

1981

Teachers Institute

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Recommended Citation

(1981) "Teachers Institute," *Iowa Science Teachers Journal*: Vol. 18: No. 1, Article 15.

Available at: <https://scholarworks.uni.edu/istj/vol18/iss1/15>

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Classroom Use

There are many different investigations requiring different levels of interest and understanding that students may perform with a functioning solar collector. Students may collect data reflecting outside weather conditions and their effect on the output temperature of the solar collector. Graphing, interpreting and communication skills may be sharpened by the display of the data. Records of the number of use (sunny) days during the late fall, winter and early spring as a check on the frequency of use could be prepared. On weekends, when building heat is off, comparisons could be made of room temperature in the solar heated room and in similar unheated rooms. In rooms with thermostatically controlled heating, fuel savings may be indicated by comparing the amount of time the heating system in the solar heated room operates with the amount of time identical systems operate in similar rooms without a solar collector. Other students may want to work on ways of improving the design. Determining conditions of optimum heat flow would be an example. By controlling the rate of intake of room air into the cold chamber, and by monitoring the resultant exhaust temperatures and air flow rates, optimum heat transfer conditions could be determined.

The construction and subsequent use and testing of a classroom solar collector has had many benefits. Participating student have seen their efforts result in the positive use of recycled materials. They have also learned that they are capable of employing simple construction techniques to provide a useful way of coping with energy concerns. The unit has provided a working model of some principles of thermodynamics, and has provided the basis for numerous experimental projects.

Is Science Atheistic?

“. . . research performed in a truly scientific manner can never be in contrast with faith because both profane and religious realities have their origin in the same God.”

Pope John Paul II
Vatican II Ecumenical Council

Teachers Institute

The second annual Institute for Teachers of Talented High School Students will be held June 21-26. For further information contact Robert E. Bonner, Director of Summer Programs, Carleton College, Northfield Minnesota 55057.