Results of the vitamin-C titration investigation.

This worksheet refers to the vitamin-C investigation at this link .
Link to revise experimental method.

Questions to be answered.
Does boiling food, such as vegetables, reduce the food's vitamin-C content?

What is the dependent variable (DV)?

What is the independent variable(IV)?

State 4 controlled variables
i.

ii.

iii.

iv

Procedure

Write a detailed procedure for the completion of this investigation. (Logical and sequential set of numbered steps)

Results

Time at 90°C (min)	Trial	1	2	3
0	Start (mL)			
	Finish(mL)			
	Total(mL)			
5	Start (mL)			
	Finish(mL)			
	Total(mL)			
15	Start (mL)			
	Finish(mL)			
	Total(mL)			
20	Start (mL)			
	Finish(mL)			
	Total(mL)			
40	Start (mL)			
	Finish(mL)			
	Total(mL)			

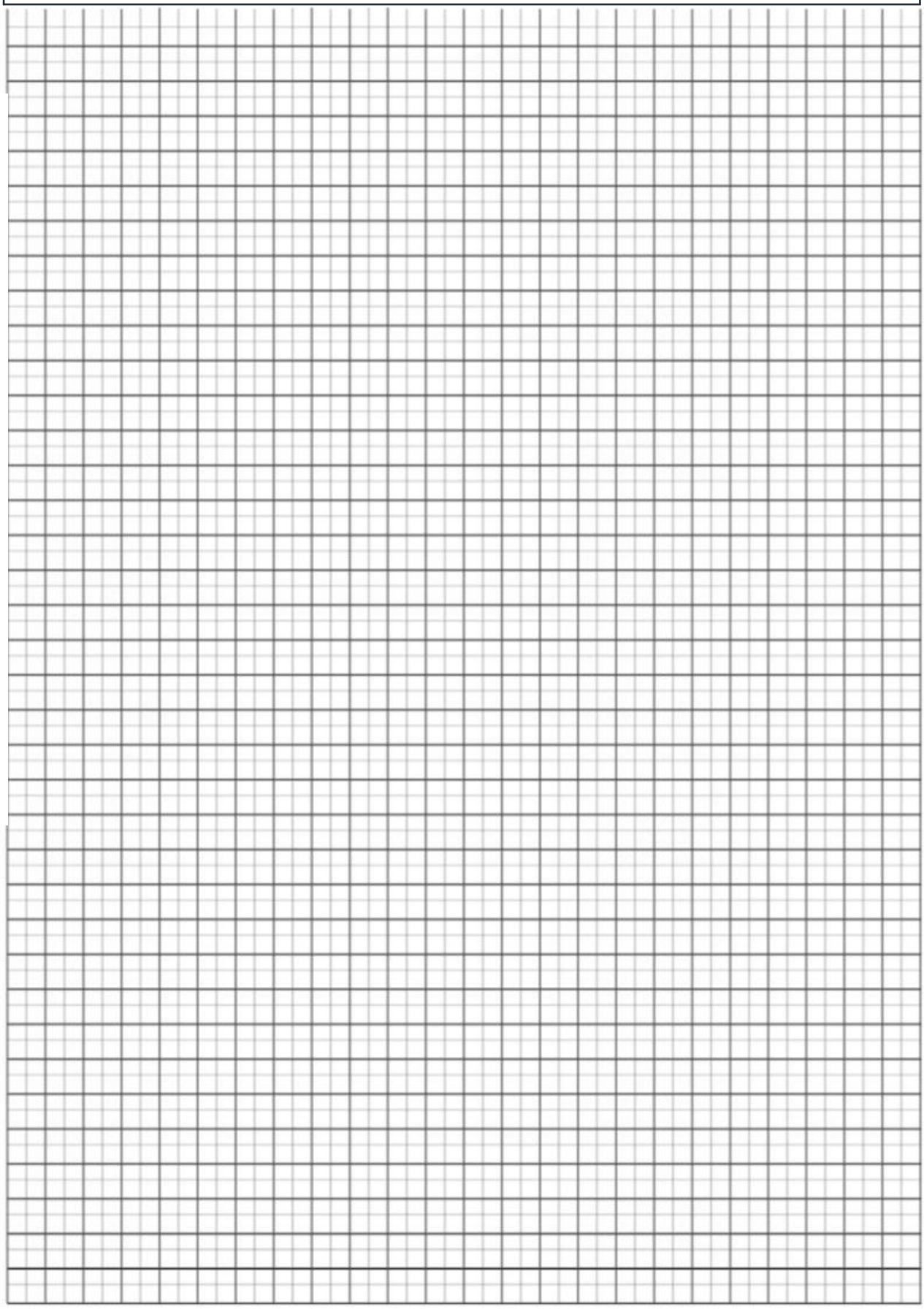
Table 1

1. Calculate the concentration of the I_2 solution used as the titrant.
   3.0 grams of I_2 is added to 1.00 L of distilled water.

2. Given that one mol of I_2 reacts completely with 1 mol of vitamin-C and using the information shown below of one titration of 20.0 mL of vitamin-C solution calculate the:
   - the titre used to reach the end-point.
   - calculate the concentration, in mol/L, of vitamin-C in the 20.0 mL sample.

3. Complete the table below and graph the results on an appropriate set of axes using the graph paper on the next page.

Time at 90°C (min)	Concentration of vit-C in the 20 mL sample mol/L
0	
5	
15	
20	
40	



4. Consider the results in table 1
   a. Are the results repeatable? Explain

   b. What needs to take place to label the results as reproducible? Explain

   c. Complete the sentence below.
   " For results to be reliable they must ……"

5. i. Define validity.

   ii. Are the results of this investigation valid? Explain

6. Discuss one way that the accuracy of the investigation can be improved.

7. Discuss the results .
   i. Summarise the key findings and identify any trends between the DV and IV.
   ii. Summarise the key findings and identify any trends between the DV and IV. Refer to specific results from your investigation to justify your findings and trends.
   iii. Suggest one possible investigation that can be conducted and explain how this would benefit increase our understanding of vitamins and nutritional content and processed food.

8. Write your conclusion.

Possible solutions