



# "Egg collision" and "The bottles content"



## "IBSE as ends" and "IBSE as means"

IBSE can be seen from two perspectives namely as "Inquiry as ends" where students learn to do inquiry in the context of science content and the development of scientific knowledge and "Inquiry as means", where inquiry is an approach intended to help students develop understandings of science contents. I here present two courses "Egg collision" and "The bottles contains" tested from Munkebo Skole spring of 2014.

### Egg collision

The aim was that students achieve competences within the work by the scientific working.

"Egg collision" is planned as "Inquiry as ends". Selected students from 7th grade have designed, planned and carried out an experiment where an egg was released from various heights without breaking when landing.

First, students received the following introductions to the work natural science and to work as a scientist. Students found in groups factors that affect an egg can land safely.

After a joint discussion selected students a variable after which they designed their studies and subsequently executed.

"We needed to keep track of that we threw with the same force and the egg landed in the tub with sand"

"Next time I will forward a hypothesis and spend more time designing procedures"

73% had new ideas for new studies while carrying out the study.

"It was obvious that the working method was unknown to the students, but they were keen and committed. They got some good and instructive experience of working inquiry-based ". (Teacher Lisbeth Vive).

### The bottles contains

The aim was that students could apply the knowledge and use the tests that they have acquired through the initial term.

"The bottles contains" planned based as "Inquiry as means". Students in 7th grade have up to the course work with basic knowledge of acids and bases. Students are given case in which they identify contents of two non-labeled bottles.

To solve the case study, students should prepare a Photo Story movie, in which they have to present their ideas on how to identify the contents of the bottles, as well as how to defuse the content.

After a discussion based on their presentations, the students now identify the contents of the bottles, using appropriate test .

"I found out that in the one that was acid that was strong and in the other there was the base".

"The stronger the acid, the more water you have to use the thinner it is the less water you have to use ".

78% agreed or strongly agreed that they learned a lot about acids and bases by working with the assignment.

"It was obvious what the students had understood the substance and the misunderstandings were corrected in the final debate and testing." (Teacher Lisbeth Vive).