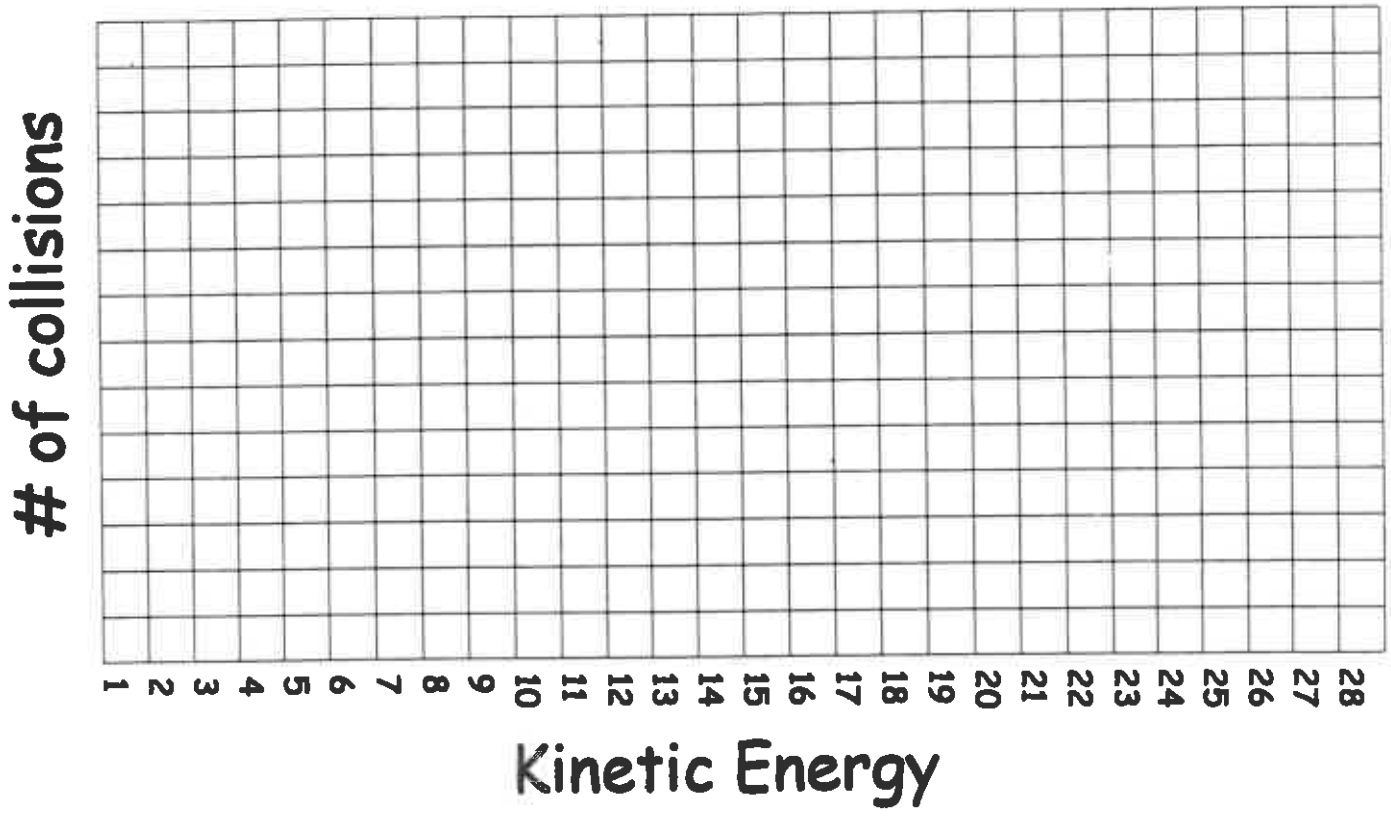
Chemistry 12

Name:_____

Reaction Kinetics Activity

- Using the collisions of molecules from side one of the other sheet provided, make a histogram by filling an ☒ in the appropriate box for each collision.



Answer after graphing side 1

1. What is the total energy for this reaction?

2. If the activation energy for this reaction is 26 kJ, will this reaction occur? Why or why not?

3. If the activation energy for this reaction is 20 kJ, will this reaction occur? If so what percentage of the collisions will result in a reaction?

