

## 11th Grade CHEMISTRY Inquiry

How do you stop a silent killer?	
<b>Key Ideas &amp; Inquiry Standard</b>	<b>HS-ETS1-2.</b> Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
<b>Staging the Question</b>	Generate questions on a radon zones map using the Question Formulation Technique (QFT)

Supporting Question 1	Supporting Question 2	Supporting Question 3	Supporting Question 4
Why is radon dangerous?	<div style="background-color: #1a3d4d; color: white; padding: 2px; text-align: center; font-weight: bold;">Embedded Investigation</div> Why is it difficult to stop radon?	How do you detect radon?	How do you mitigate radon?
Formative Performance Task	Formative Performance Task	Formative Performance Task	Formative Performance Task
Create a list of dangers associated with radon based on the evidence from each source.	Based on the sources below, complete a worksheet that calculates half-lives and write a paragraph that answers the supporting question.	Based on a drawing of your home, demonstrate how radon might enter and where you might place tests.	Make a claim supported by evidence about different mitigation techniques.
Featured Sources	Featured Sources	Featured Sources	Featured Sources
<b>Source A:</b> Environmental Protection Agency’s “A Citizen’s Guide to Radon” <b>Source B:</b> “Radon and Cancer” National Institute of Cancer <b>Source C:</b> “Test Your Home to Determine Risk of Radon Gas Exposure” National Safety Council <b>Source D:</b> “Radon in Water” EPA and USGS	<b>Source A:</b> Natural sources of radiation <b>Source B:</b> Uranium-238 Decay Series <b>Source C:</b> Half life	<b>Source A:</b> “How does radon get into my home?” <b>Source B:</b> “How do you test for radon?” <b>Source C:</b> EPA recommended Testing Steps	<b>Source A:</b> EPA’s “How to lower radon levels in your home” <b>Source B:</b> “How to lower the radon level in your home” Kentucky Cabinet for Health and Family Services <b>Source C:</b> “Mitigating Radon” Radon Abatement Services

<b>Summative Performance Task</b>	<b>ARGUMENT</b> How do you stop a silent killer? Construct an argument (e.g., detailed outline, poster, essay) that discusses the compelling question using specific claims and relevant evidence from contemporary sources while acknowledging competing views.
	<b>EXTENSION</b> Complete an investigation to see your Personal Annual Radiation Dose.
<b>Taking Informed Action</b>	<b>UNDERSTAND</b> Investigate how radon and radiation doses may be impacting your town/state/region. <b>ASSESS</b> Assess the dangers and available resources to people in your area. <b>ACT</b> Create a custom CDC flyer to share with people in your school and/or community.