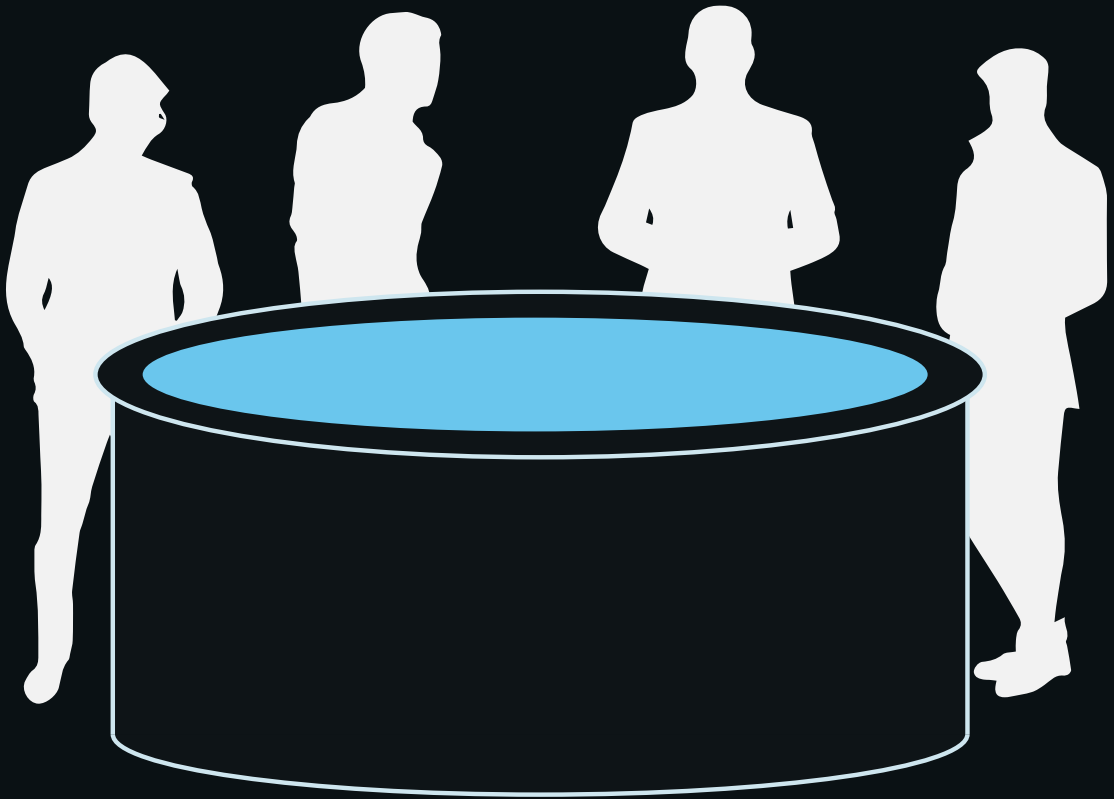




# MICRO SCOPIC LIGHT





# **WATER TABLE**

**Discover and experience running your hands through glowing water and find out what creatures make them glow!**

## **Rules**

- 1. Do not jump in or on to the water table**
- 2. Do not drink the water or splash it onto others**
- 3. Do not run around the table**
- 4. Please give others a turn if you've been at the table for a while**

# WHY DO BEACHES GLOW?



**Answer . . .**

## **Microscopic Organisms**

These tiny creatures emit a bioluminescent light when either disturbed or threatened by predators. Movement is also another element that will cause this glow, thus resulting in the magical effect we see.

# WHERE ARE THESE BEACHES?



Tasmania, Australia





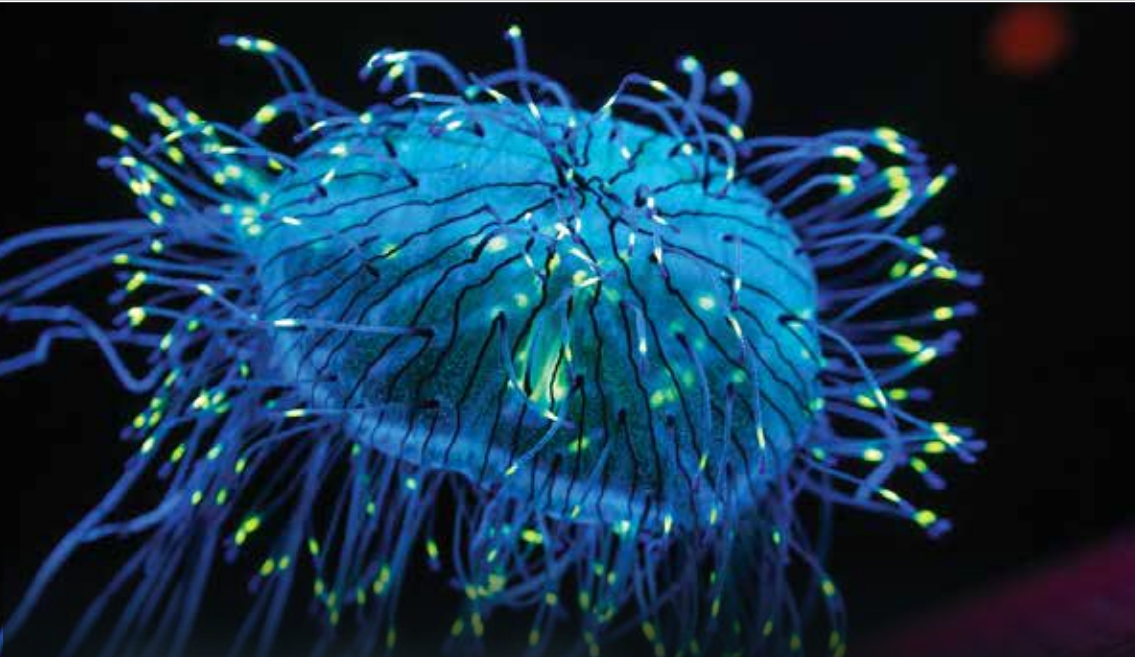
# WHAT IS BIOLUMINESCENCE?





