

Wyoming Project Learning Tree Correlation Key for Grades 9-12 Wyoming Mathematics Content and Performance Standards

Introduction: The purpose of this document is to provide Wyoming educators who use *Project Learning Tree Secondary Environmental Education Program* with a reference guide on how PLT's activities correlate to the Wyoming Mathematics Content and Performance Standards for grades 9-12. Educators may use PLT activities to teach or assess mastery of math skills in number operations and concepts, geometry, measurement, algebra, data analysis and probability, and integration of those areas.

Key to symbols and abbreviations:

- * Concept is a main focus of the activity or teaches to the standard
- o Concept is part of the focus of the activity and supports the standard
- n/c No correlation
- MA Math
- ST Special Topics

MATHEMATICS, Grades 9-12

MA 1. NUMBER OPERATIONS AND CONCEPTS:

Students use numbers, number sense, and number relationships in a problem-solving situation.

MA 11.1.1: Students represent and apply real numbers in a variety of forms.

Exploring Environmental Issues: Focus on Forests

4 Who Owns America's Forests? o

Exploring Environmental Issues: Focus on Risk

3 Chances Are.... o

Exploring Environmental Issues: Municipal Solid Waste

1 Introduction to MSW: The Waste Stream o

3 Recycling and Economics o

MA 11.1.2: Students apply the structure and properties of the real number system.

n/c

MA 11.1.3: Students explain their choice of estimation and problem-solving strategies and justify results of solutions in problem-solving situations involving real numbers.

n/c

MA 2. GEOMETRY:

Students apply geometric concepts, properties, and relationships in a problem-solving situation.

MA 11.2.1: Students use transformations, congruency, symmetry, similarity, perpendicularity, parallelism, and the Pythagorean Theorem to solve problems.

MA 11.2.2: Students communicate, using mathematical language....

MA 11.2.3: Students communicate reasoning used in identifying geometric relationships in problem-solving situations.

MA 11.2.4: Students solve problems involving the coordinate plane such as the distance between two points, the midpoint, and slope.

MA 11.2.5: Students connect geometry with other mathematical topics.

n/c

MA 3. MEASUREMENT:

Students use a variety of tools and techniques of measurement in a problem-solving situation.

MA 11.3.1: Students apply estimation and measurement using the appropriate methods and units to solve problems involving length, weight/mass, area, surface area, volume, and angle measure.

Exploring Environmental Issues: In the Places We Live.

5 Green Space o

Exploring Environmental Issues: Municipal Solid Waste

1 Introduction to MSW: The Waste Stream o

3 Recycling and Economics o

MA 11.3.2: Students demonstrate understanding of both metric and US customary systems.

n/c

MA 11.3.3: Students identify and apply scale, ratios and proportions in solving measurement problems.

Exploring Environmental Issues: Focus on Forests

4 Who Owns America's Forests? o

MA 11.3.3: (continued)

Exploring Environmental Issues: Municipal Solid Waste

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|---|---------------------------------------|---|
| 1 | Introduction to MSW: The Waste Stream | o |
| 3 | Recycling and Economics | o |

MA 11.3.4: Students solve problems of angle measure including those involving polygons or parallel lines cut by a transversal.

MA 11.3.5: Students solve indirect measurement problems.

n/c

MA 4. ALGEBRA:

Students use algebraic methods to investigate, model, and interpret patterns and functions involving numbers, shapes, data, and graphs in a problem-solving situation.

MA 11.4.1: Students use algebraic concepts, symbols and skills to represent and solve real-world problems.

MA 11.4.2: Students write, model, and evaluate expressions, functions, equations, and inequalities.

MA 11.4.3: Students graph linear equations and interpret the results in solving algebraic problems.

MA 11.4.4: Students connect algebra with other mathematical topics.

n/c

MA 5. DATA ANALYSIS AND PROBABILITY:

Students use data analysis and probability to analyze given situations and the results of experiments.

MA 11.5.1: Students apply knowledge of mean, median, mode and range to interpret and evaluate information and data.

Exploring Environmental Issues: Focus on Forests

- | | | |
|---|-------------------------|---|
| 1 | What's a Forest to You? | o |
|---|-------------------------|---|

Exploring Environmental Issues: Focus on Risk

- | | | |
|---|-----------------|---|
| 3 | Chances Are.... | o |
|---|-----------------|---|

MA 11.5.2: Students draw reasonable inferences from statistical data and/or correlation/best fit line to predict outcomes.

Exploring Environmental Issues: Focus on Forests

- | | | |
|---|-------------------------|---|
| 1 | What's a Forest to You? | o |
|---|-------------------------|---|

MA 11.5.2: (continued)

Exploring Environmental Issues: Focus on Risk

- 1 What is Risk? o
- 3 Chances Are.... o
- 7 Decision Making o

Exploring Environmental Issues: Municipal Solid Waste

- 1 Introduction to MSW: The Waste Stream o
- 3 Recycling and Economics o

MA 11.5.3: Students communicate about the likelihood of events using concepts from probability: sample space, evaluate simple probabilities, evaluate experimental vs. theoretical.

Exploring Environmental Issues: Focus on Risk

- 3 Chances Are.... o
- 7 Decision Making o

Exploring Environmental Issues: Municipal Solid Waste

- 1 Introduction to MSW: The Waste Stream o
- 3 Recycling and Economics o

MA 11.5.4: Students determine, collect, organize and analyze relevant data needed to make conclusions.

Exploring Environmental Issues: Focus on Forests

- 1 What's a Forest to You? o

Exploring Environmental Issues: Focus on Risk

- 1 What is Risk? o
- 3 Chances Are.... o
- 8 Taking Action: Reducing Risk o

Exploring Environmental Issues: Municipal Solid Waste

- 1 Introduction to MSW: The Waste Stream o
- 3 Recycling and Economics o
- 4 Composting o
- 7 Where Does Your Garbage Go o
- 8 Success Stories o

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