Name: _____ Period: _____ Date:_____

How One Aluminum Can Makes a Difference (Key)

Use the information in the box to assist you in answering the questions below. You will determine the effects that recycling one aluminum can could have on the environment.

- There are 365 days in one year.
- There are 7 days in one week, and 24 hours in one day.
- There are 52 weeks in one year.
- There are 12 months in one year.
- There are 60 minutes in one hour.
- There are 16 cups in one gallon.
- Recycling one aluminum can saves the energy equivalent of one cup of gasoline.
- Recycling one aluminum can saves enough energy to light a 100-watt light bulb for 210 minutes.
- Each person generates about 5 pounds of garbage per day.
- Each pound of aluminum makes 32 cans.

Adapted from: http://www.dec.ny.gov./education/73147.html

1. A ninth grade class decides to collect cans for the Annual Aluminum Can Recycling Project. How many cans will they need to collect to save the equivalent energy of 20 gallons of gasoline? 16 X 20 = 320 cans

2. If each student in a class of 28 recycles one aluminum can each day, how much gasoline energy would the class save in one week? One year? How many gallons of gasoline would they have saved?

   One week = 196 cups of gasoline energy= 12.25 gallons
   One year = 10,192 cups of gasoline energy= 637 gallons

3. Suppose your class of 28 students decides to recycle cans for a recycling contest. You set a class goal of 50 cans for each week. How many gallons of gasoline energy would that save each week?

   50 cups of gasoline energy each week divided by 16 = 3.125 gallons

4. Recycling 50 cans would save enough energy to light a room with a 100-watt bulb for how many hours? 210 X 50 = 10,500 / 60 = 175 hours

5. If you recycle one aluminum can each day for one year, you would save enough energy to light a room with a 100-watt bulb for how many minutes?

   365 X 210 = 76,650 minutes

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6. Given the number of soda cans you and your family use each week, how many minutes could you light the light bulb in one year if they were recycled? Estimate how many cans you use each year.

   Answers will vary.

7. At the end of six weeks, the ninth grade class collected 7,400 cans for recycling. How many pounds of aluminum did they collect?

   7,400 / 32 = 231.25 pounds

8. If the recycling company pays $1.35 per pound of aluminum, how much money can the class earn for 7,400 cans?

   231.25 X $1.35 = $312.19

9. If a car can go 30 miles on one gallon of gas, how far can it go on the amount of gasoline saved by recycling eight aluminum cans each month for one year?

   12 X 8 = 96 cans (96 cups of gas)
   96 / 16 (cups in a gallon) = 6 gallons
   6 X 30 = 180 miles

10. How many miles could your family's car go on the number of aluminum cans you use each year? Estimate how many cans you use each year.

    Answers will vary.

11. How did this activity change your mind about recycling aluminum cans?

    Answers will vary.

12. What can you do at home, at school and in your community to encourage recycling aluminum cans?

    Answers will vary.

Saving the Environment