

Middle School Science

Name:

Date:

Energy Efficiency Worksheet

This worksheet accompanies slide 3 of *Energy Efficiency.ppt*

Energy Efficiency

Use the equation and example below to help you answer the questions.

$$\% \text{ energy efficiency} = \frac{\text{useful energy output}}{\text{total energy input}} \times 100$$

Example

A light bulb converts 160 J of electrical energy into 8 J of light and 152 J of heat.

Using the equation:

$$\% \text{ energy efficiency} = \frac{8 \text{ J}}{160 \text{ J}} \times 100 \qquad 8 / 160 = 0.05 \qquad 0.05 \times 100 = 5\%$$

Answer the following questions about energy efficiency.

Input:



Output: heat: 20 J
noise: 160 J
light: 20 J

Input:



Output: heat: 20 J
noise: 100 J
light: 30 J

Input:



Output: heat: 10 J
noise: 130 J
light: 40 J

1. What is the useful energy output?

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2. Using the equation for energy efficiency, calculate which blowdryer is the most energy efficient.

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3. Other than using energy efficient appliances, how can you reduce the amount of energy you use?

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