Is That Natural? Activity – Worksheet Answer Key

Part 3: Solution

1. If you counted one number every second, how many days would it take you to count to 5 billion? (There are 86,400 seconds in a day)

$$5{,}000{,}000{,}000 \div 86{,}400 = \textbf{\underline{57,870.4 days}}$$

2. It is estimated that 10 babies are born every 4 seconds. How many babies are born in 1 minute?

$$60 \div 4 = \textbf{\underline{15 sets of new babies}}$$

$$15 \times 10 = \textbf{\underline{150 new babies every minute}}$$

3. How many new babies are born in 1 hour?

$$150 \times 60 = \textbf{\underline{9,000 new babies every hour}}$$

4. How many new babies are born in 1 day?

$$9{,}000 \times 24 = \textbf{\underline{216,000 new babies every day}}$$

5. How many new babies are born in 1 year?

$$216{,}000 \times 365 = \textbf{\underline{78,840,000 new babies every year (79,056,000 in a leap year)}}$$

6. How do you think our rapidly increasing population affects our natural resources?

   More people means higher demand for natural resources. They will get used up faster.

Part 4: Petroleum

Fossil fuels are the main source of energy on our planet. Altogether, 90% of the energy humans consume comes from fossil fuels. Petroleum, a type of fossil fuel, is one of the most valuable sources of energy on Earth.

The word petroleum comes from the Latin words petra, which means "rock," and oleum, which means "oil." Thus, petroleum literally means "oil from rocks." Petroleum means both the liquid and natural gas resources that we use for our energy needs. We measure the production and consumption of petroleum in terms of barrels. One barrel of oil contains 42 gallons.

Much of the oil we use is found in reservoirs deep below Earth's surface. This type of oil is the easiest type to get out of Earth and the easiest to process into useful forms. Scientists estimate that originally Earth had about 2,390,000,000,000 (2 trillion, 390 billion) barrels of conventional (that is, light or medium-weight) oil. They estimate that we have used about 30% of these oil reserves.

Since 1968, humans have produced about 22,000,000,000 (22 billion) barrels of oil each year. Each day over 67,000,000 (67 million) barrels of oil are consumed. Oil is so important to our day-to-day lives that it has become one of the major factors in relations between nations.

Solutions

1. Is petroleum a renewable or nonrenewable energy source?

    <u>Nonrenewable</u>

2. Given the estimated daily world consumption of oil, 67,000,000 (67 million) barrels, about how many days would it take for the world to consume 1,000,000,000 (1 billion) barrels of oil?

    $1,000,000,000 \div 67,000,000 =$ **<u>14.9 DAYS</u>**

3. Scientists believe that we could produce oil at the present rate for 30 to 40 more years. What do you think the impact of lower oil reserves will be?

    <u>Accept all reasonable answers</u>