K7Maths and FIRST STEPS

K7Maths
K7Maths is designed to be a fully integrated mathematics resource to support the First Steps model of (1) assessing - (2) planning - (3) implementing cycle.

(1) Using K7Maths to Assess Student Needs

Both formative and summative assessment are a key feature of K7Maths.

Formative Assessment

- Formative assessment is based on the key outcome(s) provided with every K7Maths activity (in the Teacher’s Notes) and the topic tests in the Test Item Bank (a formative-mastery-diagnostic set of tests).

Outcomes and Formative Assessment

- Key outcomes form the focus for making professional judgements and diagnosing each student's mathematics behaviour in the activity, i.e. “What has the student demonstrated?” How well has the student demonstrated...?”
- The Teachers Notes provide lesson steps and questions to ask of students. This high level of support for teachers will enhance teacher understanding of mathematics as a way to improve student learning.
- There are multiple activities available for teachers to use to give students the best opportunity to demonstrate outcomes and teachers to make the best judgements about student learning.
- As well, all activities can be customized for re-teaching/re-assessing purposes.

Testing and Formative Assessment

- Formative assessment is also provided through the Test Item Bank provided for each year level.
- The Test Item Banks are ‘fine-grained’ diagnostic tests where students are asked to demonstrate mastery of a concept or skill (i.e. competency) by providing 2 or 3 correct responses out of each set of 3 questions.
- The Test Item Banks exactly match the content described in your Mathematics Curriculum. That is, for each item of curriculum content there is at least one corresponding Test Item of 3 tasks.
- Teachers can use the Tests to pre-test, post-test and re-test as required. Tests are also available across year levels, e.g. for the Year 4 teacher to access the Year 3 Tests etc. Tests can be selected to match student needs.
- The tests are best used ‘formatively’ to gauge whether students have learned what has recently been taught. The ideal time to tests formatively is 2-5 days after a concept or skill has been taught. In this way you will be testing students in relation to their medium-long term memory (rather than just their short term memory if they are tested more immediately).
- The tests are ‘low stakes’ tests in that they can be used more than once as content is taught and, where necessary, retaught and re-tested. Teachers can also customize the Tests for re-testing purposes.
- Teachers who use the Student Record Sheet (provided) will build a clear diagnostic map of student levels of understanding and abilities in mathematics.

(2) Using K7Maths to Plan for Student Needs

Scope and Sequence

- Teachers will build a picture of student needs from their assessments (as described above) and by maintaining a close relationship with a suitable Scope and Sequence of mathematics content to be taught at a year level.
- K7Maths provides a Scope and Sequence for each Year/Grade level based and gives clear guidance to teachers on ‘what to teach’.
- There is also a Scope and Sequence giving teachers clear guidance on ‘what to teach’ based on your state/territory Mathematics Curriculum and the year level priorities as described in the 2011 Australian Curriculum (Foundation-Year 7).

Developmental Levels
- K7Maths is a developmental resource. If a student is diagnosed as working at an earlier or later level to his/her age cohort teachers are able to source learning experiences to meet the student’s needs.
- In Search Option 2 at K7Maths teachers can search for activities on any content topic across multiple Year levels.
- You can use the K7Maths ‘picture viewer’ to click through activities to find those that meet student needs, regardless of the Year level the activity comes from. You use it because it meets a need not because it’s a Year 3 or 4... activity.

(3) Using K7Maths to Implement Student Learning

Locating Activities
- The 4000+ K7Maths activities support all content strands the Curriculum.
- The activities in the database are sourced by teachers via the structure the Curriculum.

Using the Activities
- The activities are designed to give students the opportunity to demonstrate mathematics outcomes (see formative assessment above).
- The activities have a strong focus on engaging students in thinking and working mathematically across all content strands (The Teacher Notes for each activity provide many inquiry/focus questions to engage students in mathematical reasoning).
- The activities provide experience with skills practise, concept development, application of ideas and authentic investigations.
- Where possible, contexts have been provided to make the activities interesting to students.
- The activities meet the needs of many different learning styles.
- The activities can be customized by teachers to meet very specific needs such as ‘re-teaching’.
- All activities feature opportunities for reflective learning (self, peer and teacher).
- The activities come in 3 key modes:
  o A4 downloadable
  o Landscape-colour for use with EWB’s and data-viewers
  o Interactive (to use with EWBs and computers)
- The activities can be used in either or both student-centred or teacher-centred lessons.

Testimonials
"The K7Maths lessons I have conducted in my class are fantastic - the students really engage with them."
Susan Kerr

"A Getting It Right Numeracy teacher put me in touch with your site and I think it is a fabulous resource full of great lesson materials. The lesson ideas have been enjoyed by the students I teach and in turn I have enjoyed observing the interaction of the students with mathematics. The support for teachers with effective questioning and points to look out for as the lesson develops is really positive and I look forward to including it in my planning for 2010."
Lyn Harding