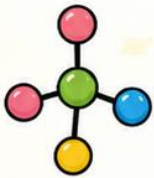




SCIENCE



POTATO OSMOSIS



EXPERIMENT



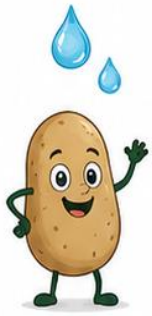
Name : _____

Class : _____

Date : _____



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1	EXPERIMENT	3
3	PREDICTION SHEET <i>(Complete before starting the experiment.)</i>	4
4	OBSERVATION SHEET <i>(Complete while performing the experiment.)</i>	5
5	RESULT SHEET <i>(Complete after the experiment.)</i>	6
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POTATO OSMOSIS

A FUN SCIENCE EXPERIMENT!

This experiment shows **osmosis** — the movement of water through the cell membrane. Water moves from an area of lower concentration (more water) to higher concentration (less water).

Discover how water moves in and out of potato cells!



Salt Water
(Shrinks)



Fresh Water
(Swells)

YOU WILL NEED:



1 medium potato



2 clear glasses



Salt



Water



Knife
(adult use)



Ruler

LET'S DO IT!

- 1 Cut the potato into two sticks of equal size and shape.
- 2 Measure the length of each potato stick using a ruler. Write it down.
- 3 Fill one glass with fresh water.
- 4 Make salt water by adding 2 tablespoons of salt to the other glass. Stir until the salt dissolves.
- 5 Place one potato stick in the fresh water.
- 6 Place the other potato stick in the salt water.
- 7 Leave them for 30–60 minutes. Then remove the potato sticks and measure their length again.



WHAT'S HAPPENING?

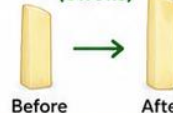
- The potato cells act like tiny bags of water.
- In fresh water (lower solute concentration), water moves into the cells. The potato gains water and swells.
 - In salt water (higher solute concentration), water moves out of the cells. The potato loses water and shrinks.



WHAT DO YOU OBSERVE?

- The potato in fresh water becomes longer, firmer, and heavier.
- The potato in salt water becomes shorter, softer, and lighter.

Fresh Water
(Swells)



Salt Water
(Shrinks)



TRY THIS!



- What happens if you leave the potato sticks for longer—1 hour, 2 hours, or overnight?
- Try using different salt concentrations (less salt or more salt).
- Can you think of real-life examples where osmosis is important?



SAFETY FIRST!

- Ask an adult for help when using a knife.
- Do not eat the potato after the experiment.
- Clean up and wash your hands after.



LOOK, THINK, WONDER!
SCIENCE IS ALL AROUND US!





Name: _____ Class: _____ Date: _____



PREDICTION SHEET

SCIENCE EXPERIMENT



POTATO OSMOSIS EXPERIMENT



Purpose: To observe how different solutions affect a potato due to osmosis.



1

What is happening?

In this experiment, potato sticks are placed in three different solutions: **Water, Salt Water and Sugar Water.** We will observe any changes after some time.



WATER



SALT WATER



SUGAR WATER



2

My Prediction

I think the potato sticks will change in the following way in each solution:

Solution	What do you think will happen to the potato sticks?
 WATER	_____
 SALT WATER	_____
 SUGAR WATER	_____



3

Why do you think so?

Write the reason for your predictions.





Name: _____

Class: _____

Date: _____

OBSERVATION SHEET



SCIENCE EXPERIMENT



POTATO OSMOSIS EXPERIMENT



Purpose: To observe how different solutions affect a potato due to osmosis.

What we did:

We cut three potato sticks of the same size and placed each one in different solutions.

The solutions used were: Water, Salt Water and Sugar Water.



WATER



SALT WATER



SUGAR WATER



OBSERVATIONS

Record your observations at different time intervals.

Solution	Time	What I Observed (Changes in size, shape, texture, etc.)	Drawing (Draw the potato stick)
 WATER	Before (0 min)	_____	
	After 15 minutes	_____	
	After 30 minutes	_____	
 SALT WATER	Before (0 min)	_____	
	After 15 minutes	_____	
	After 30 minutes	_____	
 SUGAR WATER	Before (0 min)	_____	
	After 15 minutes	_____	
	After 30 minutes	_____	



NOTES / ADDITIONAL OBSERVATIONS

"Good observations lead to great discoveries!"





Name: _____

Class: _____

Date: _____

RESULT SHEET



SCIENCE EXPERIMENT



POTATO OSMOSIS EXPERIMENT



Purpose: To observe how different solutions affect a potato due to osmosis.

What we did:

We placed three potato sticks of the same size in different solutions and observed the changes over time.



WATER



SALT WATER



SUGAR WATER

1 RESULTS

Fill in the table with the final observations after 30 minutes.

Solution	Change in Size (Bigger / Smaller / No change)	Change in Texture (Firmier / Softer / No change)	Final Observation (Write what happened)
 WATER	_____	_____	_____
 SALT WATER	_____	_____	_____
 SUGAR WATER	_____	_____	_____

2 CONCLUSION

What did the results of your experiment show?



3 KEY TAKEAWAY

What did you learn from this experiment?



Great work!
You discovered the
power of osmosis!



Name: _____ Class: _____ Date: _____



REFLECTION SHEET



SCIENCE EXPERIMENT

POTATO OSMOSIS EXPERIMENT



Purpose: To observe how different solutions affect a potato due to osmosis.



WATER



SALT WATER



SUGAR WATER



Think about your experiment.

Use what you observed and learned to answer the questions below.

1 What did you learn from this experiment?



4 If you could do this experiment again, what would you do differently?



2 What surprised you the most? Why?



5 How can this experiment be useful in real life?



3 What was the hardest part of the experiment?



6 What new questions do you have after doing this experiment?



★ Overall Reflection ★



How did this experiment help you understand the concept of osmosis?



Great job, Scientist!

Keep observing, keep questioning, and keep exploring!