most scientists say will happen to our planet earth?

- A. The overall temperature of the planet will fall
- B. New mountains will be created
- C. The sea level will fall
- D. The overall temperature of the planet will rise



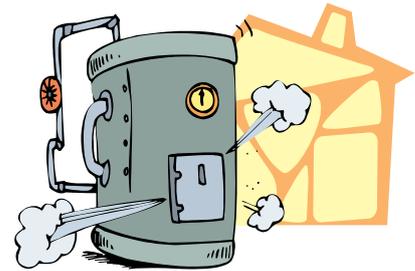
9) In what year did Solahart start making solar water heaters?

- A. 1991
- B. 1901
- C. 1953
- D. 1974



10) What percentage of a typical household's energy use come from water heating?

- A. 55%
- B. 9%
- C. 27%
- D. 39%



Answers

- 1) C. Using the sun to heat your water is called solar water heating
- 2) A. Black absorbs more heat than any other colour and so it gets hottest in the sun. That's why a black car in the sun feels hotter than a white one.
- 3) B. When cows burp they release methane which is a greenhouse gas. A German scientist has calculated cows release 200g of methane every day, mainly through burping. With around 1300 million cows in the world that's almost 950,000 tonnes of methane every year. Scientists are attempting to reduce the amount of methane they release by changing cows' diet. A recent study showed that feeding cows sunflower oil reduced their methane emissions by 20%.
Sources: www.newscientist.com www.scienceline.org
- 4) C. Replacing an electric hot water heater in your home saves between 3 and 4 tonnes of CO₂ emissions every year - that's the same as taking a 4 cylinder car off the road.
- 5) True. Water rises when it's heated. This is used in Solahart solar water heaters. As the water in the heater is warmed by the sun, it moves upwards into the tank drawing in cold water to the heater to be warmed. It is called the Thermosyphon principle.
- 6) True. There's a Solahart solar water heater in operation in the Antarctic. Wherever the sun shines, a solar water heater can work.

- 7) A. Nitrogen is not a greenhouse gas. The primary greenhouse gases in the earth's atmosphere are water vapour (H₂O), carbon dioxide (CO₂), nitrous oxide (NO₂), methane (CH₄) and ozone (O₃). There are a number of human-made gases that are contributing to the greenhouse effect such as sulphur hexafluoride (SF₆), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs).
Source: www.greenhouse.nsw.gov.au
- 8) D. If people around the world do not act to control global warming, scientists have predicted:
 - a rise in the Earth's temperature of between 1.4°C and 5.8°C by 2100;
 - higher sea levels as oceans expand and glaciers melt - between 9 and 88 centimetres by 2100; and
 - changes in weather patterns, such as more severe droughts and floods, and higher rainfall intensity. Source: www.solahart.com.au
- 9) C. Solahart began producing solar water heaters in 1953 in Western Australia. Without any gas supply, using the sun to heat water made a lot of sense. The heaters then were not nearly as efficient as today's but were still very effective and some are still working today. Source: www.solahart.com.au
- 10) C. 27% of the average household's greenhouse gas emissions come from heating water. Heating and cooling take up 39%. The fridge/freezer is 9% and lights take up 5%.



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