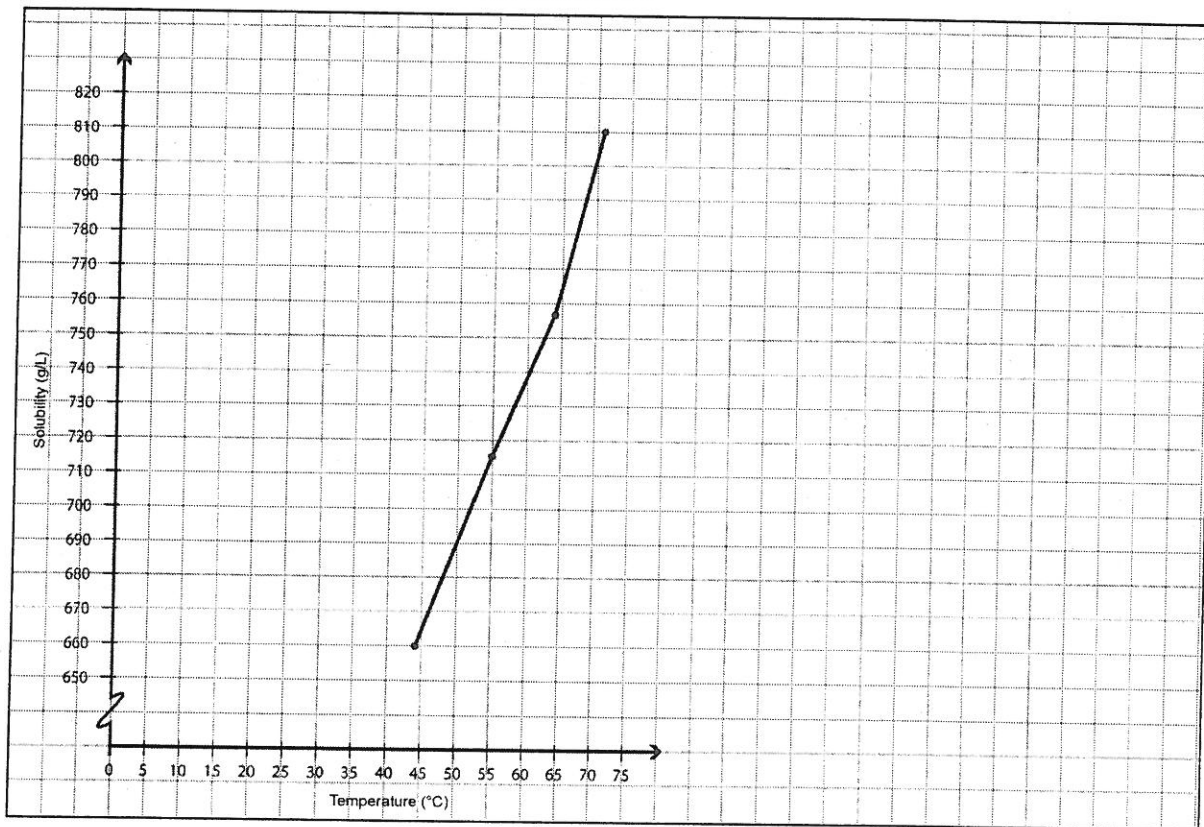


## Graph

Plot the solubility of sodium nitrate in water according to temperature. Give the graph a title.

*Answers will vary. Example:*

**Title:** *Solubility of sodium nitrate according to temperature*



## Analyzing the results

1. Describe the graph that you drew.

*The graph is an ascending curve.*

2. What effect does temperature have on the solubility of sodium nitrate?

Explain your answer using your graph.

*Since the graph is an ascending curve, it can be concluded that the solubility of sodium nitrate in water increases according to temperature.*

Name: \_\_\_\_\_ Group: \_\_\_\_\_ Date: \_\_\_\_\_ **ANSWER KEY**

3. What is the solubility of  $\text{NaNO}_3$  at a temperature of  $50^\circ\text{C}$ ?

*Answers will vary. Example: 690 g/L*

4. What are the possible sources of error in this lab?

*Answers will vary.*

5. How could you improve the protocol for this lab?

*Answers will vary.*

## CONCLUSION

1. Complete the following sentence:

As the temperature rises, the solubility of sodium nitrate increases.

2. Was your hypothesis confirmed or not? Explain your answer.

*Answers will vary.*

## APPLICATION

Isabelle makes herself a cup of hot chocolate by completely dissolving a teaspoon of cocoa in some warm milk. She leaves for a few minutes and returns to find that her drink is now cold and there is a deposit of cocoa at the bottom of the cup. What happened?

*Since the solubility of cocoa increases as the temperature rises, it can be assumed that the solubility decreases as the temperature drops. Isabelle was able to dissolve a large quantity of cocoa in the warm milk. However, as the milk cooled, the solubility decreased and the excess dissolved cocoa precipitated and settled at the bottom of her cup.*