Curricular Area: MNULevel: Second Level

Measuring Cloud Cover – part of Weather and MNU Mini Topic

Experience and Outcomes

I have investigated the everyday contexts in which simple fractions, percentages or decimal fractions are used and can carry out the necessary calculations to solve related problems. MNU 2-07a

Learning Outcome

Learners will know how to create a simple fraction grids (1/2 , 1/4 and 1/8).

Learners will learn how fractions are used to record scientific (weather) data which can be collated and used to identify trends in weather and climate over time.

Resources

Cloud Cover Observations

Information for Teachers
Meteorologists use oktas or 1/8s to describe the amount of cloud in the sky (cloud cover). This link takes you to a definition of oktas http://worldweather.wmo.int/oktas.htm and https://www.metoffice.gov.uk/weather/guides/observations/how-we-measure-cloud provides information on cloud measurement processes in general.

Learners will need:
For each observation

1. a grid of 8 equal cells (a piece of paper folded into 8 equal parts/ 1/8s)
2. pencil or pen 1 grid per observation

Alternatively, ask pupils to create their own grids on dry wipe boards or with pencil and paper.

Link to Weather Mini Topic MNU 2nd Level Weather as Mini Topic

Activity

1. Before leaving classroom, view Met Office information online (see resources) and discuss the importance of accurate measurements for scientists recording data.
2. Create observation grids (sheets divided into 8 equal parts either by folding sheets of paper or by measuring and dividing a sheet of paper with pencil lines).
3. Date your pieces of paper. If making observations several times in one day, add time of observation. Make observations at same time or times of the day.
4. Fill in a cell (1/8) of your grid for each okta required to describe the cloud cover you see. If it is foggy and it is not possible to see the sky, you record 9 oktas (9/8s) on your grid.
5. What fraction of the sky was cloud covered?
6. Express this fraction in its simplest form. Ask the question, 'Why do you think meteorologists prefer to express in 1/8s?'

Assessment

Observe pupils as they make their own grids. Are they able to describe the process to achieve a sheet divided into 8 equal parts and use the language fraction, equal and 1/8s accurately.

Can pupils make suggestions for making their grid more precisely 1/8s?

Measure the folded/drawn sections – are they equal in dimensions? If not, how can the process be improved?

Submitted by: C McFarlane
School: EAC LOST