



Problem Posing Pro-Forma use of photographs

Assumption

A numerical or maths problem has multiple solutions or none, it is framed as an open-ended question. There is no clear path to the answer – students cannot easily use a formula. Within the problem students are often given too much information or not enough

1. Activity Name: Value of the Pens
2. Expected duration of activity: 15 minutes
3. What EQF level is the activity (approximately)? All
4. What is the topic? Basic Arithmetic operations and BIDMAS
5. What are the Learning Outcomes? investigate the properties of arithmetic and appreciate the order of operations,
6. Prerequisite/prior knowledge assumed? Arithmetic operations and BIDMAS
7. In what ways does the problem, or the way the problem is delivered to the students:
 - encourage critical way of investigating and thinking? Explore relationship between addition, subtraction, multiplication and division and order of operations
 - encourage analysis?
 - allow students to be creative? Could adapt or extend the problem to make it more difficult
 - allow independent learning? can work individually
 - allow for co-operative learning? Can work in small groups
 - allow students time to think? Picture is static so can be returned to at any time.
 - have a relevant or interesting context? While the prop used in this example is different colour pens, this can be changed accordingly
 - allow for multiple ways of solving or investigating the challenge? Can be easily extended

8. Resources or materials required? Photograph, though the problem could be recreated by students using their own pens.
9. What technology is required in the delivery of the problem? None
10. What technology might potentially be required in the solving of the problem? none
11. Suggestions for delivery: teacher presents the problem and students work individually or in small groups to solve. They can then extend or pose similar problems using resources available