Treasure hunt: Is it all about reducing?

Theme Environmental sustainability
Age group 15+
Group size 15-35
Time 60 minutes
Overview
This activity is a very active way to look into some facts about global warming. The participants are sent on a treasure hunt to find questions on energy consumption and discuss the questions in small groups.

Objectives

- To introduce the concepts of renewable and non-renewable energies
- To familiarise the participants with some facts about global warming and non-renewable energies

Materials and room

- Questions on cards
- Prepared jigsaws made from different pictures
- A big enough space to move around and find the different questions (not all in one room!)

Preparation

- Prepare questions about global warming (see examples below), each with 3 possible answers.
- Print three different pictures six times (if there are six groups!) and cut the copies of each picture into identical jigsaws (eight pieces if you have eight questions). You will have 18 jigsaws in total –six jigsaws each of three pictures. If you have fewer groups, make fewer jigsaws of each picture. Place similar pieces of each jigsaw into one envelope so you have three envelopes for each question.
- Hide the questions together with three envelopes (in each envelope pieces of a different picture, each envelope has A, B or C written on it to link with the possible answers) at different places in the workshop venue.

Instructions

1. Form groups of three or four people
2. The groups should go around the venue and search for questions. When they have found a question, they need to decide which answer is right.
3. Then they take a jigsaw piece from the envelope on which their answer is marked and search for the next question.
4. If they have a full jigsaw together, all their answers were right. If the pieces do not fit, they can

go back and check the questions again. (There is the possibility that they were always wrong, but put one of the other jigsaws together fully. You can avoid this by having a positive message on the right jigsaw).

Debriefing

- Come back together, present the jigsaws and go through the answers.
- Ask the groups which questions they found most difficult, most surprising or easiest.
- The facilitator gives and explains the right answers.

Questions

1. **The Arctic Circle will face the first-ice free summer by...**
   a) 2040 b) 2090 c) 2015

2. **Which gas is not a green house gas (gas that warms up the earth)?**
   a) Neon b) Water vapour c) Carbon dioxide

3. **What causes more green house gas emissions?**
   a) Eating meat b) Driving cars c) Paper production

4. **How many trees does the average American use every year?**
   a) 7 b) 70 c) 700

5. **What produces more CO_2: a cup of tea or a couple of google searches?**
   a) Google b) Tea c) Both the same

6. **How much water on earth is suitable for direct human use?**
   a) 0.007% b) 7% c) 0.7%

7. **Who is the biggest polluter (CO_2) per capita in the world?**
   a) Australia b) India c) Egypt

8. **Which country cuts down most trees each year?**
   a) Guatemala b) Russia c) Brazil

Answers

1. Some reports say 2013, but the date most scientists agree on is 2040. No ice will be left in the arctic circle in summer for the first time in human history.

2. Water is the biggest 'greenhouse' gas both in terms of quantity and intensity. However it returns back to earth and its effects are only temporary. Carbon dioxide is next in terms of quantity, but methane is higher in terms of intensity. Neon is not a green house gas of any significance.

3. The FAO (Food and Agriculture Organisation of the UN) revealed in 2006 that 18% of the world's entire greenhouse gas emissions come from rearing livestock. The transport sector (road transport) emits fewer greenhouse gases. The total transport figure is contested, because no one knows the effect of air travel (some scholars say that carbon released higher up in the air has a greater impact). In the US, paper production is number four in greenhouse gas emissions.

4. Trees are used for paper, wood and other products. In the USA, 2,000,000,000 trees are cut per year. This equals 7 trees per American.

5. On average, one google search uses 7 grams of CO_2 (carbon dioxide). The actual search itself only takes 0.2 grams, but all the wrong clicks and the clicks you make on the page you are looking for use energy aswell. For a whole kettle of tea (6 cups), you need 15 grams of CO_2 (2.5 gram per cup of tea). So a goggle search produces more.

6. Less than 1% of the world's fresh water (0.007% of all water on earth) is accessible for direct human use.

7. Australians now emit 20.58 tons of CO_2 per person annually, whereas Americans emit 19.78 tons. Canada meanwhile emits 18.81 tons per person. In sharp contrast the emerging markets of China and India, considered two of the world's worst overall CO_2 polluters, annually emit 4.5 and 1.16 tons per person respectively.

8. Rainforests once covered 14% of the earth's land surface; now they cover a mere 6% and experts estimate that the last remaining rainforests could be consumed in less than 40 years. The Amazon Rainforest has been described as the "lungs of our planet" because it provides the essential service of continuously recycling carbon dioxide into oxygen. More than 20 percent of the world's oxygen is produced in the Amazon Rainforest. Commercial logging is the single largest cause of rainforest destruction, both directly and indirectly. Other activities destroying the rainforest include clearing land for grazing animals.