**SCIENTIFIC INQUIRY PRACTICE - PHOTOSYNTHESIS**

**QUESTION**: Robert set up this experiment (below right) to find out (how light affects the rate at which plants make their own food by photosynthesis.

* Robert put the lamp 100 cm away from the plant and counted the number of bubbles made by the plant in one minute.
* He then moved the lamp nearer to the beaker and counted the number of bubbles again.

This table shows his results

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| --- | --- |
| Distance from Lamp (cm) | Number of Bubbles per minute |
| Trial 1 | Trial 2 | Trial 3 | Average | Uncertainty |
| 100 | 9 | 12 | 8 | 10 | 2 |
| 80 | 19 | 19 | 22 | 20 | 1.5 |
| 60 | 32 | 23\* | 33 | 33 | 0.5 |
| 40 | 34 | 40 | 37 | 37 | 3 |
| 20 | 36 | 37 | 38 | 37 | 1 |

\*anomaly

1. Plot the points on a piece of graph paper (below).
2. Draw the line of best fit on your grid.
3. Predict the number of bubbles per minute if the lamp is placed 10 cm from the plant.
4. Use these results to identify the trend in the data: As the distance from the lamp \_\_\_\_\_\_\_\_, the rate of photosynthesis \_\_\_\_\_\_\_\_\_\_\_.
5. Use the results to draw a conclusion: As light intensity \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the rate of photosynthesis \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**(e)** Use your knowledge of what limits photosynthesis to explain the shape of the graph

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