



WhaleTimes

# Creep into the DEEPEND™

Taking Science Deeper™  
K-6th grade Classroom Activities

Book 1: Introduction to the Deep Sea



[dependconsortium.org](http://dependconsortium.org)



## WhaleTimes, Inc.

*Ocean Science in Action!*

[whaletimes.org](http://whaletimes.org)



**WhaleTimes is a proud member of the  
DEEPEND: Deep Pelagic Nekton of the Gulf of Mexico Consortium**



**Mission Statement**

The DEEPEND consortium will characterize the oceanic ecosystem of the northern Gulf of Mexico to infer baseline conditions in the water column. This information will establish a time-series with which natural and anthropogenic changes can be detected.

**Scope of Work Statement**

In response to the Deep Water Horizon Oil Spill (DWHOS) and the highlighted absence of baseline data for the deep Gulf of Mexico (200-1500 m) water column, the DEEPEND consortium will conduct a three year sampling, sensing, modeling, and laboratory analysis program to assess ecosystem dynamics, identify drivers of variability, and investigate possible consequences of the spill on ecosystem attributes. Data obtained during the 2010-2011 and 2015-2017 periods will establish a time-series with which ecosystem shifts or responses can be detected.

Keep up on the latest DEEPEND research, visit:  
<http://deependconsortium.org/>



**Taking Science Deeper™ Activities**  
Brought to you by:  
WhaleTimes, Inc  
DEEPEND: Deep Pelagic Nekton of the Gulf of Mexico Consortium  
Gulf of Mexico Research Institute  
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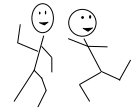
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# Creep into the DEEPEND™



For each activity, we have at-a-glance pictographs showing some of the skills students might use or discover when participating in the activity. We didn't include science, since that's a given!



Language Arts: Discussion, sharing stories, observations or questions



Language Arts: Writing



Visual Arts: Drawing, coloring, sharing discoveries through a visual medium



Visual Arts: creating a craft



Math: The activity introduces some form of math including measurements, graphs, estimates, and other math topics.



Observation



Role-play, dance, or some sort of physical activity



Music, singing, or rhythmic activity



Activity encourages further discovery about topic through various types of research as an addition to the project.

**GRADE LEVEL(S):** We have noted suggested grade levels, but find most activities can be adapted for younger or older students.



We have noted a general idea of how long the activity will take. However, this will vary depending on length of group discussions, student's age, and other factors. We strongly suggest that part of your prep includes testing the activities so you have a general idea of how long it will take for your students.

**MATERIALS:** We have endeavored to include everything you will need to complete the activity. All materials you use should be non-toxic child safe, of course. In some cases we have listed options such as markers or crayons. Choose the medium that works best for your classroom situation and students.

**TEACHER'S NOTE:** Though not required, with some activities, we suggest using cooperative learning groups with older students because it often encourages participation, brainstorming, and discussion.

ACTIVITY: Think like a scientists to come up with questions for Science Team



GRADE LEVEL(S): \*K-8th

varies with age group

**OVERVIEW:** Brainstorm, organize, then generate questions for the science team.

**DISCIPLINES:** Science, language arts

**OBJECTIVES:** Students will be able to:

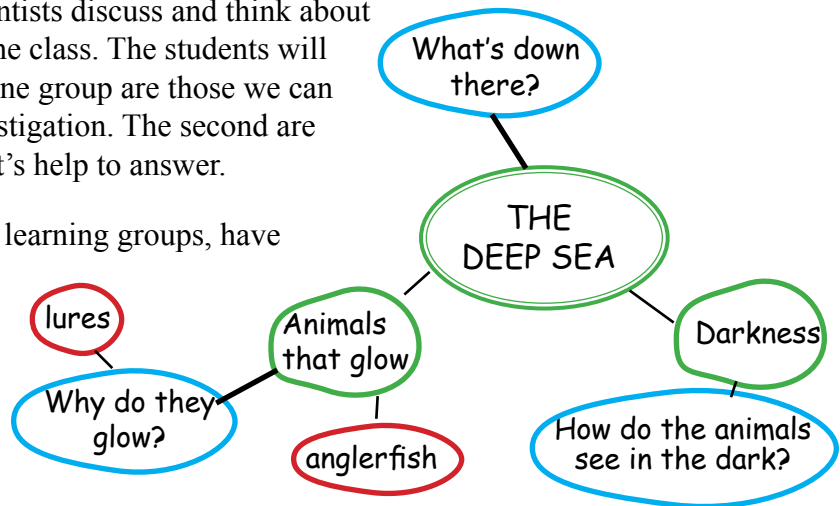
- Share their knowledge of the deep, the animals, research, and researchers.
- Brainstorm and discuss questions about the animals, research and researchers.
- Identify questions they can answer through their own investigation and research through books, Internet searches, and the Seamails from the scientists.
- Formulate questions to ask the scientists based on group discussions and in-class inquiry.

