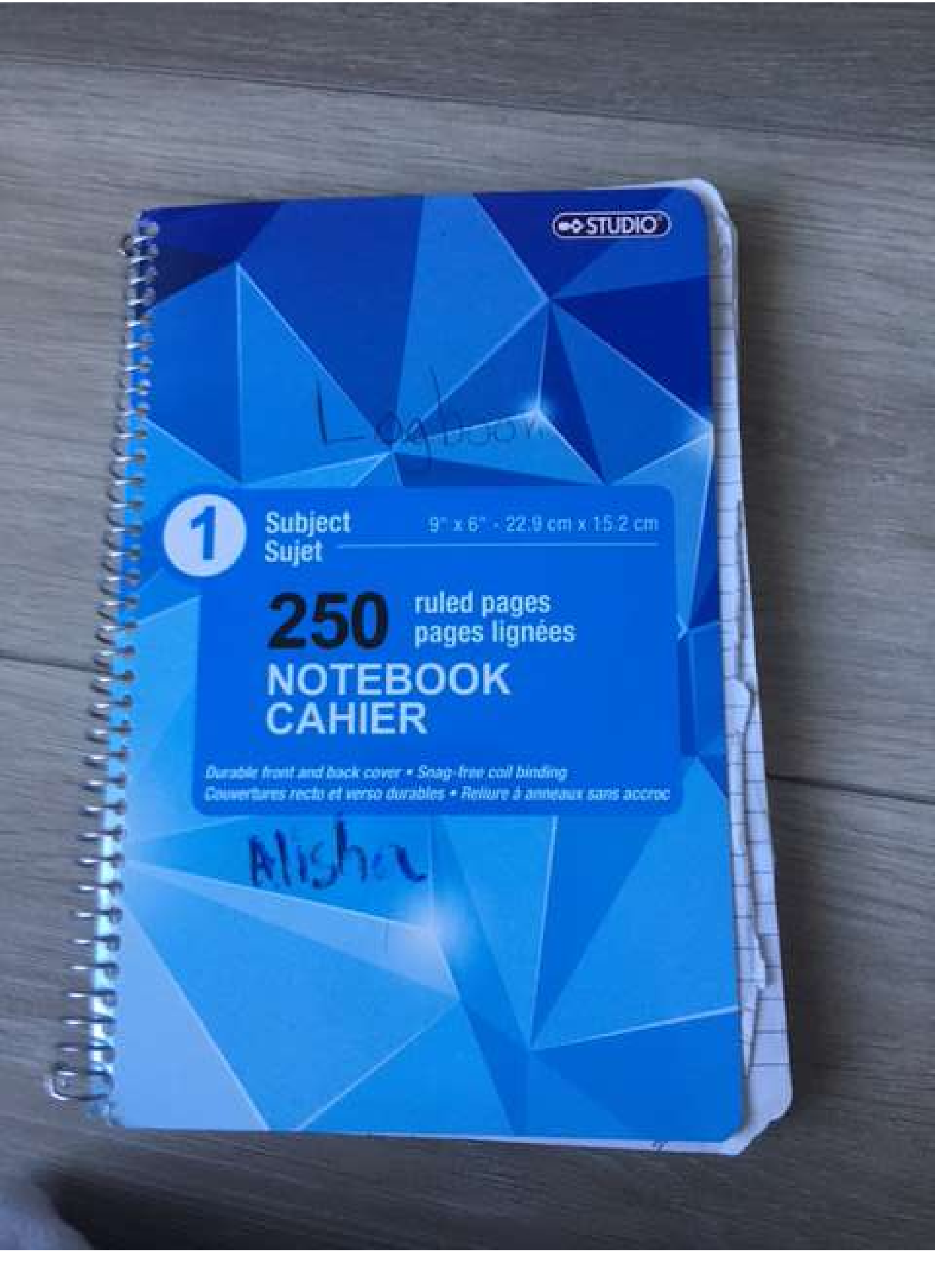
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Dec.15 Hypothesis

I think bioluminescence helps anglerfish and Jellyfish hunt for prey, scare predators, and communicate because the deep ocean has almost no sunlight. I predict that anglerfish use their glow to lure prey like fish into coming closer. I think this because I have seen photos of anglerfish with their glowing rod and fishes getting attracted to it. Jelly fish use their glow to scare away things that want to eat them and maybe they both glow to send signals in the darkness.

