

Units 3 and 4 Course Planning Day: Constructing a rubric for an assessment task

The assessment task should ‘draw on the key knowledge outlined in Area of Study and the related key science skills on [pages 11 and 12](#) of the study design.’ (from Outcome statement in the study design). The use of the phrase ‘**draw on**’ indicates that an assessment task is not expected to assess all the dot points in that Area of Study. Similarly the word ‘**related**’ in qualifying the key science skills indicates that all the skills cannot be assessed in a task. So, in designing a task some dot points and skills will not be covered.

Vicphysics has prepared performance descriptors for each of the Areas of Study in Units 3 and 4. Each of the key dot points in an Area of Study has five comments to cover the range of student performance. For example, in Unit 3, Area of Study 3 on ‘generating electricity, etc. the descriptors for magnetic flux in the table below. The Vicphysics website, [Resources for Course Planning Day \(vicphysics.org\)](http://Resources for Course Planning Day (vicphysics.org)), has a spreadsheet with a worksheet of descriptors for each Area of Study.

Unit 3 AoS 3	Magnetic Flux
Very high	Student can explain the expected variation in magnetic flux through a loop rotating perpendicular to a constant magnetic field
High	Student calculates the magnetic flux passing through a loop at any angle to a constant magnetic field
Medium	Student calculates the magnetic flux passing through a loop parallel or perpendicular to a constant magnetic field
Low	Student calculates the magnetic flux passing through a given area parallel or perpendicular to a constant magnetic field
Very low	Student describes direction of magnetic field passing through a loop

Vicphysics has also prepared performance descriptors for some of the key science skills. Only three skills are not more applicable to the Practical Investigation. They are:

- Construct evidence-based arguments and draw conclusions
- Analyse, evaluate and communicate scientific ideas and
- Analyse and evaluate data and investigation methods.

Each of these has either 6 and 7 aspects, resp. For example, one of the aspects for the second skill on Communication is ‘analyse and explain how models and theories are used to organise and understand observed phenomena and concepts related to physics, identifying limitations of selected models/theories’. The descriptors for this aspect are in the table below.

Communication	analyse and explain how models and theories are used
High	Can apply scientific models and theories to specific examples and contexts. Can explain how models are constructed, including simplifications and assumptions. Understand that models can be used to make predictions. Can also explain how theories are used to make sense of observations and guide scientific research.
Medium	Can understand that models are used for predictions and explanations, and that theories provide a framework for understanding natural phenomena. However, the understanding may be limited to basic examples.
Low	Can explain that models are simplified representations of real-world phenomena and that theories are explanations of observed facts.

A strategy to design a rubric for an assessment task could be:

- Identify the dot points relevant to your assessment task,
- Cut and paste those rows of performance descriptors into your rubric,
- Identify the aspect(s) of the key science skills that relate to your assessment task, these are not as distinct as the dot points and seem to overlap, so be selective,
- Cut and paste the selected row(s) into your rubric.