**MATERIALS:** • Paper, pencils, erasers (or white writing surface or chalkboard)

**WHAT TO DO:**

1. To encourage student discussion as part of the question submission process, explain to the students that before scientists begin any research project or travel to their research location, they have thoroughly thought out, discussed with colleagues, and planned what they want to discover from the research. Just as scientists discuss and think about questions in advance, so will the class. The students will create two lists of questions. One group are those we can answer through their own investigation. The second are those we might need a scientist’s help to answer.

2. Either as a whole class or in learning groups, have students share what they know (or think they know) about the deep-sea environment, the animals, the research, and life as a researcher.



**You may want to get the kids started by brainstorming and mapping topics and questions relating to the research.** For example, write down what kids know about the deep, animals they might find, or being a scientist (SEE EXAMPLE **GREEN CIRCLES**).

Expand this by having students share what they know about each topic (SEE **RED CIRCLES**).

Next, discuss and note what questions students might have about the topics. Add a couple of these questions to the map. (SEE **BLUE CIRCLES**.)

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3. Either as a class or in cooperative learning groups expand this chart even further. Have students discuss and write down what questions they have or what they want to know more about. If it helps, have them start with, “I wonder...” or the “Who? What? When? Where? How?”
4. Write down or have students write some or all of their questions. You might choose to write them on index cards or small pieces of paper.
5. As a class or cooperative learning groups, have students sort the questions into two groups. One group for questions that, with a little research, students can find answers to on their own. The second group of questions would be the ones students think they’ll need a *deep-sea* expert’s knowledge.
6. Have each group discuss the questions from the second group. As they discuss the questions, have them narrow the list down, finally choosing the one they want the scientists to answer for them.

## NOTES:

- **Having students discuss and fine tune questions doesn’t mean your students have to know everything to ask a question. And, of course, there are no bad/wrong questions when kids are inspired by the topic!** It’s not a matter of how hard the question is to answer, the important part is the discussion and thought behind the questions.
- The scientists are deep-sea experts. They might be able to answer questions about other ocean animals, but it’s best to stick with questions about animals in the deep, how the environment plays a role in the animals adaptations, how the animals interact, about the research, or life as a researcher.
- Some questions, like “What are you studying?” will be answered by the scientists via their emails to the class. Track those questions/answers, too.
- Save the brainstorming map(s). After the mission, have students review their original thoughts on what they thought they knew to what they learned during the mission. Were there any misconceptions? Discoveries? Add to the original map or create a new one. How much larger would is their brainstorm map be at the end of the program? What other questions or observations did the cruise inspire?



GO DEEPER: Save the first group of questions for future projects or opportunities for the kids to investigate the answers. Students can go on-line to WhaleTimes and other appropriate educational sites to learn more about ocean animals.

ACTIVITY: Create a Science Journal

GRADE LEVEL(S): \*K-6th



varies (20-30 minutes average)

OVERVIEW: Journaling is an excellent way for students to become actively involved in their science experience and discovery. It also provides a pre- and post-assessment tool.

DISCIPLINES: Science, language arts, visual arts

OBJECTIVES: Students record their discoveries, observations, questions, opinions, inferences, and reflections of deep-sea animals and science by writing and illustrating a science journal.

MATERIALS: Construction paper  
Writing paper

Crayons, markers, gel pens and/or color pencils

Optional: Creep into the DEEPEND *Science Team Report*

**OPTIONS:**

Cover: Black construction paper (cut to size of journal for front and back cover)

Binding: 3-ring binder, stapler, folder, yarn or whatever works best for your class

Pages: Lined black and/or white paper (or black construction paper)

Crayons, color pencils, gel pens, or washable markers

**WHAT TO DO:**

**Journal Preparation:**

The journal is: A front and back cover with paper in between.

