

JUNIOR HIGH SCIENCE  
INVESTIGATION 1  
WHAT DO PEOPLE KNOW ABOUT RADON?

- CCS 4.2** (Geometry and measurement) All students will develop spatial sense and the ability to use geometric properties, relationships, and measurement to model, describe and analyze phenomena.
- D.4 Grade 4 Incorporate estimation in measurement activities (e.g., estimate before measuring).
- E.5 Grade 6 Develop informal ways of approximating the measures of familiar objects (e.g., use a grid to approximate the area of the bottom of one's foot).
- D.5 Grade 8 Recognize that all measurements of continuous quantities are approximations.
- CCS 4.4** (Data analysis, probability, and discrete mathematics) All students will develop an understanding of the concepts and techniques of data analysis, probability, and discrete mathematics, and will use them to model situations, solve problems, and analyze and draw appropriate inferences from data.
- A.2 Grade 6 Read, interpret, select, construct, analyze, generate questions about, and draw inferences from displays of data.
- Bar graph, line graph, circle graph, table, histogram
  - Range, median, and mean
  - Calculators and computers used to record and process information
- A.1 Grade 8 Select and use appropriate representations for sets of data, and measures of central tendency (mean, median, and mode).
- A.2 Grade 8 Make inferences and formulate and evaluate arguments based on displays and analysis of data.
- CCS 4.5** (Mathematical processes) All students will use mathematical processes of problem solving, communication, connections, reasoning, representations, and technology to solve problems and communicate mathematical ideas.
- C.3 Grade All Recognize that mathematics is used in a variety of contexts outside of mathematics.
- C.4 Grade All Apply mathematics in practical situations and in other disciplines.
- E.2 Grade All Select, apply, and translate among mathematical representations to solve problems.

**CCS 5.1** (Scientific Processes) All students will develop problem-solving, decision-making and inquiry skills, reflected by formulating usable questions and hypotheses, planning experiments, conducting systematic observations, interpreting and analyzing data, drawing conclusions, and communicating results.

B.1 Grade 4 Develop strategies and skills for information-gathering and problem-solving, using appropriate tools and technologies.

A.2 Grade 8 Communicate experimental findings to others.

B.3 Grade 8 Collect, organize, and interpret the data that result from experiments.

**CCS 5.3** (Mathematical applications) All students will integrate mathematics as a tool for problem-solving in science, and as a means of expressing and/or modeling scientific theories.

D.1 Grade 8 Represent and describe mathematical relationships among variables using:

- graphs
- tables
- charts

D.2 Grade 8 Analyze experimental data sets using measures of central tendency:

- mean
- mode
- median

**CCS 5.6** (Chemistry) All students will gain an understanding of the structure and behavior of matter.

A.1 Grade 8 Know that all matter is composed of atoms that may join together to form molecules.

A.2 Grade 8 Recognize that the phase of matter is determined by the arrangement and motion of atoms and molecules and that the motion of these particles is related to the energy of the system.