Name: _____

Cleaning the Air

Student Data Collection Sheet

Think About It! Write your answers below:

Understanding Particle Pollution 	**1**. What types of particles are found in **particle pollution**?
	2. What causes **particle pollution**?
	3. Why is **particle pollution** dangerous?

Particle Pollution and CDC 	**1**. How long have humans contributed to **particle pollution**?
	2. What effect did the Industrial Revolution have on **particle pollution**?
	3. How does CDC support efforts to reduce **particle pollution**?

Citizen Science 	**1**. What role did the community members of Norwood, Massachusetts play in tracking the air quality of their community?
	2. What was the CDC's response to air quality concerns in Norwood?
	3. What role do **citizen scientists** play in monitoring air quality?

Observation Card Data Table

	Indoor Air Observation Card		Outdoor Air Observation Card	
	Image	**Description**	**Image**	**Description**
Day 1		Size, shape color of particles		Size, shape color of particles
Day 2				
Day 3				
Day 4				
Day 5				
Day 6				
Day 7				

Build the Prototype

Once you have determined what your frame and **filter** layers will look like, draw a diagram with the **filter** parts labeled in the box below:

Test the Prototype

Prototype 1: Data Table			
	Trial 1	**Trial 2**	**Trial 3**
Air Flow	Original Angle _____° Angle w/ Filter _____°	Original Angle _____° Angle w/ Filter _____°	Original Angle _____° Angle w/ Filter _____°
Filtration	Amount of pepper caught by filter _____teaspoons	Amount of pepper caught by filter _____teaspoons	Amount of pepper caught by filter _____teaspoons

Reflections

Now that you have completed this investigation, think about what you learned from your research and experiment. Answer the questions below.

1. Which observation card collected the most air particles? What could have caused the amount of air particles you observed?

   _____

   _____

   _____

2. Why would it be important to test your **air filter** in multiple settings?

   _____

   _____

   _____

3. How often should air quality information in a community be shared with its residents? Why?

   _____

   _____

   _____

4. What effect would clearing trees have on the air quality in a neighborhood?

   _____

   _____

   _____

   _____

5. Some plant species reduce air quality by introducing large amounts of pollen into the air. Should residents of a community have to obtain approval from their neighbors before planting these types of species? Why or why not?

   _____

   _____

   _____

   _____

6. Factories and plants are often built with little input from the surrounding communities. Should factories need approval from most residents in a community? Why or why not?

   _____

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