

Extended Teacher's Guide to Ohio Academic Content, Standards, Benchmarks and Indicators for Grades 4, 5, 6

Definitions:

Academic Standards: clearly defined statements and /or illustrations of what all students, teachers, schools, and school districts are expected to know and be able to do.

Content Standards: describe the knowledge and skills that students should attain.

Benchmarks: key checkpoints used to measure a student's progress towards meeting the standards.

Grade-level Indicators: key checkpoints and specific statements of what all students should know and be able to do at each grade level that monitor progress towards meeting the benchmarks.

Lesson: What's Your Point, Oompa Loompa? Finding the Main Idea and Details

Objective:

Students will discern between the main idea and the supporting details found within the Oompa Loompa rhymes.

Academic Content Standard(s):

Students develop and learn to apply strategies that help them to comprehend and interpret informational and literary texts.

❖ Ohio Academic Content Standards for Language Arts: #3 Reading Process: Comprehension Strategies

Ohio Benchmarks (as stated in the 4-7 grade level band): Reading Process

4th grade: A, B

5th grade: A, B

6th grade: A, B

Ohio Grade-Level Indicators: Reading Process

4th grade: #1, #4, #6

5th grade: #1, #4, #6

6th grade: #1, #4, #5

For more information, see:

<http://www.ode.state.oh.us/curriculum-assessment/ci/> Ohio Department of Education: Office of Curriculum and Instruction (Standards info)

Lesson: The Art of Persuasion: Persuasive Letter Writing

Objective:

Students will write a persuasive letter to Willy Wonka and explain why they are the best choice as his replacement to run the factory.

Academic Content Standard(s):

Students need to understand that various types of writing require different language formatting and special vocabulary (e.g. letters).

❖ **Ohio Academic Content Standards for Language Arts: #7 Writing Application**

Ohio Benchmarks (as stated in the 3-4 and 5-7 grade level bands): Writing Application

4th grade: C
5th grade: C
6th grade: C, E

Ohio Grade-Level Indicators: Writing Application

4th grade: #3
5th grade: #3
6th grade: #3, #5

For more information, see:

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Lesson: What is a Lifetime Supply of Chocolate?

Objective:

Students will use estimation, calculations and variables to find out how much chocolate would be included in a lifetime supply.

Academic Content Standards:

Students demonstrate number sense, including an understanding of number systems and operations and how they relate to one another.

Students compute fluently and make reasonable estimates using paper and pencil, technology-supported and mental methods.

Students use patterns, relations and functions to model, represent and analyze problem situations that involve variable quantities.

Students use mathematical processes and knowledge to solve problems.

❖ **Ohio Academic Content Standards for Mathematics: #1 Number, Number Sense and Operations; #4 Patterns, Functions and Algebra; and #6 Mathematical Processes**

Ohio Benchmarks (as stated in the 3-4 and 5-7 grade level bands): Number, Number Sense and Operations

4th grade: J, L
5th grade: I
6th grade: I

Ohio Grade-Level Indicators: Number, Number Sense and Operations

4th grade: #9, #13
5th grade: #13
6th grade: #13

Ohio Benchmarks (as stated in the 3-4 and 5-7 grade level bands): Patterns, Functions and Algebra

4th grade: G
5th grade: L

6th grade: L, M

Ohio Grade-Level Indicators: Patterns, Functions and Algebra

4th grade: #6

5th grade: #6

6th grade: #7, #8

Ohio Benchmarks (as stated in the 3-4 and 5-7 grade level bands): Mathematical Processes

(embedded within the indicators)

4th grade: A, B, C, D, E, F, G, H, I, J and K

5th and 6th grades: A, B, C, D, E, F, G, H, I, J, K

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<http://www.ode.state.oh.us/curriculum-assessment/ci/> Ohio Department of Education: Office of Curriculum and Instruction (Standards info)

Lesson: Reading a Wonka Graph

Objective:

Students will read, interpret data, and draw conclusions from a circle graph to obtain solutions to stated problems.

Academic Content Standards:

Students pose questions and collect, organize, represent, interpret and analyze data to answer those questions.

