JUNIOR HIGH SCIENCE
INVESTIGATION 3
HOW MUCH RADON IS AROUND YOU?

**CCS 3.1** (Reading) All students will understand and apply the knowledge of sounds, letters, and words in written English to become independent and fluent readers, and will read a variety of materials and texts with fluency and comprehension.

G.2 Grade 4 Distinguish cause and effect, fact and opinion, main idea and supporting details in nonfiction texts (e.g., science, social studies).

**CCS 3.2** (Writing) All students will write in clear, concise, organized language that varies in content and form for different audiences and purposes.

D.13 Grade 8 When writing persuasive essays, present evidence, examples, and justification to support arguments, distinguishing between fact and opinion.

**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.

A.3 Grade All Select and apply a variety of appropriate problem-solving strategies (e.g., "try a simpler problem" or "make a diagram") to solve problems.

B.3 Grade All Analyze and evaluate the mathematical thinking and strategies of others.

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| C.4 | Grade All | Apply mathematics in practical situations and in other disciplines. |
| D.2 | Grade All | Use reasoning to support their mathematical conclusions and problem solutions. |
| D.3 | Grade All | Select and use various types of reasoning and methods of proof. |
| D.6 | Grade All | Evaluate examples of mathematical reasoning and determine whether they are valid. |

**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.

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| B.1 | Grade 4 | Develop strategies and skills for information–gathering and problem-solving, using appropriate tools and technologies. |
| A.1 | Grade 8 | Evaluate the strengths and weaknesses of data, claims, and arguments. |
| A.2 | Grade 8 | Communicate experimental findings to others. |
| B.3 | Grade 8 | Collect, organize, and interpret the data that result from experiments. |

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

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| 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. |

**CCS 5.8** (Earth Science) All students will gain an understanding of the structure, dynamics, and geophysical systems of the earth.

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| D.1 | Grade 6 | Utilize various tools such as map projections and topographical maps to interpret features of Earth’s surface. |
| C.1 | Grade 8 | Explain how Earth’s landforms and materials are created through constructive and destructive processes. |
| C.2 | Grade 8 | Show how successive layers of sedimentary rock and the fossils contained in them can be used to confirm the age, history, changing life forms, and geology of Earth. |