- Due to grade level or time limitations, teachers may choose to make the journals in advance.
- Using (lined) black paper for the journal pages adds to the fun (kids write with light crayons or gel pens). However, the journal is just as fun and educational if budget limitations or student preferences dictate regular lined or computer paper (if drawing/coloring).
- Journals can be stapled or add a 3-hole punch and tie with small pieces of yarn.
- For classrooms: We suggest using a binding that allows students to add pages as needed.

\*Teacher's Note: For younger students, you may choose to make a classroom journal.

This allows you to record students' questions and thoughts as a group. Encourage student involvement by adding deep-sea drawings or photos of them participating in activities.

**Cover Decoration:**

Kids can color, draw, or glue pre-cut photos or illustrations on to their journal cover. For younger students, you might want to write each student's name on the cover so they're easier to give out quickly.



**Journal Keeping:**

1. Tell students, as they explore the deep they'll keep a deep-sea journal just like a scientist. Explain that scientists add notes, observations, discoveries, descriptions, measurements, sketches, and more. Journals are often full of *"What if...I wonder why...That's odd..."*

2. Journal Continuation: Before or after a Seemail or *Taking Science Deeper* activity, encourage students to add thoughts on something odd, unusual, or intriguing they've discovered, questions that arose, or whatever else they'd like to add.

**DEEP THOUGHTS JOURNAL PROMPTS**

To avoid journal doldrums, use the writing/drawing prompts below or create your own.

- CREATIVE PROMPTS:
- *If I were a deep-sea explorer I would...*
  - *If I become a deep-sea expert, I'll study (and why)*
  - *If I could talk to my any deep-sea animal, I'd ask it...*
  - *If you went to the deep sea, what animals would you see? (Why?)*
  - *What animal in the deep would you like to meet? (Why?)*
  - *If I was transparent...*
  - *If I lived in the deep I'd...*
  - *If I could glow...*
  - *My perfect day in the deep would be...*
  - *I'd be a great (explorer, scientist, subpilot...) because...*
  - *My favorite deep-sea scientist is (name)...*

## DISCOVERY PROMPTS (ASSESSMENT):

Given a fact/statement,

- List reasons *"Why, what if, where, how..."*
- (Predict/hypothesize) *What would happen if...*
- *If you were a deep-sea scientist...*
  - How might you interpret this data?*
  - What questions would it answer?*
  - What questions does it lead you to ask?*
  - What would you do next?*
- Now that you know this (fact)...
  - What questions come to mind?*
  - Predict what would happen if...*
  - Design an experiment that...*

GO DEEPER: Post assessment prompts: Have kids review original thoughts to compare and contrast them to what they discovered during the Creep into the DEEPEND cruise.

# Creep into the DEEPEND

WhaleTimes Virtual Team Member Activity



www.whaletimes.org

## Science Team Report

Virtual Team Member: \_\_\_\_\_

Seamail report from: \_\_\_\_\_ Date: \_\_\_\_\_

Location: \_\_\_\_\_

Weather: \_\_\_\_\_

### Animal Observations:

Animals found (kind and number): \_\_\_\_\_

\_\_\_\_\_

Today I discovered: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

This makes me wonder: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Ideas on how I might discover the answer(s): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_


\_\_\_\_\_

On the back of this page, draw a picture or write about today's Seamail.

ACTIVITY: Discover the changes in the ocean from surface to deep.

GRADE LEVEL(S): K to 6th



 30 minutes

OVERVIEW: Discover the physics of the ocean

Plus 20 minutes for journal writing/drawing

DISCIPLINES: Science, physics, math, language arts, visual arts

OBJECTIVES: Students will be able to:

- describe the color changes at different ocean depths
- discuss the changes in light at different ocean depths
- describe the changes in temperature at different ocean depths
- explain the changes in pressure at different ocean depths

MATERIALS: • Box of 64 Crayons per \*cooperative learning group or one per class.