Students develop and evaluate inferences, predictions arguments that are based on data.

❖ **Ohio Academic Content Standards for Mathematics: #5 Data Analysis and Probability and #6 Mathematical Processes**

Ohio Benchmarks (as stated in the 3-4 and 5-7 grade level bands): Data Analysis and Probability

4th grade: B, C

5th grade: A, E,

6th grade: A, E

Ohio Grade-Level Indicators: Data Analysis and Probability

4th grade: #2, #5

5th grade: #1, #2, #4

6th grade: #1, #2

Ohio Benchmarks (as stated in the 3-4 and 5-7 grade level bands): Mathematical Processes

(embedded within the indicators)

4th grade: A, B, C, D, E, F, G, H, I, J and K

5th and 6th grades: A, B, C, D, E, F, G, H, I, J, K

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Lesson: Simple Machines

Objective:

Students will review and observe the mechanics of simple machines and the work that they do. Students will use the mechanics of at least two simple machines to design a means to complete a given task for a given situation within a hypothetical candy factory.

Academic Content Standards:

Ohio science academic content standards, benchmarks and grade-level indicators are currently in draft form. Official state adoption will not occur until December 2002. The suggested alignment to science strands for this lesson is subject to change as the draft standards are revised.

- ❖ *Possible alignments: Ohio Academic Content Standards for Science: Physical Sciences Standard, Science and Technology Standard and Scientific Inquiry Standard*
 - Physical Sciences Standard:
Students can describe the energy transformation in a system, and identify the nature of matter and energy, forces and motion, and the historical perspectives and scientific revolutions associated with the physical sciences.
 - Science and Technology Standard:
Students should build the scientific and technological knowledge and skills required to design and implement problem-solving procedures and understand that a problem can be solved in several ways.
 - Scientific Inquiry Standard:
Students use the processes of scientific inquiry to ask questions, gather and analyze information, make inferences and predictions, and create, modify, and possibly discard some explanations. Students should understand how to ask valid questions and develop an action plan to discover the answers.

For more information, see:

<http://www.ode.state.oh.us/curriculum-assessment/ci/> Ohio Department of Education: Office of Curriculum and Instruction (Standards info)

Lesson: What's Inside? A Closer Look at Chocolate Candy

Objective:

Students will conduct a scientific inquiry of the ingredients in a variety of chocolate candies, making use of qualitative and quantitative observation, and inference. Students will record and present collected data in chart form for comparison with other data. Students will construct a dichotomous key for candy sample identification.

Academic Content Standards:

Ohio science academic content standards, benchmarks and grade-level indicators are currently in draft form. Official state adoption will not occur until December 2002. The suggested alignment to science strands for this lesson is subject to change as the draft standards are revised.

- ❖ *Possible alignments: Ohio Academic Content Standards for Science: Scientific Inquiry Standard*
 - Scientific Inquiry Standard:

Students use the processes of scientific inquiry to ask questions, gather and analyze information, make inferences and predictions, and create, modify, and possibly discard some explanations. Students should understand how to ask valid questions and develop an action plan to discover the answers.

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Lesson: Willy Wonka's Candy Resources

Objective:

Students will identify and locate sources for a variety of natural resources used in making sweets and their favorite treats.

Students will practice using latitude and longitude to locate places on a map.

Students will recognize the interdependence in the various aspects of daily life.

Academic Content Standards:

Ohio social studies academic content standards, benchmarks and grade-level indicators are currently in draft form. Official state adoption will not occur until December 2002. The suggested alignment to science strands for this lesson is subject to change as the draft standards are revised.

❖ *Possible alignments: Ohio Academic Content Standards for Social Studies: Geography Standard and Economics Standard*

- Geography Standard:

Students use a working knowledge of geographic locations, patterns and processes to show the interrelationship between the physical environment and human activity, and to explain the interactions that occur in our increasingly interdependent world.

- Economics Standard:

Students acquire a working knowledge of major economic concepts, issues and systems in order to develop economic reasoning skills used to make informed choices as producers, consumers, savers, investors, workers and citizens in a interdependent world.

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