

Science 11 Resource Package

Introduction

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The purpose of this course outline is to provide school divisions with a common framework to support the instruction of students who are enrolled in Science 11. School divisions may use this course outline after submitting Form M-1 and receiving approval from Saskatchewan Education.

The basic objectives for Science 11 have been chosen from each of the four units of Science 10 in order to accommodate students who: 1) receive credit for Science 11 while in the same classroom as students who receive credit for Science 10, and 2) students who are enrolled in a classroom that consists solely of modified students (Science 11, Science 11/21, or Science 11/21/31). This course outline was designed to be used with students in either of those situations.

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Locally Modified Courses

A Locally Modified Basic Course of Study is defined as a course where 50% of the course is determined by Saskatchewan Education through basic objectives listed from the provincial curriculum and the remaining 50% of the course is determined by the school division. The Foundational and Learning objectives for the 50% of the Science 11 course determined by Saskatchewan Education are outlined in *Guidelines for Developing Modified Courses – Science 11 (Basic)*.

The 50% of the objectives determined by the school division may be addressed in a variety of other ways. For example, teachers may choose to spend more time addressing learning objectives from previous grades or developing students' skills to prepare them to attain the objectives of the Science 11 course. Depending on the individual students, as well as the class, the 50% locally determined content could be developed by using additional learning objectives found in the Science 10 curriculum.

The guidelines and objectives for Science 11 have been chosen to reflect the units of the renewed Science 10 curriculum. Therefore, in addition to the *Guidelines for Developing Modified Courses – Science 11 (Basic)*, teachers should use *Science 10: Curriculum Guide* (2005) to assist with unit planning and instruction for Science 11. *Science 10: Curriculum Guide* identifies key questions, key concepts, pre-instructional questions as well as suggested teaching strategies and activities for each of the foundational objectives within each unit. The renewed Science 10 curriculum is available on-line at: <http://www.sasklearning.gov.sk.ca/docs/xsci/>

Using this Course Outline

This course outline for Science 11 consists of five components, an introduction and four units. Each unit consists of a series of suggested lessons that are designed to meet the foundational and learning objectives for the unit as set out in *Guidelines for Developing Modified Courses – Science 11 (Basic)*. Each lesson contains the Foundational and Learning Objectives covered in the lesson, an overview of the lesson, a list of instructional documents that are included within the unit, and a list of supporting resources. The supporting resources may include reading materials to support the lesson or additional lesson ideas that meet the objectives that are outlined for the lesson.

The units within this course outline are not intended to be used as a complete Science 11 course. Teachers should integrate some of the suggested lessons within their own unit plans and modify the suggested lessons to meet the diverse needs of their students. Some of the objectives are addressed in more than one of the suggested lessons within a unit; therefore not all of the suggested lessons need to be used. Teachers may request an electronic version of this course outline from their school division office so that they can modify the instructional documents to meet diverse needs.

Who is the Science 11 Student?

The Science 11 (Basic) course is intended for students who have moderate to severe learning difficulties. Academically, Science 11 students operate one or more grade levels behind their chronological peers. Students in modified courses may have poor work habits, behaviour or attendance problems and social, personal or health related issues which interfere with their school success. These students often have difficulty with skills such as reading comprehension, information gathering and processing, making connections, and organizing and completing assignments. These students often experience the most success through concrete learning and real-life applications.

If a student is being considered for a Science 11 course, or any other modified course of study, the student and the parents/caregivers of the student must be consulted prior to the enrolment of the student in a Locally Modified Course of Study. Consult *Policy and Procedure for Locally Modified Courses of Study* (Saskatchewan Learning, 2007) for further information.

General Suggestions for Teaching Science 11

Students in Science 11 courses may be capable of completing the same activities as students in Science 10, but may require appropriate adaptations to meet individual learning needs. For example, students may need additional time to complete a particular activity, may require more guidance while performing the activity, or may require additional assistance with reading through a lab and interpreting the procedure to carry out the steps of the investigation.

Students in modified courses, such as Science 11, often experience success with assignments when they are given some guidance, or a template to work with. For example, doing a complete lab write-up beginning with a blank sheet of paper may be too much of a challenge. However, if a student is given a partial lab write-up and required to fill in information as they carry out the investigation they will likely experience more success with the task. Note that throughout each of the units in this course outline you will find some lessons where the instructional documents (Student Handout) are designed this way. Teachers may also want to look at incorporating additional lessons structured in this way. The textbook *Nelson Science 10: Concepts and Connections* has an accompanying resource titled *Science 10: Concepts and Connections – Student Record of Learning*. This resource contains materials that correspond with lessons and activities found within the textbook.

Incorporating educational videos into lessons may facilitate the learning of some concepts in any course. Teachers need to pay attention to student learning styles when using video, particularly in a modified course. Some suggestions for use of video would be to watch the video in short clips as well as provide the students with sufficient guidance (including handouts) to assist them with gathering important information from the video.

Resources

It should be noted that many Science 10 resources are also suggested for use in Science 11. These resources may be successfully used in the Science 11 course, however it should be noted

that the teacher may need to adapt and modify the resources to meet the diverse needs of the students.

The three key resources for Science 10 are also recommended as key resources for Science 11. For further information (including order numbers) for these resources refer to *Science 10: A Bibliography*.

Key Resources

Nelson Science 10 (Print-Non-Fiction). Ritter, Bob, et al. Thomson Nelson ([NEL](#)), 2001. 726 p.

Components include the Student Text, Teacher's Resource Package, Computerized Assessment Bank and Transparencies.

Nelson Science 10: Concepts and Connections (Print-Non-Fiction). Gibb, Ted, et al. Thomson Nelson ([NEL](#)), 2002. 309 p.

Components include Student Text, Teacher's Resource and Student Record of Learning.

Sciencepower 10: Science, Technology, Society, Environment (Print-Non-Fiction). Grace, Eric, et al. McGraw-Hill Ryerson Limited ([MHR](#)), 2000. 633 p.

Components include Student Text, Teacher's Resource, Assessment and Evaluation Handbook, Blackline Master's, Computerized Assessment Bank and a Video.

Additional Resources

An Inconvenient Truth (Video). Paramount Classics, 2006. 96 min.

Extreme Weather; Part 1: Wind and Water, Part 2: Fire and Ice (Video). CBC Documentary Special. 60 min each. Product ID: NWD-05-01. (Available from www.cbclearning.ca)

Forces and Motion (Video). Assignment Discovery Series. Discovery Channel School, 2004. 25 min. (Available from www.discoveryschool.com)

Planet Weather Series (Video)

Wind (Video). ([Planet Weather Series](#)). BBC Enterprises ([MGR](#)), 2002. 50 min. Dup. order no. V3307. Expires August 31, 2010.

Wet (Video). ([Planet Weather Series](#)). BBC Enterprises ([MGR](#)), 2002. 50 min. Dup. order no. V3306. Expires August 31, 2010.

Cold (Video). ([Planet Weather Series](#)). BBC Enterprises ([MGR](#)), 2002. 50 min. Dup. order no. V3304.

Heat (Video). ([Planet Weather Series](#)). BBC Enterprises ([MGR](#)) , 2002. 50 min. Dup. order no. V3305. Expires August 31, 2010.

Science Workshop Series (available online at www.ags.globe.com)

The Wow's and Why's of Weather (Print). Carson, Mary Kay. Scholastic, 2000. (ISBN 0590365088).

Wild, Wild Weather Thunderstorms, Tornadoes and Hurricanes (Print). Sylvester, Doug. Rainbow Horizons Pub Inc, 2002. (ISBN 9781553190042).