- Copies of the *Color Me Deep* fun sheet (optional)
- Crayons: Specific color crayons needed: Sky blue, Turquoise Blue, Cerulean, Blue, Indigo, Gray, and Black

(OPTIONAL DEEP THOUGHTS JOURNAL PROMPT: IF I DOVE TO THE DEEP, THE COLORS I'D SEE)

WHAT TO DO:

1. Tell students the first part of understanding the deep ocean is understanding the changes and differences from the top to the bottom. Depending on the age of the students you can do this as an entire class or divide into smaller cooperative learning groups. Have each team pour out **all** the crayons.

Teacher's Note: Before you begin, this is also a great time to remind students that part of being a scientist is brainstorming (which leads to a hypothesis). As a team member, they should encourage "outside the box" kind of ideas (rather than evaluate or criticize).

2. Ask, *If you traveled down into the deep sea, how would the ocean change colors on the way?*


Explain students will use the crayons to show the ocean colors they think they'd see on the way to the deep. Each student gets a chance to choose the order and number of crayons from the surface to ocean bottom. The next student adds, removes or reorganizes the crayons in the order they think. Each team member gets a turn. (Allow time for each student to write down their color list, or have a team member do it for them to speed up process. They can also add the list to their *Deep Thoughts Journal*.)

3. After the last student's turn, have group (or class) look at the crayons they've chosen. Without touching the crayons, have them brainstorm possible changes and why. After the group comes to a consensus, allow them to add, move or remove up to 3 crayons.
4. Count the total number of crayons each group has laid out. If time/age appropriate compare color order, create graphs...etc. Find out which, if any group, has guessed correctly.
5. Read from *Jake, the SeaDog's Journal, Chapter 2b* to discover the changes to the ocean as one dives deeper: **color, light, temperature, and pressure.**
6. Discuss the number of colors kids imagined (chose in crayon form) vs the real number; the causes of color change the deeper into the sea, what they think of this discovery.
7. Have teams reorganize their crayons with the correct colors and order (see list below).

CRAYON COLOR	DEPTH
Sky Blue	110 ft (35 m)
Turquoise Blue	150 ft (50 m)
Cerulean	377 ft (115 m)
Blue	600 to 800 ft (183 to 244 m)
Indigo	800 to 1000 ft (244 to 305 m)
Gray	1,500 ft (457 m)
Black	3,000 ft (1,000 m)



Allow students time to write down (or draw) their thoughts, discoveries, and questions in their *Deep Thoughts Journal*. Be sure to have them add the correct color sequence and compare it to their original thoughts.

GO DEEPER:  $\frac{2}{+3}$  

Graph ocean depth by crayon color either on paper, though older students may prefer drawing their own, younger students may prefer to use the *Color me Deep* fun sheet.

Surround your students with math and science by covering an entire wall with a giant depth color graph. As you explore the deep, students can add drawings of animals or research equipment to really bring the deep to life.

WhaleTimes Color Me Deep Fun Sheet

Depth (in feet)	Color
110	Sky Blue
150	Turquoise Blue
377	Cerulean
600 to 800	Blue
800 to 1000	Indigo
1,500	Gray
3,000	Black

Note: The distance between depths is not to scale!

**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](http://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.

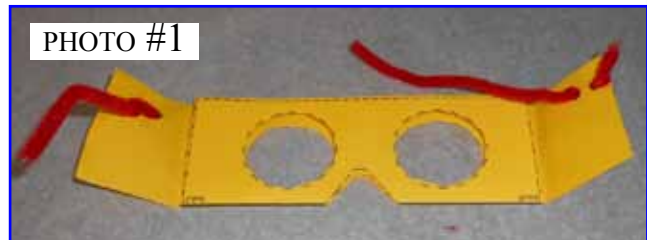
### **Preparation:** Prior to class:

- 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.)

