Name: _____ Form: _____

Worksheet 2 - Specific Heat Capacity.

Exercise 1: A pot is filled with 9kg of water at 10°C. Calculate how much heat energy would be needed to raise the temperature to 60°C. [specific heat capacity of water = 4200J/kg°C]

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Exercise 2: A girl during a hike has a bottle of mineral water in her haversack. The bottle has 2 litres of water in it (2ltr. weigh 2kg). The water gets heated by the sun by 5°C. How much heat has the water absorbed from the sun?

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Exercise 3: When the temperature of 0.25kg of ice-cream is increased from -10°C to -2°C, the heat supplied is 3000J. Find the specific heat capacity of the ice-cream.

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Exercise 4: A refrigerator is used to cool 3ltr of soft drink from room temperature (23°C) down to 5°C.

i. If the density of the soft drink is 1015kg/m^3, calculate the mass of the soft drink. [1ltr = 0.001m^3] {density = mass/volume}

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ii. How much heat energy must be removed if the specific heat capacity of the soft drink is 4150J/kgK.

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iii. How long will this take if the refrigerator removes heat energy at a rate of 18J/s?

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