



PT\_Class\_WolfSheepCabbage\_NoS\_1

<b>Teacher Education Design Principle + code:</b>	3. Teacher education should advance teachers' understandings about the nature of science and how scientists work, confronting stereotypical images of science and scientists. <b>TE: NoS</b>
<b>Specific Teacher Outcome(s):</b>	3.1 Teachers should be able to advance children's understanding about the nature of science and how scientists work, confronting stereotypical images of science and scientists. 3.2 Teachers should be able to recognize young children's capabilities to engage with processes associated with the evaluation as well as generation of ideas in science and mathematics, since these processes are also important for the development of learner creativity.
<b>Factors linked with:</b>	<b>LA: Expl;</b> <b>LA: Comm;</b> <b>LA: Connect</b>
<b>Type of material (image – interview (int) – classroom extract (class):</b>	Class
<b>Originating from:</b>	
<b>Country report :</b>	D4.3
<b>Case:</b>	Case 3
<b>Episode:</b>	Wolf, sheep and cabbage
<b>Teacher:</b>	Florence
<b>Age Group:</b>	8
<b>Selected episode present in D4.4 Appendix</b>	Yes





### The activity WolfSheepCabbage

**Problem:** A man needs to bring a wolf, a sheep, and a cabbage across the river.

The boat is tiny and can only carry one passenger at a time.

If he leaves the wolf and the sheep alone together, the wolf will eat the sheep.

If he leaves the sheep and the cabbage alone together, the sheep will eat the cabbage.

How can he bring all three safely across the river?

### Examples of children explaining why certain ideas would work and would not work

**Child R:** If we took the sheep first, then the cabbage, then the sheep will eat the cabbage.

**Child R:** So we have to leave the sheep and bring the cabbage back.

**Child R:** If we took the cabbage in first place, the wolf will eat the sheep. (...)

**Child G:** First we take the sheep across, then we go back and get the cabbage, then we take the sheep back and take the wolf across, then we take the sheep across

Every time a group would reach a solution, it was demonstrated to the teacher using their paper models and moving the boat from one shore to another.

Children's **problem solving skills** were fostered as they suggested and tried different potential solutions and gave **reasons** why certain ideas work or would not work. Children used and developed science skills such as predicting, observing, analysing and describing, demonstrating scientific or mathematical creativity in generating alternative ideas and strategies and **reasoning critically between them**. They also had to **make connections** between the combinatorial / mathematical aspect of the task and their knowledge of food chains.



© 2014 UNIVERSIDADE DO MINHO

This work is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by-nc-nd/4.0/>.



The project CREATIVE LITTLE SCIENTISTS has received funding from the European Union's Seventh Framework Programme (FP7/2007-2013) for research, technological development and demonstration under grant agreement no 289081.