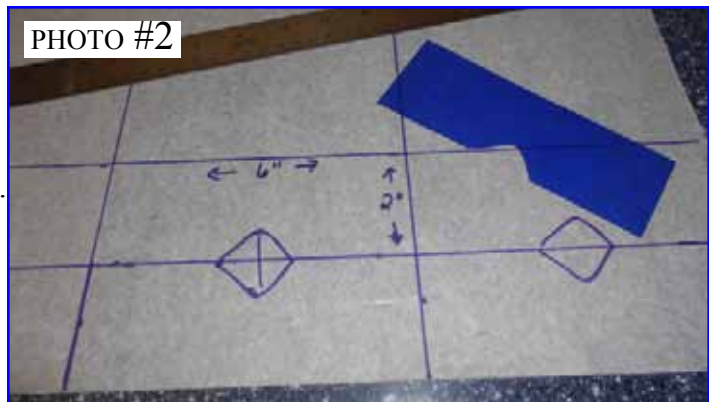
3. Fold where solid lines indicate. (SEE PHOTO #1)



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

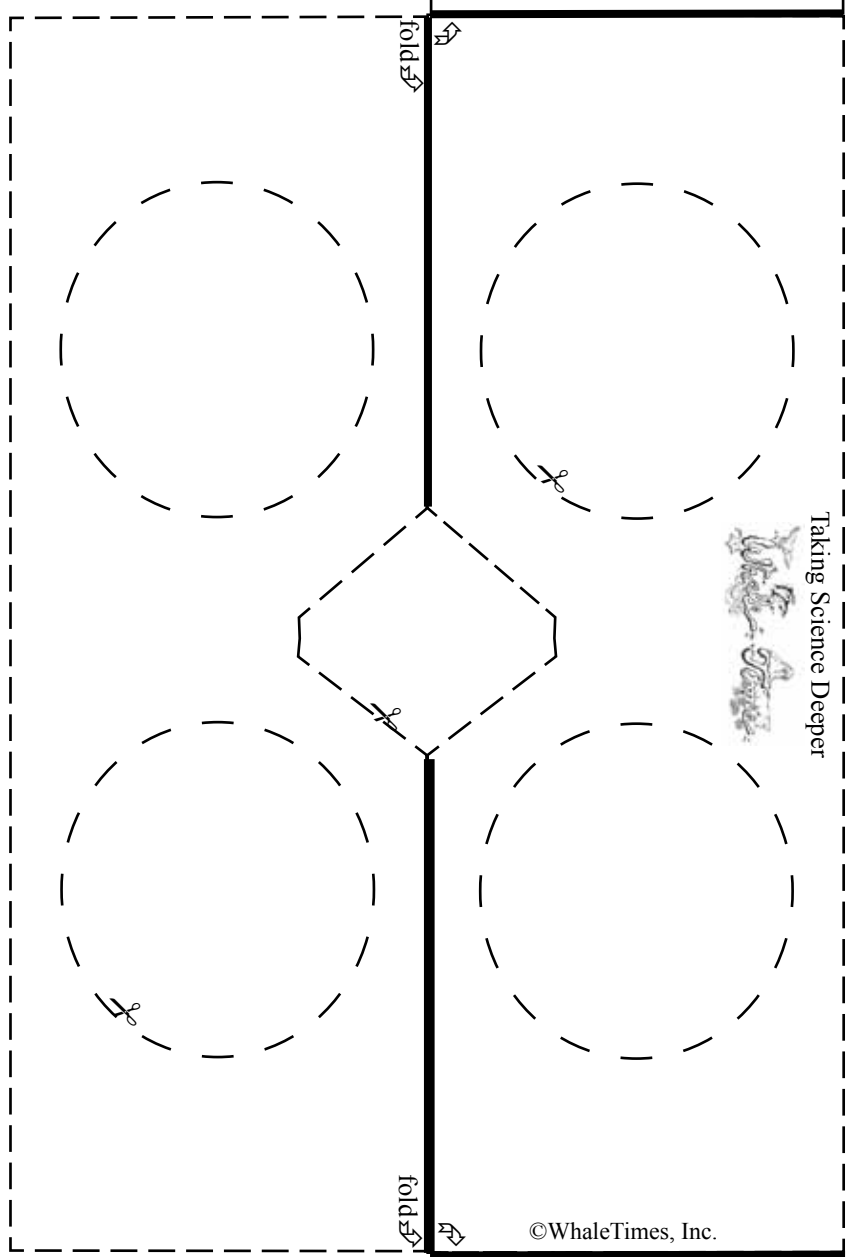
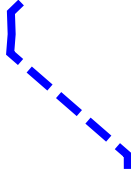
Gel information: We use Rosco Lux Sheets #68 (or R68) Sky Blue (20-in x 24-in)

Approx price \$8-9 a sheet

Find out where to order near you: [www.rosco.com](http://www.rosco.com)

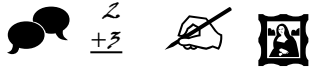
Using this pattern, laying them out back to back and side to side, you can cut about 40 lenses on a 20 x 24 sheet.

