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A STUDY OF MATERIALS ABILITY TO ABSORB AND RETAIN HEAT

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Abstract

This work deals with the study of the heat absorption and retention capacity of different types of materials at different depth. Using a 200 watts bulb as the source of the heat for the soil samples, the temperature reading corresponding to each depth at a particular time interval was recorded. The materials that were used in this work were clay soil, loamy soil, sand, ashes and gravel. The samples were put in five black containers, with holes drilled at a height of 3cm and 6cm from the top and directing a 200 watts bulb on each sample, temperature readings (in ˚C) of the materials were obtained at five minutes interval for 3cm depth and 6cm depth with bulb switched on for the first thirty minutes and switched off for another thirty minutes. The readings obtained were analyzed and equations were generated to determine the temperature of each sample as a function of time at 3cm and 6cm.

Keywords: Heat, Sandy Soil, Clay Soil, Loamy Soil, Ashes and Gravel