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Nature.

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Jan. 6

(VFW) Problem

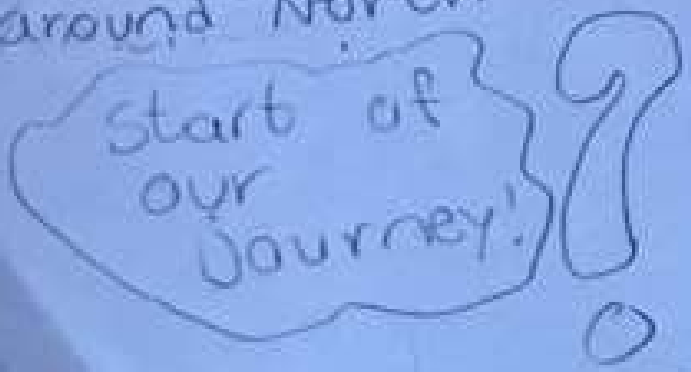
How does bioluminescence help jellyfish and angler-fish survive in the oceans around North American?

Jan. 5

Dec. 17

I chose Bioluminescence because I was curious about how and why some oceans and animals produce light. Bioluminescence seemed unique and interesting and I wanted to understand it's purpose in Nature.

How does bioluminescence help jellyfish and angler-fish survive in the oceans around North American?



How lightning is formed

I chose Bioluminescence because I was curious about how and why some oceans and animals produce light. Bioluminescence seemed unique and interesting and I wanted to understand it's purpose in Nature.

Enviorment"

Dec. 15 (Non-Experimental

Topics.

- Plants/Nutrient Exchange System
- Solar system/~~Weather~~ patterns of Mars (Bioluminescence)
- Weather and climate/How lightning is formed

I chose Bioluminescence because I was curious about how and why some oceans and animals produce light. Bioluminescence seemed unique and interesting and I wanted to understand it's purpose in Nature.

Jan. 8 Science Fair 2026

Sources:

- National geographical kids
- [redacted]
- ©ZeleonScience
- Britannica kids
- Smithsonian Ocean

Research notes

"What is Bioluminescence?"
- Light made by living things
- Happens inside oceans and animals
- Common in ocean animals

"How Bioluminescence works"
- Chemical reaction
- Uses luciferin and luciferase
- Oxygen helps produce light

Why animals use Bioluminescence
- Scare predators
- Attract prey
- Communicate with same species

(Ignore Arrows)

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Glossary/Meaning

Vocabulary (Lot notes)

- Luciferin—Chemical that glows
- Luciferase—enzyme that helps reaction
- Enzyme—A special protien in living things that make a chemical reaction happen faster
- Chemical(s)—A chemical is a substance made out of matter that has it's own properties

Notes-(2)

- Moving light uses energy, so animals can't glow all the time
- Glowing can sometimes attract predators not just scare them
- Animals must control when and how bright to glow

Animal examples →

2026
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"How does the Bioluminescence reaction happen?"

When luciferin and luciferase get in contact with eachother, the oxygen gets in contact with the luciferin and combines into oxyluciferin. During the reaction, light is then produced.

Source: ↑

GozeleonScience
On Youtube

Extra Sources:

- NOAA
- Smithsonian Ocean

→

2026 Science Fair

- Bioluminescence can be blue, blue green, or nearly violet
  PS. green yellow too and less often, Red
- Bioluminescene is actually common
- Bioluminescene helps organisms!
  - Locate food
  - Defend against or warn predators
  - Hide from predators
  - Attract or detect prey
  - Attract mates
  - Communicate
- Jellyfish produce light in cells called photocytes or photophores which can be located in different areas depending →

SOURCE USED: NOAA

Jan.
202
Jan. 28

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Science Fair

On the species

Jan. 28 Glossary for last page notes

- Photocytes → is a type of cell that catalyses enzymatic reactions to produce light.
- Catalyses → cause or accelerate (a reaction)

Photophores → A light producing organ in certain animals

Jan. 28
- Anglerfish's light comes from symbiote bacteria (photobacterium)
- Bioluminescence helps angler fish by acting as a hunting tool to attract prey in the pitch black ocean.
- Anglerfish has bioluminescence at the tip of a modified dorsal spine.

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First notes - later was changed to my own words on board!