Lens 2 inch x 6 inches



ACTIVITY: Match the pressure of the deep, make a graph on a cup

GRADE LEVEL(S): 3 to 6th



20 minutes

Experience ocean pressure

DISCIPLINES: Science, physics, math

OBJECTIVES: Students will be able to:

- describe the changes in pressure at different ocean depths
- discuss how much pressure is on an object at certain depths



MATERIALS: Styrofoam cups (8 ounce)  
 \*Deep-sea artifact Cup  
 Construction or color paper (Turquoise, blue, gray, & black)  
 Glue dots  
*Feeling the Pressure Fun Sheet*

Paper (scratch/recycled)  
 Pencils  
 Calculators (older students)  
 Liter bottle of water  
 Gallon bottle of water



*Decorated graph cup*

TEACHER'S NOTES:

1. \*If you do not have a cup that's been to the deep sea, print the attached photograph comparing a regular size cup to one that's been to the deep.
2. For Part 1, each group can share a cup rather than each student. Each student will need a cup for Part 2. The decorated graph/cup can then be used for our *Say it With Hagfish* activity.
3. Print one copy of the funsheet per class, per team, per student, it's up to you.

WHAT TO DO:

**Preparation:** Pre-cut the 1" paper squares (approximately 50 per cup) for Part 2

## Part 1:

1. Tell students, *Imagine yourself swimming in a pool? Can you feel the water? Now dive deep down into the sea. Could you feel the weight of the water? What words come to mind?*  
 Ask, *Do you think water is heavy? Do you notice it when you swim?*  
 Pass around a liter bottle of water. Ask, *Did that change your mind, is water heavy?*  
 Pass around a gallon bottle of water. Ask, *After feeling the weight, did you change your mind about it being heavy or not?*
2. \*Give each team a cup. Show students the deep-sea cup (photo or real thing) but do not explain why the cup is smaller. Give students 5 minutes to compress (shrink) their cup without breaking or crushing it. If time available, allow teams to show their cup and explain their strategy.

3. Ask, *Did anyone have any luck? How do you think this cup got to this size?*

Explain that the smaller cup has been to the deep sea, then ask, *What does that have to do with its size?*

Answer: The weight of the ocean -- the water -- has pushed out all the air in the Styrofoam.

When scientists talk about the pressure in the ocean, they're referring to the weight of the water pressing down. To help them visualize it, you might use the example of cotton candy or a piece of bread. If you grab a handful and squeeze, you compact it in a similar way. Compare and contrast the deep-sea cup to the ones they tried to compress.

Be sure they notice that it's compressed evenly on all sides, top and bottom. Ask, *What does that tell you?* Explain the pressure is felt evenly on all sides.

## Part 2:

1. Tell students they're going to figure out how much weight it took to shrink a cup to the size in the photo. Have students glue the **1-inch squares** on the cup by sticking a glue dot onto the paper then sticking it onto the cup. Remind students that because the pressure is felt on all sides, evenly, be sure to cover the inside and bottom of the cup, too.
2. When finished, have students count the number of squares on their cup. Tell students, at 3000 feet down, the cup felt **1300 pounds of pressure per square inch**. That means each paper square on the cup had 1300 pounds pushing on it. How much is that? **That's like a large camel standing on each square.**

Ask them how they can figure out how much pressure the entire cup felt. How many camels? How many pounds?

Teacher's Note: Vary the math depending on the grade level. Individuals, groups, or the entire class can figure out the answers.

## GO DEEPER:

- $\approx$  Other fun figures...at 3000 feet, a fish, the cup, a submersible has...  
 $\pm$
- 6.4 million gallons of water above it
  - 53,376,000 lb of water
  - Or...what else? How many cars, elephants, airplanes, kid your age...



