



# Diagnostic assessment

## Resource to support school planning

This concise resource is designed to support educators and leaders to utilise diagnostic assessment to support teaching.

### What is diagnostic assessment?

Diagnostic assessments help identify students' existing thinking, strengths, and weaknesses before commencing an activity, lesson, or topic. They can give useful insights into student learning, although interpreting the information they produce requires professional judgement from teachers, as there are many reasons why students might answer a question in a certain way.

When used effectively, diagnostic assessments can indicate areas for development with individual students or across classes and year groups. Some methods can also help teachers isolate the specific misconceptions students might hold.

Regardless of what form they take, it is important that teachers know why they are conducting assessments prior to using them. It should be clear what information the assessment is being designed to produce, and how this information will inform subsequent decision making.

For example, it would be inappropriate for a diagnostic assessment to determine whether an individual student should receive a literacy or numeracy initiative, unless it had been designed and recognised for this purpose. In contrast, using a series of questions throughout a class to determine how well a foundational concept has been learnt may be useful for a teacher who is deciding whether to reteach specific content.

#### With the information diagnostic assessments provide, teachers may:

- decide to adjust the level of challenge of activities.
- reteach specific concepts or topics.
- adjust curriculum content in the medium or long term.
- provide students with feedback through which they can address their own areas for improvement.
- identify students who may need additional, targeted academic support.

#### Note: Types of assessment

A range of descriptions are used in different jurisdictions and settings for types of assessment. This resource is focussed on diagnostic assessment that is used to identify students' existing thinking, strengths and weaknesses before commencing an activity, lesson or topic.

AITSL has a range of resources that relate to broader assessment topics which you can find in the [types of assessment resource pack here](#).



## Examples of diagnostic assessments to support teaching

- **Hinge questions:** Hinge questions provide an immediate, often informal check of the initial understanding of every student in a class. While not necessarily an indicator of secure learning, they can inform the teacher if students have understood what has been taught and, when carefully designed, can identify misunderstandings and misconceptions.
- **Quizzing:** Having decided through curriculum planning the key concepts we expect students to learn, low-stakes quizzes provide a quick way of checking understanding of these and identifying areas needing development.
- **Pre-topic 'mind-map':** Effective diagnostic assessment often comes before a teaching sequence with the purpose of ascertaining students' prior knowledge. Mind maps (sometimes called 'concept maps') are used to assess the prior knowledge and understanding of students and their readiness to study new material. They can also be used to highlight connections and to organise or categorise ideas and concepts.
- **Scales and rubrics:** Scales and rubrics can offer a framework to help measure students' level of achievement in areas such as reading fluency. Using these frameworks, teachers can gauge student progress as well as the effectiveness of their teaching.
- **Targeted diagnostic tools:** Diagnostic tools and instruments that have been developed to focus on specific curriculum content can be used to identify common misconceptions or track progress through specific learning progressions. For example the [Force Concept Inventory](#) can be used to identify students' existing understanding of key concepts in the topic of motion in Physics.

## Key reflection questions to consider

- What assessment tasks will give us the best diagnostic information about the prerequisite knowledge, skills and competencies we want our students to develop?
- Are we clear about the kinds of choices we want information from our diagnostic assessments to support and are these choices that we actually can and do act on?
- How will we best sequence diagnostic assessments throughout the academic year?
- When standardised diagnostic assessments are used, are staff trained in how to interpret the outcomes of the assessment in order to plan the next steps in learning?
- Are diagnostic assessments used to diagnose issues at both an individual student level and at a cohort or class level?
- Are diagnostic assessments being used to inform sensible adaptations to the curriculum content?
- Are teachers confident and able to adapt curriculum content a result of their diagnostic assessment e.g. take more curriculum time to reteach a concept?
- Do teachers have the opportunity to work with colleagues to identify efficient approaches to diagnostic assessment?
- How are students being selected to receive additional support e.g. tutoring? Is reliable data being used to inform those judgements?
- Is any additional support as a result of diagnostic assessment closely aligned with the curriculum standards so that that initiative itself may not hamper subsequent student progress?

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