# WHO USES BIOLUMINESCENCE?





# SEA JELLIES

### Glowing Jellies

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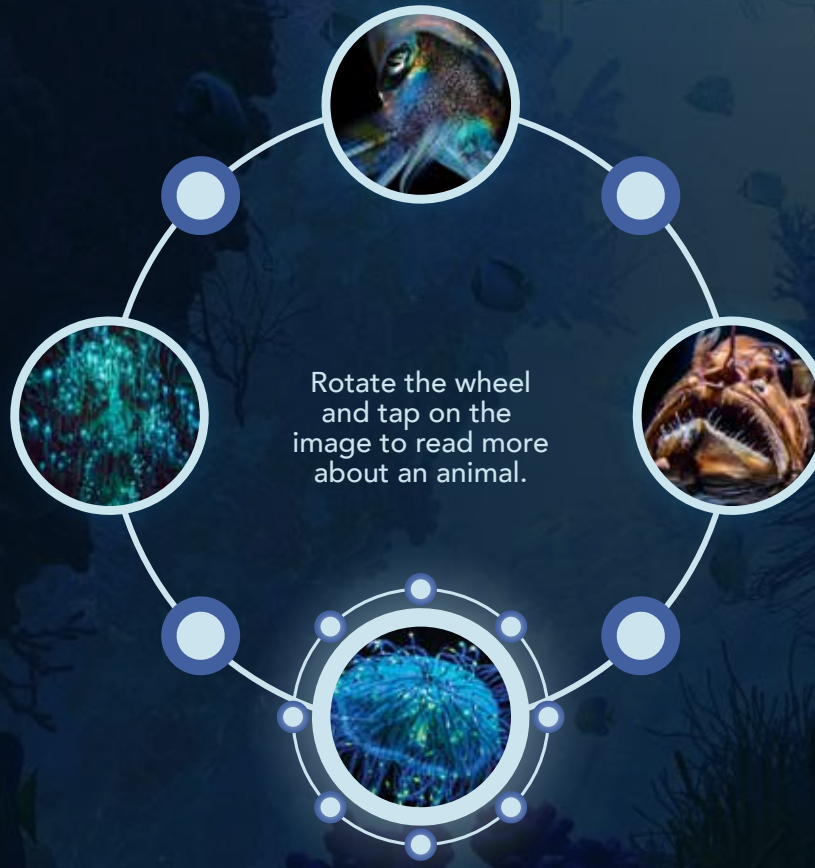
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### TAXONOMY

|         |                    |
|---------|--------------------|
| KINGDOM | animalia           |
| PHYLUM  | chordata           |
| CLASS   | actinopterygii     |
| ORDER   | lophiiformes       |
| GENUS   | ceratias           |
| SPECIES | ceratias holboelli |



# WHO AM I?



Rotate the wheel and tap on the image to read more about an animal.

## Glowing Jellies



# ANGLER FISH

### Habitat

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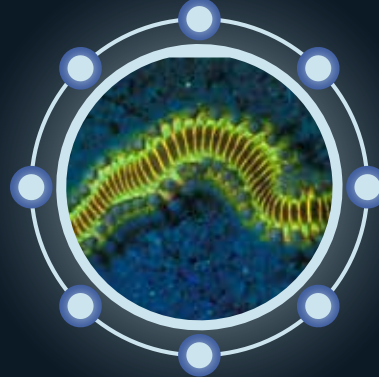
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### Feeding habits

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# HOW IS IT USED?



## Finding and Attracting Mates

Bioluminescence is a tool used by animals to attract and communicate with other and potential mates. The female Syllid fireworm often uses its body to move in quick glowing circles to attract males.



## Searching and Hunting for Food

Light in the ocean is a natural lure for animals and predators and prey alike both use it to hunt for food. Some fish, like the deep sea angler, use a lure on top of thier heads that attracts prey straight to hungry mouths.



## Camouflage and Protection

Bioluminescence can be used to distract or scare off predators. The vampire squid, for example, has bioluminescent lights at the end of each of it's tentacles and a glowing eye in the middle to both distract predators while also luring prey in.



## WHAT **COLOR** IS BIOLUMINESCENCE?

While bioluminescence is just the emission of light, it primarily appears as a blue-green color due to the way light travels through water.

Some animals have evolved to emit a red light in the deep sea and are able to see more efficiently than others.



## HOW DOES IT **WORK?**

### Chemical Reaction

Bioluminescence occurs through a chemical reaction that produces light energy within an organism's body.

For a reaction to occur, a species must contain luciferin, a molecule that, when it reacts with oxygen, produces light.

**This is what creates the bioluminescent light you see in animals!**

When oxygen and luciferin come together, a chemical reaction occurs and a new molecule is formed called oxyluciferin.

### MAKE A LIGHT MOLECULE

Move pieces to the correct location to create LIGHT!



- PIECES**
- Luciferin
  - Oxygen
  - luciferase
  - Oxyluciferin

