Name: _____ **Group:** _____

PART 1: SIZE

1. Label the middle point as "0" and measure and label 1 meter to the left of "0" and 1 meter to the right of "0".

2. Measure 1000 meters to the right. How many meters were actually to the right of "0"?

If possible, stretch out the tape as far as it can go to see the distance between 1 and 1,000 meters.

3. Can you fit 1000 meters on the remaining paper on the roll? How far did you get?

4. . Return to the "0" point in the roll of paper. Measure and label 1 centimeter to the left of "0". Then measure and label 1 millimeter to the left of the 1 centimeter mark.

5. Can you measure and label 1 micrometer or 1 nanometer on the roll?

6. Is it possible to measure with a ruler and place on the paper 1 micrometer or 1 nanometer? Explain why or why not.

PART 3: HEALTH EFFECTS

1. Obtain the real time air quality levels for your area through the AIRNow web site.

Do you think the current PM level might cause a person with asthma to suffer from an asthma attack? Why or why not?

2. Look at the current air quality map of U.S .

Is there another area of the country where particulate matter levels might pose a health threat to people who live there? Where?

3. Using the American Lung Association data , click on your state and county and answer the following questions. If your county is not listed, select one that is closest to you.

a) What is your county's grade for Particle Pollution?

b) How many people are diagnosed with the following in your county and what is the percentage compared to the total population for your county?

Condition	# of people w/condition in county	County Population	Percentage
Pediatric Asthma			
Adult Asthma			
Chronic Bronchitis			
Emphysema			
Cardiovascular Disease			

c) How could these people use the AQI to plan out their daily activities?

ASSESSMENT:

As a class or individually, answer the following questions:

1. What do you think is more dangerous, fine particles (2.5 micrometers) or course particles (10 micrometers)?