Allow students time to add thoughts to journal about what they discovered and questions they now have about living in the ocean



Have students interpret what they've learned in art form. For example, they can draw a cup with camels balancing all over it or draw a submersible with themselves in side, camels smashing in on all sides, or whatever comes to mind.

## Feeling the Pressure Fun Sheet

*The cup on the right felt the pressure of a deep-sea dive, traveling down almost 5000 feet (1,500 m).*



Observations:

Number of squares:

How much pressure?

ACTIVITY: Create a beautiful cross-section of the ocean

GRADE LEVEL(S): K to 6th



Day 1: 20 minutes

Day 2: 20 minutes

OVERVIEW: Discover the changes in the ocean from surface to deep.

DISCIPLINES: Science, physics

OBJECTIVES: Students will be able to:

- describe the color changes at different ocean depths
- discuss the changes in light at different ocean depths
- describe the changes in temperature at different ocean depths
- discuss how some animals live at different ocean depths and others travel up and down and why.
- discuss vertical migration.

**NOTE: If you choose, this can be a two-part craft and would need to dry overnight before kids can finish.**



MATERIALS: Tempera paint: blue and black (child-safe)  
Water color paper (4.5 x 6 inch)  
4 containers (flat, shallow) to hold paint (large enough to hold paper)  
Plastic spoons  
Paper towels  
Running water or container with clean water  
Drying rack or flat surface to allow pictures to dry flat.

#### OPTIONAL

Pre-cut animal pictures of your choice  
Glue sticks (child-safe)  
Crayons

#### WHAT TO DO:

##### Preparation

Pre-cut paper to 4.5 inch x 6 inch size

OPTIONAL: Pre-cut animals (one set per student)

##### Day of:

Pour paint into 3 separate shallow containers, 2 blue, one black.

Pour clean water into 4th container

Add water to thin paint to be used for shallower water.

\*NOTE: To create lighter surface water, thin blue paint with water in one container. The thicker paint (not thinned with water) will be darker for the deeper wear. The deepest water needs to be black.

**We recommend you make a tester page to find the right color/consistency for each depth and to show as an example.**

## Part 1

## Introduction Discussion

Ask: *When you're outside during the day, where does the light come from? If you went to the deep sea, do you think it is bright or dark? Why?* Explain that the only light in the ocean comes from the surface. Light, however, can only travel so far down. (You might use the analogy of flashlight or car lights on dark night. The light only travels a little way.) Explain that the deeper you dive, the darker the ocean becomes until it is pitch black. Tell kids they'll make a cool craft showing how the ocean becomes darker in the deep.

(NOTE: Before you begin, be sure the student's name is written in crayon on the back of the paper.)

Tell kids they're going to make a painting of the ocean from the surface to the deep sea.

STEP 1: Quickly moisten paper with clean water up to the level you want the paint to saturate.



Dip paper into paint.

STEP 2: Dip paper into thinned blue paint. Wiggle or swish around to make waves. Use a plastic spoon to add to surface waves.



Allow excess paint to drip back into container.

STEP 3: Remove the paper from the paint and allow excess to drip back into container.

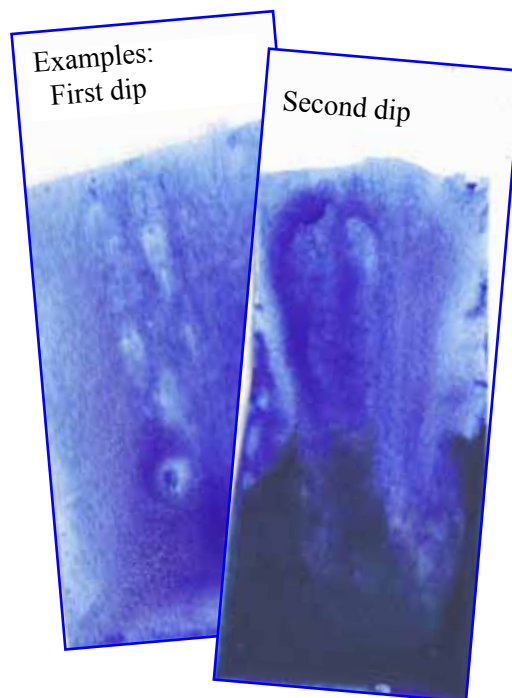
STEP 4: To create deep, darker blue portion of ocean, dip the paper into thicker blue paint. To leave the surface water lighter, do not dip the paper as deep as the first time. Wiggle or swish around.

