

T4_91 THERMAL SENSORS INTERFACED WITH COMPUTER AS EXTENSION OF SENSE IN PRIMARY SCHOOL

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The new technologies offer new learning opportunities to science teaching also in primary. Simple systems based upon sensors computer on-line, are proposed for experimental interactive explorations in formal and informal learning contexts as a powerful extension of the senses. In the field of thermal phenomena they allow a phenomenological exploration based on a thermodynamical approach to the thermal processes. The exploration by tactile sensation of thermal properties of systems is extended using on line sensors. The real time graphs observed by pupils are linked with the processed realized by pupils for instance heating by their hands a sensor or putting in contact different systems. The iconic relevant aspects of the graphs of the behavior in time of the sensors temperature create imaginative reduction of the concepts bridging pupil in their own learning path in the construction of abstract concept as thermal equilibrium, in the distinction of state properties of system as temperature and process or interaction properties as conductivity.