

Creatures That

GLOW

Some insects, fish, mollusks, fungi, and worms produce a glow called bioluminescence, or “living light.” The glow comes from internal chemical reactions.

You can find these organisms, if you look carefully . . .

In the AIR

A young boy with brown hair, wearing a green long-sleeved shirt, is shown in profile, looking down at a clear glass jar he is holding. The jar contains several fireflies, some of which are glowing. The background is dark, suggesting a night scene outdoors, with some faint green foliage visible. The overall lighting is dim, with the primary light source being the fireflies in the jar and the ambient light from the page's design.

FIREFLIES, also called lightning bugs, are actually nocturnal beetles. They exist on every continent except Antarctica. More than 170 species call North America home, but, for some unknown reason, they are seldom found west of Kansas. The best area in North America for viewing fireflies is along the Florida–Georgia border, from the

Big Bend coast to the Okefenokee swamp.

Fireflies light up to send a mating call. The males flash as they fly, while the females stay on the ground or on low bushes, flashing back. (Females seldom fly.) Their adulthood lasts for only a few weeks, and they spend every night courting. Most don't even eat! The larvae, or babies, of most firefly species also glow. They're called **GLOWWORMS**.

- ▶ A fireflyer is someone with a passion for fireflies.
- ▶ One of the most popular folk songs in Japan is "The Light of the Firefly," set to the music of "Auld Lang Syne."

FLASH for Fireflies

To attract fireflies, find one, count the number of its flashes, their duration, and the time between flashes. Then mimic the flash pattern with a small flashlight.



Above, a close-up view of a firefly

Below, blue glowworms light up the Waitomo Glowworm Caves in New Zealand.



At SEA

More than 90 percent of deep-sea animals are thought to be **BIOLUMINESCENT**.

Organisms such as comb jellies, lantern or flashlight fish, certain squid and ocean worms, and a swimming sea cucumber use bioluminescence to see, lure, or scare away other creatures.

The glowing sea creatures that are easiest to spot are microscopic organisms called **DINOFLAGELLATES**. They light up if they are moved, such as by waves, wind, fish, and boats. When these organisms wash up on the beach and you step on them, you leave "glowing" footprints in the sand.

► Strangely, a mysterious, glowing, milky-color part of the Indian Ocean has been noted only twice, both times on January 27 . . .

- by a satellite, which captured images of the phenomenon in 1995.
- by the submarine *Nautilus* in Jules Verne's novel *20,000 Leagues Under the Sea*—published in 1870.

Above, a column of glowing kelp

Right, photophores light up a squid's eyes.

Transparent, hula-skirt siphonophores like this one can be found in both the Arctic and Pacific oceans.



Earth, it will never be totally dark.

On the GROUND

Explore the woods at night and look for an eerie, blue-green glow. Here, we call it **FOXFIRE** and **TOUCHWOOD**, while Irish and Scottish folktales refer to it as fairy fire and will-o'-the-wisp. The light comes from several species of fungi found on the ground; in moist, decaying logs; and on tree stumps. There are more than 40 species of luminescent fungi. Most glow green, white, yellow, or blue. Scientists aren't sure why.

A common fungus found in North America, Europe, and Asia is the **HONEY MUSHROOM**. The glow of its rootlike parts looks like a stain on wood and lasts for up to 8 weeks.

- ▶ Ben Franklin suggested that foxfire be used to light the instrument panel of the world's first submarine, built in 1775 and used during a secret mission against the British in the Revolutionary War. Ben's idea was declined.
- ▶ In Mark Twain's novel *The Adventures of Tom Sawyer*, Tom and Huck Finn use foxfire for light when digging a tunnel to free Jim.



Above, fluorescent fungus glows at night in Borneo, Malaysia.

Below, a honey mushroom fungus grows in North America.

