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Density Blocks Lab Activity

Aligned with All Published National Standards

ward's science

IMGN 250-8047

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* The Dimension I practices listed below are called out as **bold** words throughout the activity.

DIMENSION 1 Science and Engineering Practices

×	Asking questions (for science) and defining problems (for engineering)	×	Use mathematics and computational thinking
×	Developing and using models	×	Constructing explanations (for science) and designing solutions (for engineering)
×	Planning and carrying out investigations	×	Engaging in argument from evidence
×	Analyzing and interpreting data	×	Obtaining, evaluating, and communicating information

DIMENSION 2 Cross Cutting Concepts

×	Patterns		Energy and matter: Flows, cycles, and conservation
×	Cause and effect: Mechanism and explanation	×	Structure and function
×	Scale, proportion, and quantity	×	Stability and change
	Systems and system models		

DIMENSION 3 Core Concepts

Discipline	Core Idea Focus
Physical Science	PS1: Matter and its interactions

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NGSS STANDARDS

Middle School Standards Covered	High School Standards Covered
MS.PS1-1: Develop models to describe the atomic composition of simple molecules and extended structures.	HS.PS1-1: Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.

national science education standards © 1996

Content Standards (K-12)			
	Systems, order, and organization		Evolution and equilibrium
×	Evidence, models, and explanation		Form and Function
×	Constancy, change, and measurement		

Physical Science Standards Middle School		Physical Science Standards High School	
×	Properties and Changes of Properties in Matter	×	Structure and Properties of Matter

× Indicates standards covered in activity

learning objectives

benchmarks for science literacy (AAAS, © 1993)

1. The Nature of Science	1B: Scientific Inquiry
4. The Physical Setting	4D: Structure of Matter
9. The Mathematical World	9A: Numbers
	9C: Shapes

activity objectives:

- Activity I - Students use their knowledge of density to predict and test which blocks will sink and which blocks will float when placed in water.
- Activity II - Students determine the mass, volume and density of each block, and compare their answers to the known density for each substance.
- Activity III - Students determine the mass and volume of various numbers of blocks of the same substance, and then plot the relationship between the two.

time requirement:

Each activity can be completed in one 45 minute class period.