Science Essential Elements

An Introduction

DYNAMIC®
LEARNING MAPS

WISCONSIN
DEPARTMENT OF
PUBLIC
INSTRUCTION

Wisconsin Science Standards & Next Generation Science Standards

Wisconsin Science Standards (WSS) are aligned to the Next Generation Science Standards. (NGSS)

If your district has adopted the NGSS, you are doing the WSS.

The Science Essential Elements are based on the NGSS.

Understanding the Format

These standards look nothing like the Common Core standards we are all used to!

http://www.nextgenscience.org/sites/ngss/files/2%20combined%20topics%206.11.13.pdf

3 Dimensions of the NGSS

Disciplinary Core Ideas (DCIs) - middle pink column, these are the “content” standards related to specific subject (life science, earth science, physical science)

Science and Engineering Practices (SEPs) - left “blue” column, Eight SEPs. The skills/process related to DOING science. DLM created an “abbreviated” science practices document.

Cross-Cutting Concepts (CCCs) - right green column, these are common concepts that go across ALL area of science and help to frame thinking. These are included but DE-EMPHASIZED by DLM.

Science and Engineering Practices

1. Asking questions (for science) and defining problems (for engineering)

2. Developing and using models

3. Planning and carrying out investigations

4. Analyzing and interpreting data

5. Using mathematics and computational thinking

6. Constructing explanations (for science) and designing solutions (for engineering)

7. Engaging in argument from evidence

8. Obtaining, evaluating, and communicating information

DLM Adapted Handout

Cross-cutting Concepts

These are de-emphasized in the Essential Elements but are still referenced.

1. patterns;
2. cause and effect;
3. scale, proportion, and quantity;
4. systems and system models;
5. energy and matter;
6. structure and function;
7. stability and change.

Science Essential Elements are a SUBSET of NGSS

NGSS Document Performance Expectations:

Elementary = 78, Middle School = 59, High School = 71

Science Essential Elements Performance Expectations:

Elementary = 9, Middle School = 14, High School = 15

NGSS EE Progressions Document

The Essential Elements Document(s)

Wisconsin Essential Elements Green Book Structure

Structured differently than the NGSS, has many similar sections but important addition is the “Linkage Levels”

Essential Element Structure Document

Science Baseline Checklists

Selected Parts of the Essential Elements with possible activities and standard correlations.

Life Science Draft Example

How did we roll them out at WRPS?

Two Day Workshop Model

Agenda

Purposes of Workshop

1. Introduction to Essential Elements to BOTH EEN & Classroom Teachers.
2. Review of Essential Elements Baseline Checklists
3. COLLABORATION between EEN and Classroom Teachers

Activities/Assessment from DPI

Pilot Assessment for 5th Grade on Conservation of Matter and Particle Model.

1st Part Correlated to EE on Conservation of Weight (EE.5.PS1.2).

2nd Part for regular classroom students.

Part 1 - Caramel Corn Conservation Activity/Assessment

Part 2 - Particles and Dissolving (A 5th Grade performance Task)