Indoor Air Quality

Student Worksheets

This document includes student worksheets for Lessons 1-4:

1. Introduction to Air Quality
2. Building an air purifier
3. Analyzing data
4. Communicating results

Indoor Air Quality: What is it and why does it matter?

Temperature

What does Figure 1 show?

Write a claim about the relationship between temperature and student performance.

Engineering Design

Define the problem presented in the infographic.

Brainstorm at least three possible solutions.

To engineer a solution for our classroom, we need to know the criteria (requirements) and constraints (restrictions or limitations). Suggest at least three criteria and three constraints for a solution to the problem.

Criteria:

Constraints:

Human Health Watch the video and describe in three sentences how air quality can impact human health.
Air Quality Index and Particulate Matter Write testable questions and hypotheses relating to AQI and/or PM.
Particulate Matter and Student Math Test Scores How does particulate matter affect students' math test scores?

Planning an Investigation

1. What variables can we manipulate? List as many as you can!

2. What variables can we measure? List as many as you can!

3. Choose your independent and dependent variables. Write a testable question.

4. Draft a procedure for your investigation. Be sure to describe what data you will collect.

5. What are some challenges to this experiment?

Exit Ticket

1. What is the purpose of the air purifier?

2. What is the purpose of the shroud?

Analyzing Air Quality Data

Write a claim supported by your data.

Use evidence from your data to support your claim.

Explain the claim and evidence. Why does this claim make sense?

Exit Ticket

1. Who would want to know about these results?

2. How might we present the results to that audience?

Communicating the Results

RAFT stands for Role-Audience-Format-Topic. Your role is a student, and your topic is indoor air quality. Choose your audience and format to communicate the results of your investigation.

Audience	Format
PTO School Board Politicians Others?	Social media post(s) or campaign Letter Presentation (slides) Infographic Report