



DISSEMINATING INQUIRY-BASED SCIENCE
AND MATHEMATICS EDUCATION IN EUROPE

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This learning environment was created within the European project Fibonacci, a project focused on inquiry based science and mathematics education.	
Age:	14 - 19
Subject:	Mathematics
Topic:	Linear function
Target:	The real-life use of linear function
Form:	Individual (homework)
Time needed:	First lesson: 5 minutes to familiarize with the task Second lesson: 15 minutes for final presentations
Tools:	PC, internet, ...
Sources:	---
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Twin Centre:	TC1 České Budějovice, http://www.pf.jcu.cz/stru/katedry/m/fibo.html

TASK

Check the price of gasoline (or diesel) around the place you live, and decide to which gas station it is worth going to fill up your family car (a full tank, 10 L, 20 L, 30 L, ...). Present the results of your investigation.

METHODOLOGICAL COMMENT

Students should be able to use linear functions in real life situations, and analyze the costs associated with running a family car:

- draw a graph of a linear function expressing the dependence of price for 1 liter of fuel on the amount of fuel pumped, including the cost of the transport to a given gas station;
- represent different gas stations in a common graph
- compare the gas stations, evaluate the results
- present the results (at school – getting a grade/mark, at home – saving family money)

At the first lesson the teacher discusses with students what needs to be checked before starting the task, and writes down the list of questions raised:

- which kind of fuel their car needs (gasoline/diesel)
- how big is the tank of the car
- what is the average consumption of the car
- where are the nearest gas stations around their house
- what is the distance of each gas station from their house
- which gas station is regularly driven by
- ...

At the second lesson the students present their homework results, with particular gas stations and actual prices, and make both individual and common conclusions.