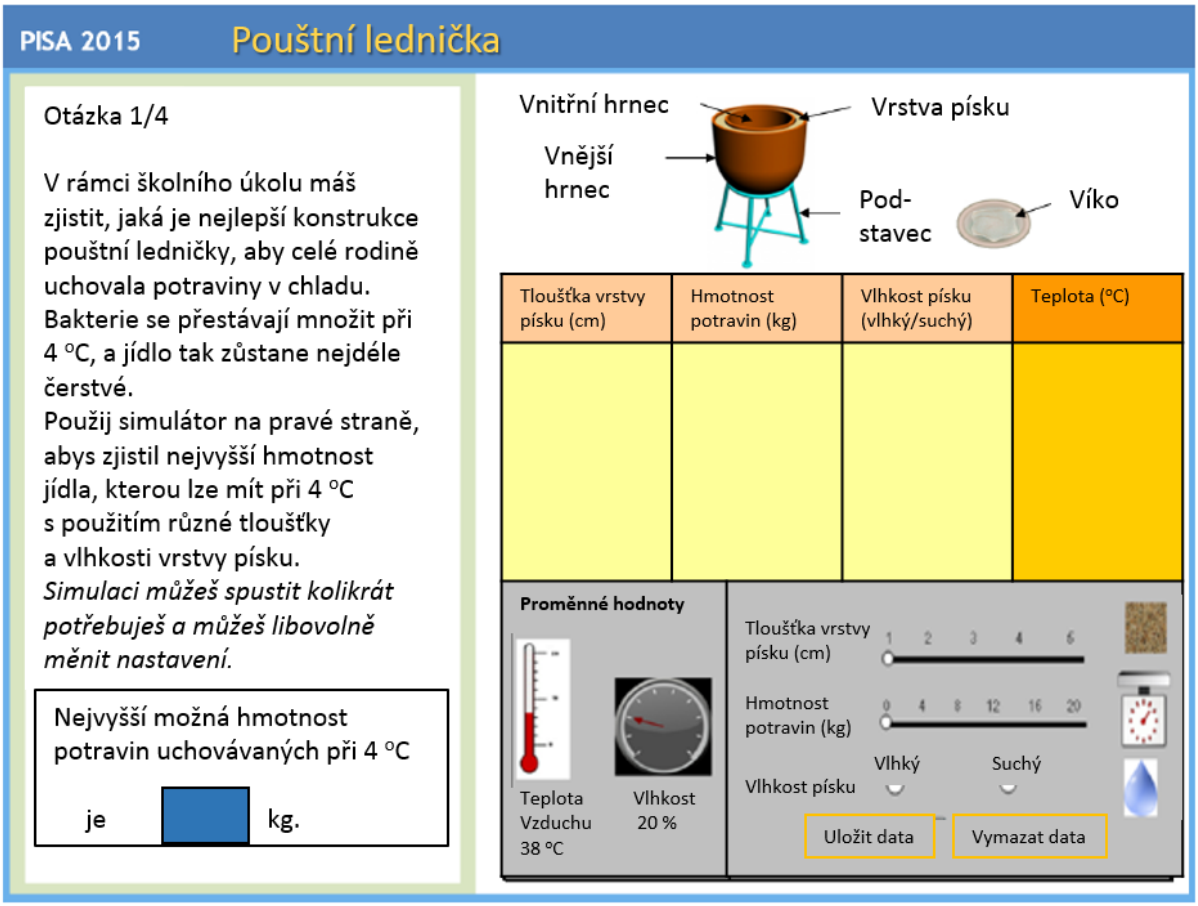
71. Using this simulation, students are asked to investigate the conditions that will produce the most effective cooling effects (4 ^{0}C) for keeping food fresh in the Zeer pot. The simulator keeps certain conditions constant (the air temperature and the humidity), but includes this information to enhance the authentic contextual setting. In the first question, students are asked to investigate the optimum conditions to keep the maximum amount of food fresh in the Zeer pot by altering the thickness of the sand layer and the moisture conditions.

Figure 20. ZEER POT: Question 1



72. When students have set their conditions (which also alter the visual display of the on screen Zeer pot), they press the record data button which then runs the simulation and populates the data chart. They need to run a number of data simulations, and can remove data or repeat any simulations as required. This screen then records their response to the maximum amount of food kept fresh at 4°C. Their approaches to the design and evaluation of this form of scientific enquiry can be assessed in subsequent questions.

73. The knowledge categorisation for this item is procedural and the competence is Evaluate and design scientific enquiry. The context categorisation is Natural Resources, although it also has links to Health and Disease. The cognitive demand of this question is categorised as high because students are given a complex situation, and they need to develop a systematic sequence of investigations to answer the question.