

The Beautiful World of Bioluminescence

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Summary: Students will discover the exciting world of living light with hands-on activities that will teach them about the nature of light – the most important form of energy in our world.

Materials needed:

For Scott Theatre demo:

Three one liter containers of *Pyrocystis fusiformis* ordered from Sunnyside Sea Farms
10 red light sticks
10 green light sticks
10 blue light sticks

For each 50 student breakout in Scott Theater:

For each group of students (5 per group or 10 per group?)

- 2 microscopes
- 1 10 ml test tube of dinoflagellate, *Pyrocystis fusiformis*
- 2 blue light sticks
- 2 large beakers or clear glasses large enough to submerge light sticks:
 - one filled with ice water and
 - one filled with hot water
- Black light
- Fluorescent toy and/or Fluorescent finger print powder
- Incandescent light or candle flame
- Phosphorescent (glow-in-the-dark) toy

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Finding/acquiring materials for the lesson

- ***Pyrocystis fusiformis* (dinoflagellates) from Sunnyside Sea Farms:**

<http://seafarms.com/html/products.html>

Sunnyside Sea Farms • 475 Kellogg Way • Goleta, California 93117
805-964-5844 phone • 805-964-0045 fax

- **Lights sticks (a.k.a. glow sticks, cyalume sticks) from Lab Safety Supply:**

<http://www.labsafety.com/search/light+sticks/54617/>

Also can be found at Home Depot, Party City or sometimes at Dollar Tree.

- **Black light:**

You can purchase cheap black lights from your local Wal-Mart

(For example: Lights of America brand, 24" portable 17 watt fluorescent black light, \$9.96 @ Wal-Mart as of April 2008. Target also carries them, but they might cost more. You might also consider a pet store if you really can't find one elsewhere – it will likely be more expensive.)



- **Fluorescent powder:**

A little of this goes a long way; four 2 oz cans should be enough.

http://www.lynnpeavey.com/product_info.php?cPath=1&products_id=292

<http://www.copsplus.com/prodnum5244.php>

- **Incandescent bulb:**

You can use electric Christmas candles



- **Glow-in-the-dark item:**

- You can get 144 of these skeletons for \$15 from

<http://www.bakingshop.com/cakes/halloween/scary.htm>



- Way to Glow! brand “Constellation Creations” glow-in-the-dark stickers – 10 constellations for \$3.97 @ Wal-Mart as of April 2008,

- Way to Glow! brand “Shining Stars” – 30 glow-in-the-dark plastic stars for \$1.97 @ Wal-Mart as of April 2008,

- Plaid brand “Glow-Away” glow-in-the-dark gel that you paint or stencil and wash off “glows until you wash it off” 4 fl. oz. for \$4.97 @ Wal-Mart as of April 2008