4. How can we get a greater percentage of the collisions to result in a reaction?

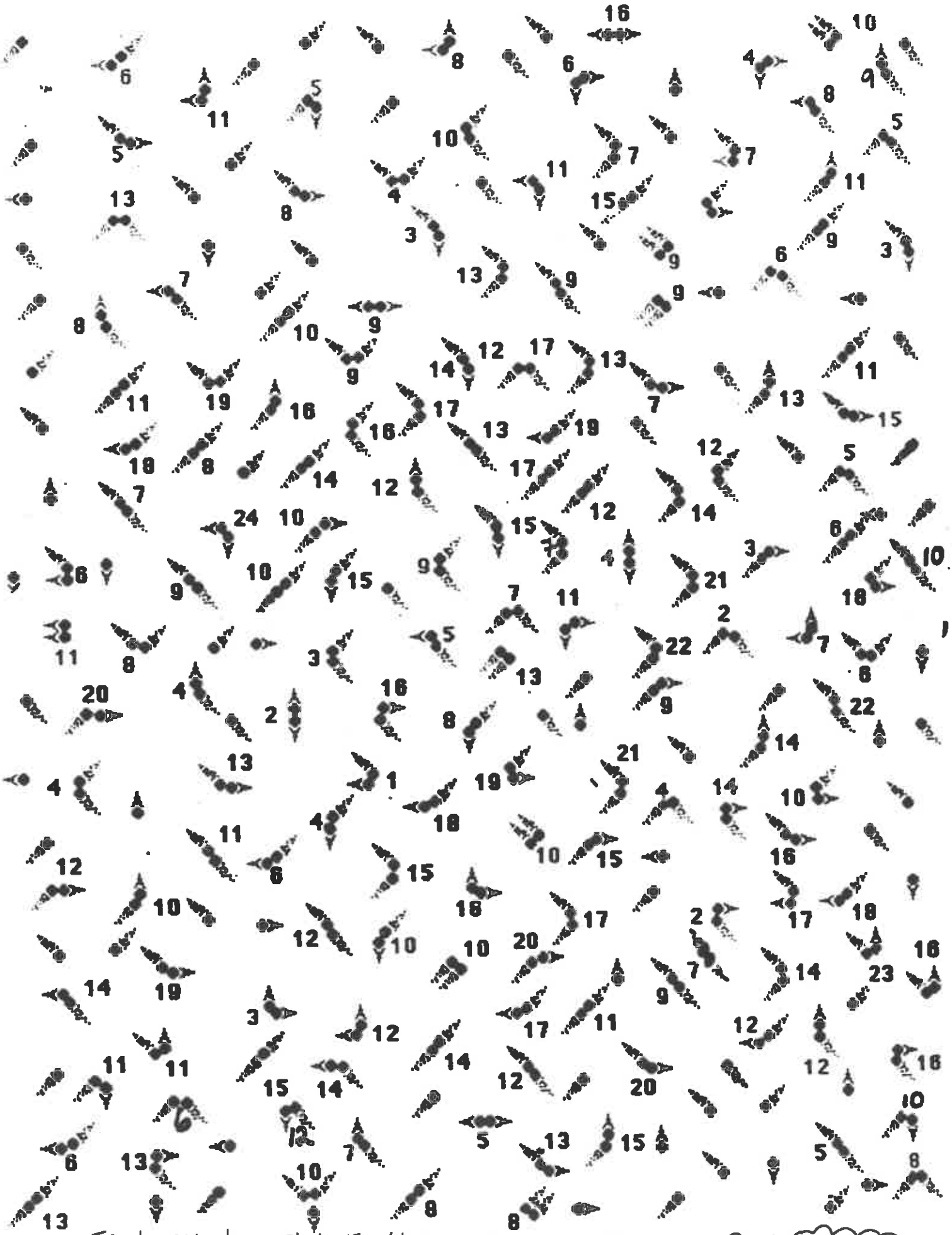
Using a different colour, graph side two on the same set of axes