STEP 5: Remove the paper from the paint and allow excess to drip back into container.

STEP 6: To create the dark deep ocean, dip the lower portion of the paper into the black paint.

STEP 7: Remove the paper from the paint and allow excess to drip back into container.

Allow to hang dry on drying rack or on flat surface overnight or for several hours.



Examples:  
First dip

Second dip

(OPTIONAL: Add your favorite animals to picture)

### Part 2

Give each student his/her (dried) painting.

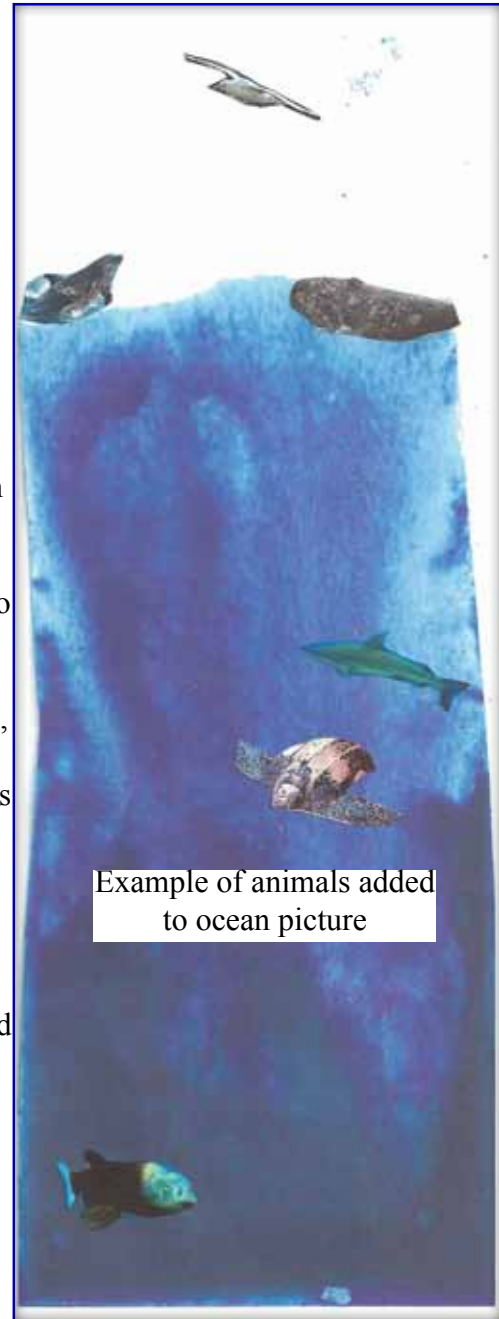
STEP 1: Have students point to the surface (top) of the ocean in their painting. Next, have them imagine taking the submersible to that part of the ocean. Have them look around. Ask them what animals they might see at or near the surface. (Repeat appropriate answers and suggest others. Be sure to mention the animal they'll glue to the picture.)

Next, have them point to the middle of their painting, then take the submersible there. Have them look around. Ask them what animals they might see at or near the surface. (Repeat appropriate answers and suggest others. Be sure to mention the animal they'll glue to picture.)

Then, have them point to the deepest part of their painting, then take the submersible there. Have them look around. Tell them, since it's dark, they should turn on special lights to see the animals. Ask them what animals they might see in the deep. (Repeat appropriate answers and suggest others. Be sure to mention the animal they'll glue to picture.)

STEP 2: Tell kids they'll add some of the animals they saw on their dive to their painting. Hold up one animal and have kids tell what kind of animal it is, if they can. Share a fact or two about that animal. Have kids guess where it lives (Repeat appropriate answer or tell them). Have them point to that location on their painting. Then have them glue the picture to their painting.

STEP 3: Repeat Step 2 with each animal.



Example of animals added  
to ocean picture



Allow students time to write down (or draw) their thoughts, discoveries, questions or write a story about their deep-sea picture in their *Deep Thoughts Journal*.

# Creep into the DEEPEND™



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