Station 1. You have run an experiment studying the effects of the molecular weight of a compound on the rate of diffusion in agar. Compound X has a molecular weight of 25.3 g/mol and compound Y has a molecular mass of 156.2 g/mol. On two separate agar plates, 0.1 g of each substance were transferred and allowed to diffuse for 2 hours. The results below were obtained. Use this information about this situation to answer the following three questions.

Question 1 3 pts

(CO 1) What was the independent variable in this experiment? (3 points)

○
Time

○
Amount of substance

○
Rate of diffusion

○
Molecular weight

○
Amount of compound used

Question 2 3 pts

○
(CO 1) What theory could you produce based off these results? (3 points)Compound X has a lesser molecular weight than compound Y.

○
Compounds with higher molecular weights have a faster rate of diffusion than compounds with lower molecular weights.

○
Compounds with Lower molecular weights have a faster rate of diffusion than compounds with higher molecular weights.

○

Compound X has more moles of substance in 0.1 grams vs compound

Y. There was more of compound X in the agar plate than compound Y.

Question 3 4 pts

(CO 1) List two controls that were held constant for this experiment or that you would hold constant for this experiment. (4 points, 2 points each).

Station 2: You measure the pH of a series of solutions using a pH meter using a pH meter and receive the following results. Use these results to answer the following three questions below.

Solution	pH