1. How has the graph changed?

2. What was done in order to achieve this new curve?

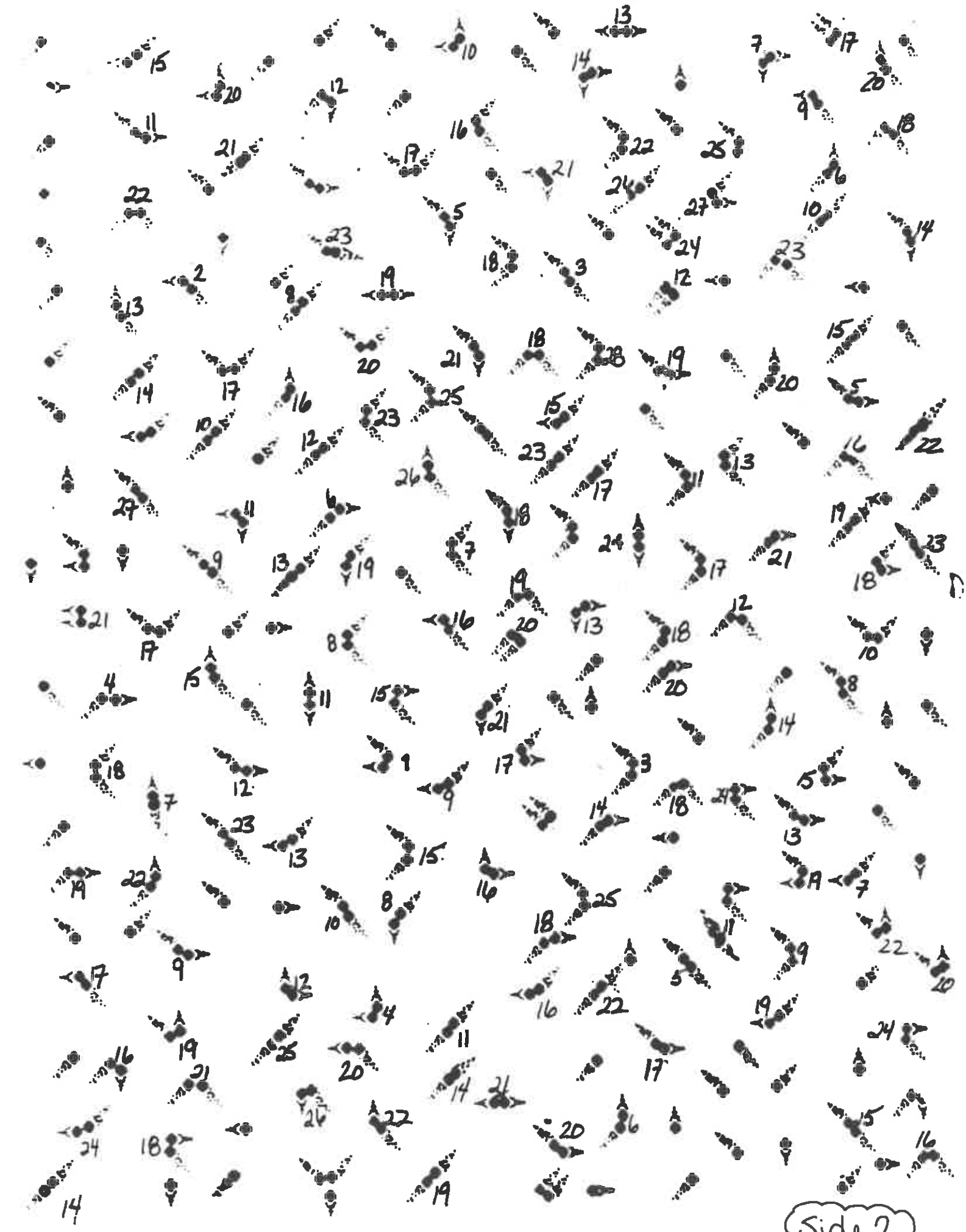
3. What is the total kinetic energy of this system? Has the total energy changed from system 1 to system 2? Explain.

4. If the activation energy for this reaction is 26 kJ, will this reaction occur? If so what percentage of the collisions will result in a reaction? Repeat for 20 kJ.



Each number shows the TOTAL KINETIC ENERGY of the 2 molecules in the collision.

Side 1


Side 2