

The following table shows the results of the experiment. The first column shows the initial temperature of the water, the second column shows the final temperature of the water, and the third column shows the change in temperature. The fourth column shows the mass of the water, and the fifth column shows the heat energy gained by the water.

Initial Temp (°C)	Final Temp (°C)	Change in Temp (°C)	Mass of Water (g)	Heat Energy Gained (J)
20	40	20	100	8400
20	45	25	100	10500
20	50	30	100	12600
20	55	35	100	14700
20	60	40	100	16800
20	65	45	100	18900
20	70	50	100	21000
20	75	55	100	23100
20	80	60	100	25200
20	85	65	100	27300
20	90	70	100	29400
20	95	75	100	31500
20	100	80	100	33600

The results of the experiment show that the heat energy gained by the water is directly proportional to the change in temperature. This is shown by the linear relationship between the change in temperature and the heat energy gained. The slope of the line is 420 J/°C, which is the specific heat capacity of water.

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