↑ Tri fold

[redacted]: Some jellyfish can release glowing tentacles or showers of glowing particles to distract predators while the main body escapes.

[redacted]: A bright flash might attract a larger predator, turning the jellyfish's attacker into prey for something bigger.

~~Bioluminescence~~ Bioluminescence in jellyfish is produced within specialized organs and cells primarily located around the umberella (the bell) or

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Use bioluminescence?

: A sudden flash of light can startle a predator, giving the jellyfish time to escape.

: Some jellyfish can release glowing tentacles or shavers of glowing particles to distract predators while the main body escapes.

: A bright flash might attract a larger predator, turning the jellyfish's attacker into prey for something bigger.

~~Bioluminescence~~ Bioluminescence in jellyfish is produced within specialized organs and cells primarily located around the umberella (the bell) or

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Jan. 28

along certain canals.

~~Hard words~~

Glossary: hard words

- Dorsal spine → highly adapted modified and detached first spine of the dorsal fin, known as a fishing rod (illicium)
- Jelly fish bell → the main umbrella-shaped body of a jelly fish.

More sources:

- NOAA
- Britanica kids

Once I finish full project I will add all the sources I used.

Fun facts:

"Bio" refers to life or living. "lum" or "lumin" comes from the Latin lumen or lux for light. →

Jan. 29

Bioluminescence

- Angler fish's light is from symbiotic bacteria
- Certain mushrooms glow softly at night to attract insects
- Fireflies, Jellyfish, plankton, angler fish, and etc are all bioluminescent animals

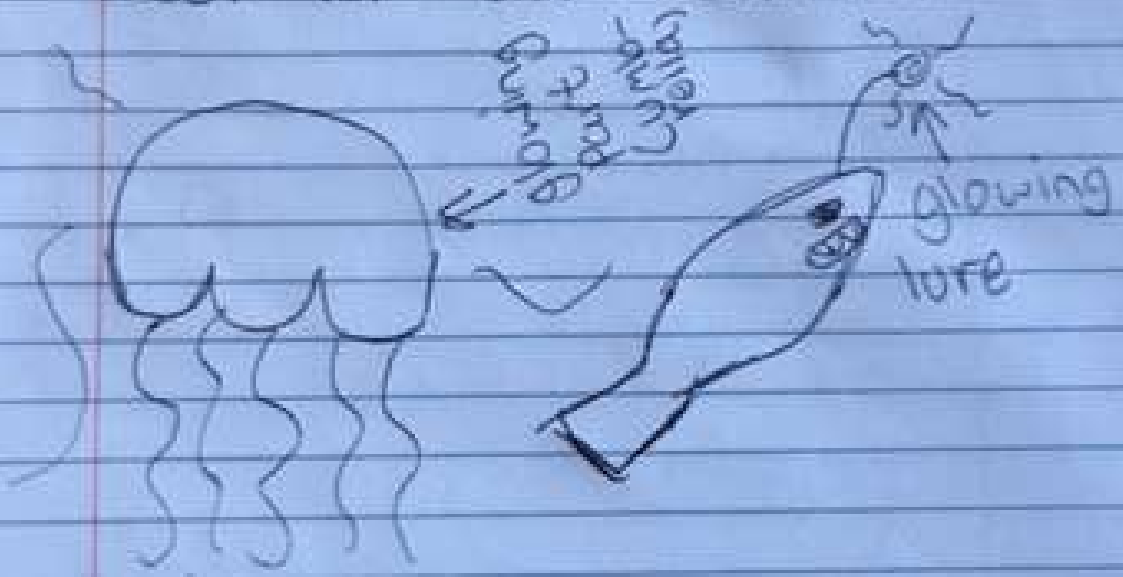
Conclusion:

Feb. 2 My research shows how bioluminescence helps animals like Jellyfish and angler fish in North America. It's like their own superpower! For the angler fish, the glowing lure on it's head acts like a fishing rod for snacks such as small fish in the dark deep sea. For jelly fish, their glow can startle predators, almost like a burglar alarm going off. Even though these creatures are very —

Feb. 3

Feb. 3

different, they both use their cool, natural light to find food and stay safe in the dark big ocean. Bioluminescence is a really important tool for their survival.



P.S Looking back at my hypothesis, it seems that I was right because bioluminescence actually helps anglerfish and jellyfish survive, hunt for prey, and way much more.