With the support of the Erasmus+ programme of the European Union

Problem Posing Pro-Forma :use of resources (videos and 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

How many people do you see in the picture?
How long time does it take to let all people in? (depends on: how many entrances? is there a security check? ….)
When do you have to leave home to be there in time?

1. Activity Name: Audience
2. Expected duration of activity: 1-2 lessons
3. What EQF level is the activity (approximately)?: all
4. What is the topic?: big numbers and time
5. What are the Learning Outcomes? Estimate and describe a situation from a mathematical view
6. Prerequisite/prior knowledge assumed?: know about big numbers, area and timelines
7. In what ways does the problem, or the way the problem is delivered to the students:
   - encourage critical way of investigating and thinking?: The students must be able to imagine how many people participate in a concert?
   - encourage analysis? The students have to estimate the amount of people and if they are asked to find out how long it takes for the people to enter the concert area, they have to ask: from where?
   - allow students to be creative? Do we need a rescue-team? How many police officers are required?
   - allow independent learning? It is possible to differentiate the task, depending on which question you ask
   - allow for co-operative learning? Indeed - if the class gets together to find out how much room they need

- allow students time to think? Depends on the teacher - it is relevant to give the students time to reflect and communicate

- have a relevant or interesting context? Everybody has been or knows somebody that have participated in a concert

- allow for multiple ways of solving or investigating the challenge? The teacher chooses the level of maths depending on the students' level

8. Resources or materials required? Measuring tape and stopwatch/phone

9. What technology is required in the delivery of the problem? A projector to show the picture from a PC/Mac

10. What technology might potentially be required in the solving of the problem? Spreadsheet, GeoGebra

11. Suggestions for delivery: Make some kind of a movie (Pixton or video) with dialogue