

INTRODUCTION

Background

Kindergarten to Grade 4 Science: A Foundation for Implementation was produced by Manitoba Education and Training in collaboration with a development team composed of Manitoba educators. This resource for teachers and administrators provides support for implementing *Kindergarten to Grade 4 Science: Manitoba Curriculum Framework of Outcomes* (1999). This framework identifies general and specific student learning outcomes for science and integrates the four foundation skill areas of literacy and communication, problem solving, human relations, and technology. It is mandated for use in all Kindergarten to Grade 4 schools in Manitoba.

Contents

Kindergarten to Grade 4 Science: A Foundation for Implementation contains the following sections:

- **Introduction** — The introduction describes the background, contents, and purpose of this document.
- **Overview** — The overview describes characteristics of the Early Years learner and instructional implications for teachers. It also discusses student diversity in the classroom and the use of differentiated instruction to foster meaningful learning experiences for all. In addition, this section highlights the characteristics of effective assessment and discusses specific assessment strategies.
- **Scientific Literacy** — This section presents a vision for scientific literacy and describes how the general and specific student learning outcomes help to define that vision. A chart showing the division of specific learning outcomes into clusters for each grade is provided. Two essential processes for scientific literacy — scientific inquiry and design process — are described in detail.
- **Planning for Instruction** — This section describes the importance of interdisciplinary teaching units and provides tools for planning science-based units of instruction.
- **Document Organization** — This section explains how to read the four-column format and the codes for the prescribed learning outcomes.
- **Suggestions for Instruction, Teacher Notes, and Suggestions for Assessment** — This four-column section contains the prescribed student learning outcomes, suggestions for instruction, teacher notes, and suggestions for assessment. It is organized by grade and is further divided into clusters or thematic units.
- **Appendices** — The five appendices provide additional information related to general student learning outcomes, selection of science-based literature, water conservation, pets in the classroom, and science learning centres.
- **References** — The reference list consists of works used in the development of this document.
- **Blackline Masters (BLMs)** — This section provides blackline masters to support and enhance the instructional and assessment suggestions. General student recording sheets, assessment masters, and cluster-specific support materials are included.

Purpose

Kindergarten to Grade 4 Science: A Foundation for Implementation provides theoretical content about science instruction. It also provides educators with practical suggestions for planning instruction and assessment to support and monitor student progress and achievement of the prescribed student learning outcomes.