Alberta Regional Consortia

ELEMENTARY MATHEMATICS PROFESSIONAL LEARNING

Selecting Resources for Teaching and Learning:

A GUIDE FOR

K-6 Mathematics

Purpose of this document :

to support teachers as they select resources for teaching and learning.

Selecting resources is an important step in preparation for a lesson or a unit. All teachers wish they had a magical resource that does everything all of the time, but none meet the requirement for a complete and balanced approach to addressing the Alberta Program of Studies.

Consider the following when planning for instruction:

- The integration of the mathematical processes within each strand is expected.
- Learning mathematics includes a balance between understanding, recalling and applying mathematical concepts.
- Problem solving, reasoning and connections are vital to increase mathematical fluency and must be integrated throughout the program.
- There is to be a balance between mental mathematics and estimation, paper and pencil exercises, and the use of technology, including calculators and computers.
- Concepts should be introduced using manipulatives and be developed concretely, pictorially and symbolically.
- Students bring a diversity of learning styles and cultural backgrounds to the classroom. They will be at varying developmental stages.

Mathematics (K–9). Alberta Education 2007 (Updated 2016). p 10

Teaching is not dictated by resources. Planning is directed by the Alberta Program of Studies.

The resources chosen must support:

- curricular outcomes
- instructional practices
- diverse needs of students

The program of studies is designed by the province and no publisher has aligned all of the outcomes in their resource to the Alberta context, therefore teachers must consider multiple resources:

- "At all levels, students benefit from working with a variety of materials, tools, and contexts when constructing meaning about new mathematical ideas."

Mathematics (K–9). Alberta Education 2007 (Updated 2016). p 1

Teachers should first consider if the resource...

- supports the targeted learning outcome(s) [1]
- deliberately attends to the mathematical process(es) [2] associated with each learning outcome

If the above criteria are met, other factors that may influence resource selection include:

- appropriate reading level
- multiple entry points
- options for differentiation
- respectful of all (culture, Indigenous perspectives, etc.)
- reusable/reproducible/editable
- allows for independent practice
- addresses specific components of a lesson - starter/hook, problem-solving (rich task), meaningful practice, closure
- provides more than symbolic representation (not only worksheets)
- multiple entry questions (high/low)
- encourages student reflection
- allows for use of multiple strategies and includes the balance of concrete, pictorial and symbolic
- values student thinking in meaningful, authentic ways

For more information:
Alberta: Guide to Education (p.141)
PEI Guide: Evaluation and Selection of Learning Resources: A guide

[1] "The overall goal must be to support the learning outcomes of the curriculum. The consideration of the curriculum fit must be applied rigorously to all mediums of presentation." (Evaluation and Selection of Learning Resources: A guide, 2008)
[2] Link to Mathematical Processes Mathematics (K–9). Alberta Education 2007 (Updated 2016). p 4