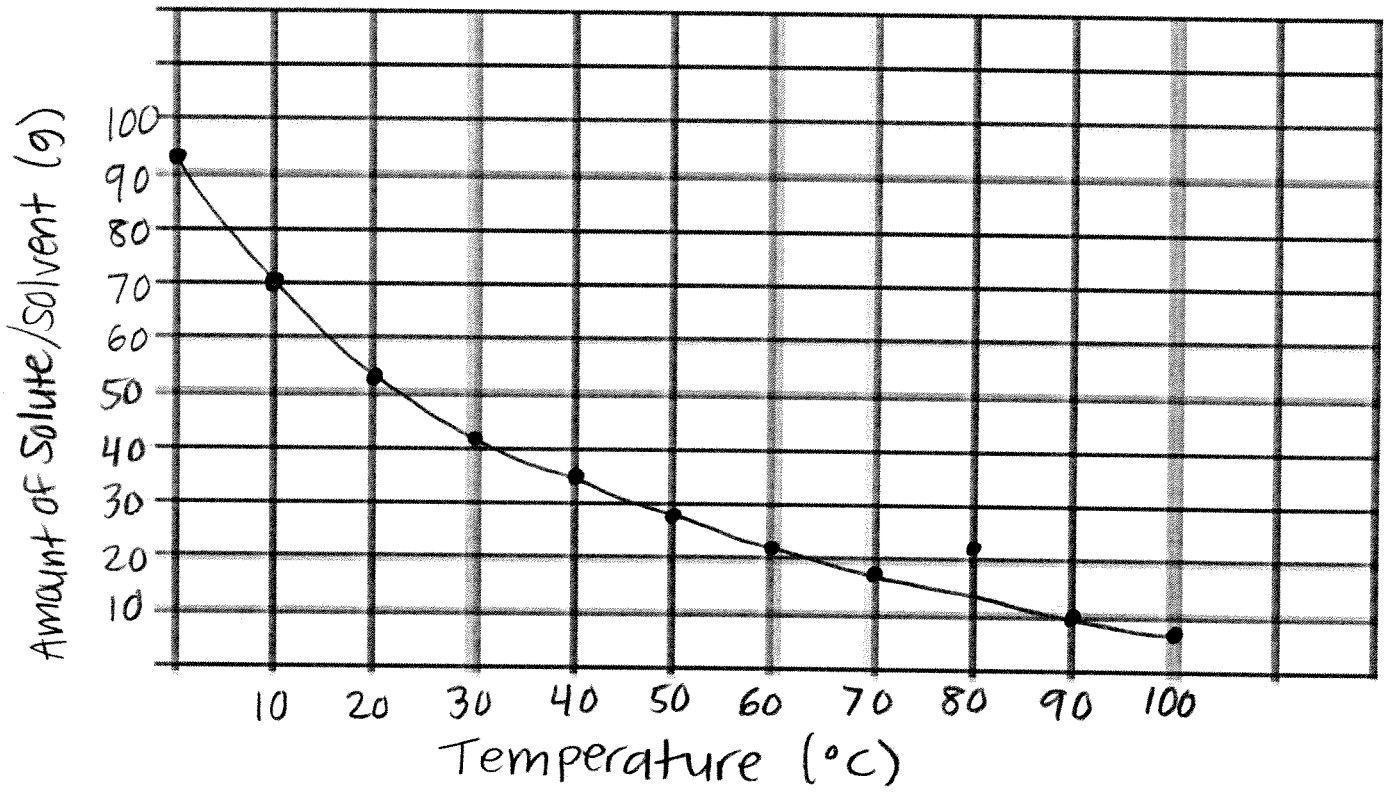
Name:_____ Date: _____Block:_____ **Warm-Up #6**

1. Graph the data:

Solubility of NH_3											
Temperature (°C) (x-axis)	0	10	20	30	40	50	60	70	80	90	100
Amount of solute/ Solvent (g) (y-axis)	91	70	52	41	35	28	22	18	22	10	7



2. Are the variables directly or inversely proportional? Inversely proportional

Explain your reasoning.

In general, as temperature increases the amount of solute/solvent decreases. Since the two variables move in opposite directions in relation to one another, the variables are inversely proportional.

3. Fill in the table:

Independent variable	Dependent variable
Temperature	Solute/solvent
X-axis	y-axis

4. Convert each of the following to scientific notation.

a) 0.000 000 045 80 m

4.580×10^{-8} m

b) 7,889,000,000 kg

7.889×10^{9} kg

5. How many centimeters are in one meter? 100

6. How many milliliters are in one liter? 1000

7. How many grams are in one kilogram? 1000

8. Convert the following measured quantities to the indicated unit.

a) 1000 m to ____|____ km
(10^0 ... 10^3)

1,000 m = 1 km

Left three

b) 1000 mL to ____|____ L
(10^{-3} ... 10^0)

1,000 mL = 1 L

Left three

c) 0. 000 023 mg to 2.3×10^{-8} g
(10^{-3} ... 10^0)

0.000 023 mg = 0.000 000 023 g

Left three

d) 3.67 km to 367000 or 3.67×10^5 cm
(10^3 ... 10^{-2})

3.67 km = 367000 cm

Right five

6. For each pair, convert one measurement to match the unit of the other. Be sure to show your work. Then compare the magnitude of the quantities using <, >, or =

a) 1 cm (<) 1 m
(10^{-2} ... 10^0)

1 cm = .01 m

Left two

.01 m vs 1m

b) 579 g (<) 5.79 kg
(10^0 ... 10^3)

579 g = .579 kg

Left three

.579 kg vs 5.79 kg