



Relative Density: Sink or Float using [Density](#) simulation

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Boulder Valley Essential Learnings /alignment with Colorado standards:

Standard 1: Students apply the processes of scientific investigation and design, safely conduct, communicate about and evaluate such investigations

*PYS1: Creates and conducts plans for investigations that include: Asking questions, stating a testable hypothesis, identifying variables and constants, collecting data accurately, and identifying different methods for investigating scientific questions

- c. Uses the appropriate observation/measurement technique for data collection
- d. Follows the established procedure for an investigation/experiment

PYS2: Uses appropriate tools and technology and metric measurement units to gather and organize data and to report results

- a. Records and reports data in a variety of forms (sketches, tables, charts, etc.) from a scientific investigation using the appropriate tool and metric units
- c. Collects, organizes and interprets a data table

PYS3: Communicates the design and results of scientific investigations in appropriate ways (written, oral, pictorial, digital)

- a. Communicates about a scientific investigation in a variety of ways- including writing in science notebooks

PYS4: Follows lab and safety procedures when conducting scientific investigations

- a. Knows proper lab and safety procedures for grade appropriate work as demonstrated by proficient score on safety test
- b. Follows safety procedures consistently
- c. Uses laboratory tools appropriately and accurately

Standard 2: Students know and understand common properties, forms and changes in matter and energy

PYS6: Separates mixtures based on properties

- b. Applies the concept of density to explain how mixtures of liquids and solids can be separated (for example: **relative density – sinking and floating**)

Technology Integration Expectations: (Technology Integration and Information Literacy)

Students will use technology:

- responsibly for communication and transfer of ideas
- to gather, organize, analyze and communicate about data
- to collaborate with others to identify information problems and seek their solutions
- *PYS stands for Physical Science