



## Problem Posing Pro-Forma: use of videos

### 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: Cloud Cover
2. Expected duration of activity: 1-2hours
3. What EQF level is the activity (approximately)? EQF level 1/2
4. What is the topic? Estimating cloud cover
5. What are the Learning Outcomes? Learning about cloud types, explore ways to estimate cloud cover using fractions
6. Prerequisite/prior knowledge assumed? Knowledge of simple fractions
7. In what ways does the problem, or the way the problem is delivered to the students:
  - encourage critical way of investigating and thinking?  
Problem posed with no answer or route to answer given. Cloud cover will be variable depending on student location.
  - encourage analysis? As an extension, students could discuss impacts of height above ground level on the cloud cover estimation
  - allow students to be creative? Variety of ways to approach problem solving.
  - allow independent learning? Could be worked on individually including distance learning sharing estimations and techniques would be useful though
  - allow for co-operative learning? Would be useful to work in groups to explore topic and share/compare estimations – we can add this point to the guidance for video.
  - allow students time to think? There is pause time within video to allow student time to think/research
  - have a relevant or interesting context? Everyday topic of weather
  - allow for multiple ways of solving or investigating the challenge?  
There could be a variety of methods used to estimate the answer.

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Researching the problem would likely lead students to the recognised system of Oktas used to measure cloud cover

8. Resources or materials required? If students have researched Okta system, they could make an Okta grid to use in their estimation. Might be useful to have images with different amounts of cloud cover available to use as examples.
9. What technology is required in the delivery of the problem? Access to video required
10. What technology might potentially be required in the solving of the problem? none
11. Suggestions for delivery – in a group setting, watch video and then explore problem solving in small groups. It could be possible to use real time weather at group location or use example images. As an extension could look at impacts of varying amounts of cloud cover on our everyday lives

Notes from peer review:

It is possible to add a photo that would demonstrate a sky with clouds but not full cover. This could generate a discussion around estimating cloud cover and the need for some sort of measure, at this point the tutor could then introduce the Oktas

It is possible to insert a slide with the Okta scale, the following one may assist:

[https://www.google.com/search?as\\_st=y&tbm=isch&hl=en&as\\_q=cloud+cover+one+okta&as\\_epq=&as\\_oq=&as\\_eq=&cr=&as\\_sitesearch=&safe=active&tbs=sur:fm#imgrc=-bINoNYTwaOiqM:](https://www.google.com/search?as_st=y&tbm=isch&hl=en&as_q=cloud+cover+one+okta&as_epq=&as_oq=&as_eq=&cr=&as_sitesearch=&safe=active&tbs=sur:fm#imgrc=-bINoNYTwaOiqM:)

It might be worth adding the following link:

[https://www.sserc.org.uk/wp-content/uploads/2012/04/Resource-2\\_2-Measuring-Cloud-Cover.pdf](https://www.sserc.org.uk/wp-content/uploads/2012/04/Resource-2_2-Measuring-Cloud-Cover.pdf)

or this one:

<https://awomanlessordinary.com/clouds/>