

DRIVING QUESTION



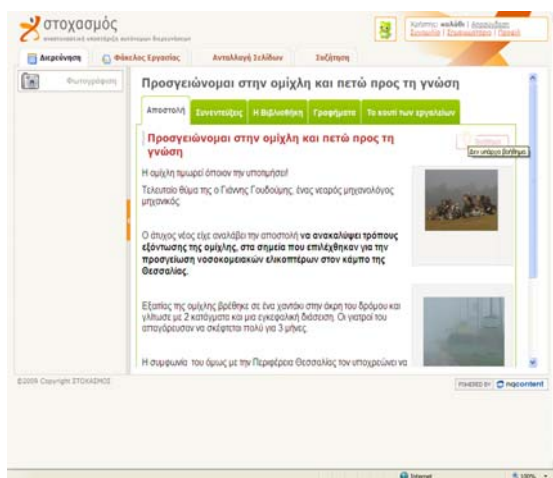
How can we control fog in a specific part of an area where fogs are common so that a helicopter can land for emergency reasons?



LOCAL WORKING GROUP MEMBERS

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SCENARIO



Fog punishes the one who looks down on it!
Its last victim was John Beaver, a young Physicist.
The unfortunate young lad was responsible for finding ways to eliminate fog in selected spots, suitable for the landing of medical helicopters, in the plain of Thessaly. Due to thick fog he ended up in a ditch by the road. He finally survived with two fractured bones and a concussion. The doctors have prescribed “not too much thinking” for him for 3 months.

However, his contract with the prefecture of Thessaly obliges him to complete his research project within two months; otherwise he is in danger to be finned. You have the mission to complete the task that John has taken on himself so that he is not finned.
From his part you’ll have two pages from his notebook that were found in the place of the accident, to help you with your mission.

PILOT ENACTMENT

Begin date: 20 February 2009
End date: 2 June 2009
Number of sessions: 8 or 9
Duration of each session: 1 per 2 Weeks, 90-minute sessions
Grade level: 5th grade
Subject: “I search the natural world” (Natural Science)
Number of participating students: 26
Enactment teachers: 1

WORKSPACE

The WorkSpace environment for the pilot consisted of a total of four templates. Each template supported students in one of the following:

LEARNING GOALS

- By the end of the intervention students are expected to:
- Demonstrate a better understanding of the structure of fog
 - Demonstrate a better understanding of concepts related to water evaporation and condensation
 - Create richer mechanistic explanations

INQUIRY ACTIVITY OVERVIEW

- Students are introduced in the same time to STOCHASMOS, the (design) mission, its constraints, the hints provided.
- Students create their first design ideas by using a template
- Students concentrate on the issue of elaborating their ideas. Elaboration leads to questions of understanding that are shared by all
- Each group selects the design idea along which it will work, selects the relevant questions of understanding and works on them in STOCHASMOS
- Students use another template that forces them to a more detailed argumentation in support for their design idea
- Groups of students make dyads that comment on each others' proposed solutions
- (one hour) presentation of each group to all

- Expressing their initial design and their selected directions of further work
- Formulating Mechanistic explanations
- Elaborating the design
- Accessing the design