

Memo Re: ASD-N Science Curriculum 2019-2020

Grades 3-10 Curricula

In August 2017, details were sent out to teachers outlining plans to make changes to the layout of the Grade 3-10 curricula. The same plan is in place for the 2019-2020 school year.

The new framework is intended to shift a larger focus toward Scientific Literacy, which has three components (see pg. 2 for more details):

- Science Inquiry
- Problem Solving
- Decision Making

Transitional Science Curriculum Update

The current curricula describes the three components of scientific literacy but only Science Inquiry has explicit outcomes and supporting documents (i.e. *Spotlights on Skills*). The new curricula will fully incorporate all aspects of scientific literacy.

In 2019-2020, each grade from 3-10 will have two topic areas (down from four). This is to allow time to fully teach and place scientific literacy as the driving force behind science education. Teachers are to work toward students meeting outcomes as they normally would, but with two topics instead of four.

Grade	Topics*		
3	Scientific Literacy or STEM Fair Project	Plant Growth and Changes	Exploring Soils
4	Scientific Literacy or STEM Fair Project	Habitats	Rocks, Minerals, and Erosion
5	Scientific Literacy or STEM Fair Project	Properties and Change in Materials	Forces and Simple Machines
6	Scientific Literacy or STEM Fair Project	Flight	Diversity of Life
7	Scientific Literacy or STEM Fair Project	Mixtures and Solutions	Earth's Crust
8	Scientific Literacy or STEM Fair Project	Water Systems on Earth	Optics
9	Scientific Literacy or STEM Fair Project	Reproduction	Space Exploration
10	Scientific Literacy or STEM Fair Project	Chemical Reactions	Motion

**You are strongly encouraged to include class time for students to undertake a Scientific Literacy or STEM Fair project either as a class, in groups or individually as a means for students to meet curriculum outcomes.*

Please check STEM North (<http://stemnorth.nbed.nb.ca/other/science>) regularly for updates and resource information. STEM North will also focus this year on showcasing STEM learning going on throughout our district this year.

If you were unable to attend the 'ASD-N Science Initiative & Updates' session opening day, please feel free to check the PowerPoint for information and resources for Science (Under *Science*, then *Weblinks* on STEM North).

Please contact Krista Hamilton (krista.hamilton2@nbed.nb.ca) for more information or support.

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The Three Process of Scientific Literacy

Science learning experiences should reflect the three major processes of science learning:

Inquiry

- define questions related to a topic
- refine descriptors/factors that focus practical and theoretical research
- select an appropriate way to find information
- make direct observations
- perform experiments, record and interpret data, and draw conclusions
- form a working hypothesis
- design an experiment which tests relationships and variables
- write lab reports that meet a variety of needs (limit the production of “formal” reports) and make inferences from recorded data
- recognize that the quality of both the process and the product are important

Problem Solving

- clearly define a problem
- gather information from a variety of sources
- produce a range of potential solutions for the problem
- appreciate that several solutions should be considered
- plan and design a product or device intended to solve a problem
- construct a variety of acceptable prototypes, pilot test, evaluate, and refine to meet a need
- present the refined process/product/device and support why it is “preferred”
- recognize that the quality of both the process and the product are important

Decision Making

- gather information from a variety of sources
- evaluate the validity of the information source
- evaluate which information is relevant
- identify the different perspectives that influence a decision
- present information in a balanced manner
- use information to support a given perspective
- recommend a decision and provide supporting evidence
- communicate a decision and provide a “best” solution

Sources:

[Atlantic Canada Science Curriculum Guide, Grade 6 \(2002\)](#)
[Foundations for Atlantic Canada Science Curriculum, \(1998\)](#)