

From: R Musgrave [mailto:rmusgrave@whaletimes.org]  
Sent: Tuesday, January 19, 2010 4:13 PM  
To: 'creepintothedeep@whaletimes.org'  
Subject: Creep into the Deep: Teacher info regarding fluorescence

Hi teachers,

In the latest *Seamail* from the science team, Jackie Padilla Gamina mentions fluorescence.

I thought I'd give you a bit of background, in case this is a topic you might pursue with your students.

As you may know, fluorescence is different than bioluminescence.

Animals like cookiecutter sharks, glow-in-the-dark poop (aka bioluminescent bacteria), and lightening bugs use/create light called bioluminescence. Bioluminescence is very important for deep sea animals, especially those that live in the water column.

Currently, scientists don't think fluorescence is important in the deep and when found, it is probably a by-product of the body's biochemistry. However, closer to the surface where there is more light, fluorescence may have adaptive advantages. You can read more about it on these NOAA-OER pages:

<http://oceanexplorer.noaa.gov/explorations/05deepscope/background/fluorescence/fluorescence.html>  
<http://oceanexplorer.noaa.gov/explorations/04deepscope/background/imaging/imaging.html>

Or search the NOAA-OER website for related articles.

If you're looking for a lesson plan that shows the differences between bioluminescence, chemiluminescence, and fluorescence take a look at these (basically the same activity, but for different grade levels) from NOAA-OER:

- A Bioluminescent Gallery
- Deep Lights
- Cool Lights

If this activity sounds fun and you need pricing for UV flashlights, copepods...etc. you can find some information on our teacher's page at: <http://www.whaletimes.org/IllinoisTeachersAtAGlance.htm>

Please let me know if you have any questions or need more information. Also, if you teach younger kids and need help simplifying this activity, please let me know.

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