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Title: Presenting the Hogg Family
Level: Intermediate, Middle School
Time: One Day
KERA Goals: 2.7, 2.8, 2.12
Objective: Practice real life problem solving and rounding skills while determining the amount of coal used each year by the Hogg family to operate all of their electrical appliances.
Background Information: (names used in this lesson may be objectionable)
Materials: Duplicated worksheet below
Activity:
Ima, Ura, Heesa, and Sheesa Hogg live in a colonial farmhouse in the suburbs. They've estimated the amount of coal needed per year to operate their various electrical appliances as follows:
Color TV: 300 pounds
Stove: 575 pounds
Hairdryer: 25 pounds
Clock: 16 pounds
Electric Water Heater: 3,500 pounds
Curling Iron: 51 pounds
Vacuum Cleaner: 43 pounds
Television Lamp: 103 pounds

One ton of coal produces 2,500 kilowatt hours (kwh) of electricity. (One ton = 2,000 pounds)
Therefore, 2,000 pounds = 2,500 kilowatt hours.

1. If the Hoggs use all of the electrical appliances listed above, how much coal will they have used in a three year period?
2. If Ima, Ura, Heesa and Sheesa used the same amount of coal equally, how much coal would each of the Hoggs use in one year?
3. Suppose the Hoggs only bought a curling iron for their tails on July 1. How much coal did the curling iron use for the remainder of the calendar year?
4. How much coal would be used if the same curling iron were purchased at a Labor Day sale?
5. Over a two year period, the Hoggs decided that one clock was not enough. Half way through the second year, they bought another clock. How much coal was used for the clocks during those two years?
6. How many years would the Hoggs have to use the hairdryer to equal the amount of coal used by the stove in one year?

Answers:
1. 4,613

2. 1,153
3. 24
4. 16
5. 38
6. 23

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