



GLOW STICK MYSTERY

7-12 yrs | 5 min | Stage 1- 3



Mission Question

Why do some glow sticks glow brighter than others?

? Wonder & Predict

Before testing, what do you think will happen?

- ☐ The glow stick in hot water will glow brighter
- ☐ The glow stick in cold water will glow brighter
- ☐ They will glow the same
- ☐ Something else: _____

WHY DO YOU THINK THAT?

What you will need

-
- 2 glow sticks
-
- Hot water (adult help)
-
- Cold water + ice
-
- 2 clear containers

Investigate

Follow the steps carefully while observing.

- 1

Activate the Glow Sticks
 - Snap both glow sticks.
 - Shake gently.
 - Make a prediction.

Look carefully at both glow sticks throughout the investigation.
What changes do you notice?

- 2

Prepare the Water
 - Fill one container with cold water and ice.
 - Fill the other with hot water (not boiling).

Think Like a Scientist
Which container do you predict will produce the brightest glow?

- 3

Place the Glow Sticks
 - Put one glow stick in each container.
 - Start a timer.

Fair Test Question
Why is it important to use identical glow sticks?

- 4

Gather Evidence
Wait 2 minutes.
Observe both glow sticks carefully.
Scientists collect evidence before making conclusions.

☐ The hot-water glow stick became brighter

☐ The cold-water glow stick became dimmer

☐ The brightness changed over time

☐ The colour appeared different

☐ I noticed something unexpected

- 5

Test Your Prediction
Compare both glow sticks. Look carefully for patterns.

- What happened?**

☐ The hot-water glow stick was brighter

☐ The cold-water glow stick was brighter

☐ They looked the same

☐ Something unexpected happened

Observe & Record

What clues did you discover?

- ☐ The glow stick in hot water became brighter
- ☐ The glow stick in cold water became dimmer
- ☐ Both glow sticks changed over time
- ☐ One glow stick faded faster
- ☐ The colour looked different
- ☐ My results surprised me



What did you observe?

What did you discover about temperature and glow sticks?



What happened?

Fill in the sentences using words from the box.

evidence | dimmer | brighter | reaction | energy | temperature

1. Scientists changed the _____ of the water.
2. The glow stick in hot water became _____.
3. Cold water made the glow stick _____.
4. Glow sticks work because of a chemical _____.
5. Heat gives particles more _____.
6. Scientists use observations as _____.



The science behind it

Why did one glow stick glow brighter?

When a glow stick is activated, chemicals mix together.

The chemicals react and release energy as light.

Hot water speeds up the reaction, so the glow stick shines brighter.

Cold water slows down the reaction, so the glow stick becomes dimmer.

Scientists say temperature affects the speed of a chemical reaction.



Take it further - Professor Picklebottom's Question

Can You Control a Glow Stick's Glow?

Scientists often change ONE variable to investigate a question.

Choose ONE challenge:

- ☐ Ice water
- ☐ Room temperature water
- ☐ Warm water
- ☐ Hot water

My prediction:

What happened?



ONE MORE QUESTION...

You discovered that **temperature** affects how **brightly** a glow stick shines.

But scientists don't stop after solving one mystery...

What else could affect a glow stick?



Colour



Brand



Size



How long it was shaken



Scientists investigate **ONE** variable at a time to uncover new clues.

Continue the Investigation in The Crazy Scientist LAB™



Glow Stick Challenge Cards



STEM Missions



Data Challenges



Teacher Resources



UNLOCK MORE SCIENCE!

"You solved one mystery... now let's find another!"

