

OVERVIEW: This simple but incredibly effective lab allows students to see through the eyes of deep-sea animals, and discover what colors draw attention and those that camouflage.



DISCIPLINES: Science, language arts

OBJECTIVES: Students will be able to

- Discuss the importance of the color blue in the deep.
- Describe how colors and animals disappear in the deep.
- Discuss why red disappears at the surface.

GRADE LEVEL(S): K-Adult



15 minutes average
(Teacher prep time:
estimated 1.5 hours)



Student models Stylin Deep-Sea Goggles and shows extra gel

MATERIALS:

- Card stock (8.5 x 11 inch), one per student
- Pipe cleaners (13-inch), one per student
- *Blue gel lenses (pre-cut), **three or four per student
- Clear desk tape (The kind of tape used to wrap a present.)
- Large piece black felt (can cover table top or use an 11 inch x 17 inch piece)
- Small pieces of felt (dime to quarter size). You can cut your own or purchase.
Colors needed: red, black, blue (various colors sky blue, light blue), purple, yellow, green, orange

*Suggested gel: **Rosco Lux Sheets #68 (or R68) Sky Blue** (20-in x 24-in); Approx price \$5 to 9 a sheet; can get about 40 lenses per sheet
Find out where to order near you: www.rosco.com
**To reduce costs, send student home with the one, save and reuse extras.

LOCATION NOTE: This activity works in either a light or darkened room. If you're doing the activity in bright direct sunlight light, however, you should test it first. Then you'll know if it is still effective as is or if you'll need to use more lenses per student or move the activity into the shade.

WHAT TO DO:

Suggestion: Though not required, we suggest you do the *Color me Deep* activity prior to this one.

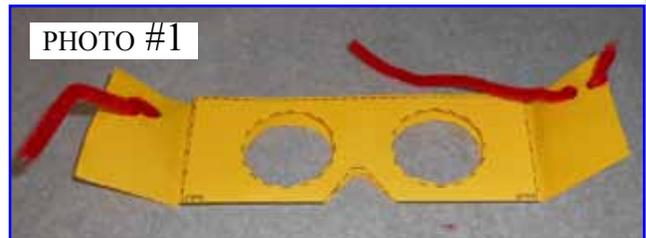
Preparation: Prior to class:

- Pre-cut felt pieces: If you did not purchase pre-cut felt pieces, pre-cut dime to quarter-sized pieces of felt. You can cut circles, diamonds, or just blobs. Unless you want kids to find certain shapes, the shape does not matter. Color does.
- Photocopy, precut, and make Stylin Deep-Sea Goggles (instructions attached).

Preparation: Pre-make Stylin' Deep-Sea Goggles

1. Photocopy or print goggles pattern onto card stock. One pair of goggles per student.
2. Cut on dotted lines. (Note, if an adult is prepping, the top can be cut with paper cutter.)

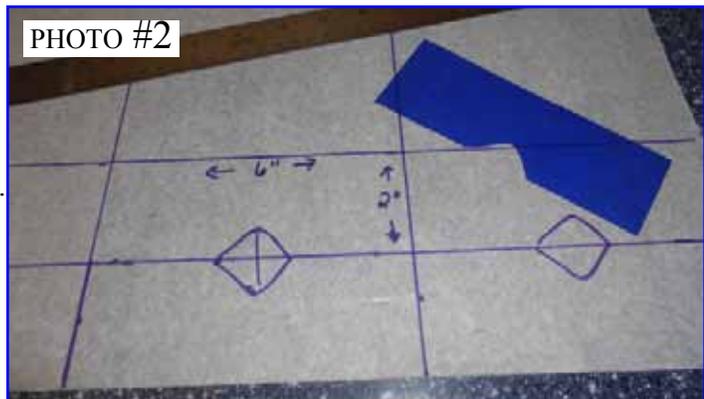
3. Fold where solid lines indicate. (SEE PHOTO #1)



4. Use a hole punch to make two holes on each side of goggles. Approximate location noted on pattern. (SEE PHOTO #1)

5. To make ear pieces, cut a pipe cleaner in half. Lace one through the two holes on one side of the goggles and give a gentle twist to secure. Repeat with other side. (SEE PHOTO #1)

6. Trace and cut out 3-4 gel lenses per student Pattern on Stylin Goggles Pattern page or measure out a 6 inch x 2 inch grid. Then add (see diamond shape in photo) for nose bridge. Cut. (SEE PHOTO 2)



7. Tape one gel lens inside (within folded area) goggles. Tape to side of the goggle closest to student's eyes. (SEE PHOTO 3) (NOTE: Do not tape goggles shut, student will need to add more gels during activity.)



WHAT TO DO:

Preparation: Day of activity:

1. Spread out black felt. You can create one large “observation space” with one large piece of felt, or use smaller pieces (11 inch x 17 inch suggested) for cooperative learning groups.
2. Sprinkle the smaller pieces of felt on top of the black felt.
3. To start at the “deepest” level of light and start with the biggest wow factor, we suggest you have 3 lenses in each set of goggles.

ACTIVITY:

1. Tell students that they are going to think like a scientist. (Remind them of what they discovered with the Color Me Deep activity.) Then Ask: *If only blue light travels to the deep, what color camouflage do you think would work the best?*

As a class or cooperative learning groups, allow students to brainstorm and discuss their answers. You might want to write down the colors, thoughts, or take a vote on what color(s) students think will be the best camouflage. (Depending on your class, you can use these numbers to create a graph later).

2. Next, tell the students you have special goggles that will let them see the world through the eyes of a deep-sea animal. Show them a pair. Demonstrate how to put on a pair.
3. Before you hand out goggles, tell students they must wait to put on the goggles until everyone has a pair. We often have set them in front of each student, not allowing them to even touch them until the teacher gives the “okay.”
4. Have students put on goggles. Allow *ooh* and *ahh* time and a chance for them to discuss their observations with their peers.
5. Ask them to count all the (color) pieces they see (have them leave them on the black felt. Next have them count all the (color) pieces. Go through each color.
6. Have them all take off their goggles. Allow them to discuss observations with learning group and then as a class. Ask (and discuss), *What did you discover? What colors are the best camouflage in the deep? Why?*
7. Students can then move closer to the surface by removing a lens at a time.

GO DEEPER:



Have students write down (or draw) their thoughts, discoveries, and questions in their *Deep Thoughts Journal*.



Have students graph pre-and post votes.

Creep into the DEEPEND

WhaleTimes Virtual Team Member Activity

Stylin' Deep-Sea Goggles Pattern

BLUE GEL/TRANSPARENCY TRACING PATTERN: Cut 3 to 4 per student

Gel information: We use Rosco Lux Sheets #68 (or R68) Sky Blue (20-in x 24-in)

Approx price \$8-9 a sheet

Find out where to order near you: www.rosco.com

Using this pattern, laying them out back to back and side to side, you can cut about 40 lenses on a 20 x 24 sheet.

Lens 2 inch x 6 inches

