



**ALIGNMENT OF *CUBES & LIQUIDS*
ASSESSMENT ACTIVITY
WITH NEW YORK STATE LEARNING STANDARDS
FOR MATH, SCIENCE, & TECHNOLOGY**

KEY

C – “Concept” Learning Goals

S – “Skill” Learning Goals

D – “Disposition” Learning Goals

Standards and Numbers –

Key ideas of the New York State (NYS) Learning Standards for MST

Bold Items – Learning goals of the ASID Cubes & Liquids task

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LEARNING GOALS FOR THE CUBES & LIQUIDS TASK

S Distinguishes Observation from Inference

- STANDARD 1 - ANALYSIS, INQUIRY, & DESIGN
SCIENTIFIC INQUIRY
 3. The observations made while testing proposed explanations, when analyzed using conventional and invented methods, provide new insights into phenomena.

S Technical Description

- STANDARD 1 - ANALYSIS, INQUIRY, & DESIGN
SCIENTIFIC INQUIRY
 1. The central purpose of scientific inquiry is to develop explanations of natural phenomena in a continuing, creative process.
 2. Beyond the use of reasoning and consensus, scientific inquiry involves the testing of proposed explanations involving the use of conventional techniques and procedures and usually requiring considerable ingenuity.
 3. The observations made while testing proposed explanations, when analyzed using conventional and invented methods, provide new insights into phenomena.
- STANDARD 7 – INTERDISCIPLINARY PROBLEM SOLVING
CONNECTIONS
 1. The knowledge and skills of mathematics, science, and technology are used together to make informed decisions and solve problems, especially those relating to issues of science/technology/society, consumer decision-making, design, and inquiry into phenomena.
 2. Solving interdisciplinary problems involves a variety of skills and strategies, including effective work habits; gathering and processing information; generating and analyzing ideas; realizing ideas; making connections among the common themes of mathematics, science, and technology; and presenting results.

C Conceptualizes Density of Solid Objects

- STANDARD 1 - ANALYSIS, INQUIRY, & DESIGN
MATHEMATICAL ANALYSIS
3. Critical thinking skills are used in the solution of mathematical problems.
- STANDARD 3 – MATHEMATICS
MATHEMATICAL REASONING
1. Students use mathematical reasoning to analyze mathematical situations, make conjectures, gather evidence, and construct an argument.
- STANDARD 4 – SCIENCE
PHYSICAL SETTING
5. Energy and matter interact through forces that result in changes in motion.

C Conceptualizes Density of Liquids

- STANDARD 1 – ANALYSIS, INQUIRY, & DESIGN
MATHEMATICAL ANALYSIS
3. Critical thinking skills are used in the solution of mathematical problems.
- STANDARD 3 – MATHEMATICS
MATHEMATICAL REASONING
1. Students use mathematical reasoning to analyze mathematical situations, make conjectures, gather evidence, and construct an argument.
- STANDARD 4 – SCIENCE
PHYSICAL SETTING
5. Energy and matter interact through forces that result in changes in motion.

S Uses a 2x2 Classification Scheme to Organize Relevant Factors

- STANDARD 1 - ANALYSIS, INQUIRY, & DESIGN
MATHEMATICAL ANALYSIS
 2. Deductive and inductive reasoning are used to reach mathematical conclusions.

SCIENTIFIC INQUIRY

1. The central purpose of scientific inquiry is to develop explanations of natural phenomena in a continuing, creative process.

- STANDARD 3 – MATHEMATICS
MATHEMATICAL REASONING
 1. Students use mathematical reasoning to analyze mathematical situations, make conjectures, gather evidence, and construct an argument.
- STANDARD 7 – INTERDISCIPLINARY PROBLEM SOLVING
STRATEGIES
 2. Solving interdisciplinary problems involves a variety of skills and strategies, including effective work habits; gathering and processing information; generating and analyzing ideas; realizing ideas; making connections among the common themes of mathematics, science, and technology; and presenting results.

C Proportional Reasoning

- STANDARD 1 - ANALYSIS, INQUIRY, & DESIGN
MATHEMATICAL ANALYSIS
 2. Deductive and inductive reasoning are used to reach mathematical conclusions.
 3. Critical thinking skills are used in the solution of mathematical problems.
- STANDARD 3 – MATHEMATICS
MATHEMATICAL REASONING
 1. Students use mathematical reasoning to analyze mathematical situations, make conjectures, gather evidence, and construct an argument.