



WhaleTimes

# Creep into the DEEPEND™

Taking Science Deeper™  
K-6th grade Classroom Activities

Book 3: SPECIAL: Hagfish Day!



[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

NOAA OER



WhaleTimes, Inc.  
*Ocean Science in Action!*



WhaleTimes, Inc. is a 501(c)(3) nonprofit corporation

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

COVER AND TABLE OF CONTENTS PHOTOS USED WITH PERMISSION. COPYRIGHT DANTE FENOLIO, TAMARA FRANK, AND RED MEDUSA  
COURTESY NOAA/KEVIN RASKOFF, CALIFORNIA STATE UNIVERSITY, MONTEREY BAY. ALL RIGHTS RESERVED



# Creep into the DEEPEND™

## Taking Science Deeper Activities Table of Contents



### BOOK 1: INTRODUCTION TO THE DEEP SEA

Page #

1. Ask the Deep-Sea Experts .....	6
2. Deep Thoughts .....	8
3. HANDOUT: Science Team Report.....	10
4. Color Me Deep .....	11
5. HANDOUT: Color Me Deep Fun Sheet.....	13
6. Stylin' Deep-Sea Goggles .....	14
7. Feeling the Pressure .....	18
8. HANDOUT: Feeling the Pressure Fun Sheet.....	20
9. Fade to Black .....	21



### BOOK 2: DEEP-SEA ANIMALS

10. Counting Shrimp .....	26
11. Jelly Dance .....	28
12. HANDOUT: Jelly Dance Chant .....	29
13. Anglerfish Hat.....	30
14. My Adaptation is Better than Your Adaptation Song.....	34
15. Chalk it Up to Deep-Sea Giants .....	35
16. HANDOUT: Chalk it Up to Deep-Sea Giants: Sperm Whales.....	37
17. HANDOUT: Chalk it Up to Deep-Sea Giants: Squid.....	38
18. COLORING SHEET: Glass Squid .....	39
19. COLORING SHEET: Deep Red Medusa .....	40
20. COLORING SHEET: Deep-Sea Squid.....	41
21. COLORING SHEET: Benthic Octopus Larva.....	42
22. COLORING SHEET: Deep-Sea Siphonophore.....	43
23. COLORING SHEET: Anglerfish .....	44



-- more --

TAKING SCIENCE DEEPER ACTIVITIES FOR CLASSROOM USE ONLY. MAY NOT BE REPRODUCED, POSTED ON-LINE OR USED TO CREATE OTHER WORKS. COPYRIGHT WHALETIMES, INC. ALL RIGHTS RESERVED.





# Creep into the DEEPEND™

## Taking Science Deeper Activities Table of Contents



### BOOK 3: HAGFISH DAY!

	Page #
24. enGrossed in Slime (or Slime: It's Not Funny!)	47
25. Handout: enGrossed in Slime Fun Sheet	49
26. Say it with Hagfish	50
27. Hagfish Catcher	53
28. Handout: Hagfish Catcher	54
29. Handout: Hagfish Catcher	55



### BOOK 4: OCEAN CURRENTS AND POLLUTION AWARENESS

30. Create a Cold Water Current Lab	58
31. Go with the Flow	61
32. Follow the Current Game	64
33. Turtles and Trash Don't Mix	66
34. From the River to the Sea: A Recipe for Disaster	69



TAKING SCIENCE DEEPER ACTIVITIES FOR CLASSROOM USE ONLY. MAY NOT BE REPRODUCED, POSTED ON-LINE OR USED TO CREATE OTHER WORKS. COPYRIGHT WHALETIMES, INC. ALL RIGHTS RESERVED.





# 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: Discover the joys of hagfish slime



OVERVIEW: Analyze the adaptive advantages of slime

DISCIPLINES: Science, language arts

OBJECTIVES: Students will be able to:

- describe hagfish slime
- list 5 words to describe hagfish slime
- analyze adaptive advantages to slime
- present their hypothesis to the class
- celebrate WhaleTimes Hagfish Day!

## Hagfish Day Activity

GRADE LEVEL(S): \*2nd to 12th



40 minutes

(\*Teacher's slime prep about 30 minutes plus 3 hours to cool)



### MATERIALS TO MAKE SLIME:

- Metamucil™
- Measuring utensils: teaspoon; cup
- Sauce pan (medium)
- Resealable plastic sandwich bags
- Whisk

Materials for kids:

- one batch of slime per team
- *enGrossed in Slime* fun sheets (one per student or group)
- Hagfish fact sheets
- pencils
- clipboards (Optional)

### WHAT TO DO:

- Preparation/Notes:**
- Make slime a day in advance
  - **Only an adult should cook/make the slime.**
  - Allow slime to cool **at least 3 hours before touching or using.**
  - The slime is **not** edible.
  - Make one batch per team.

Photocopy or print *enGrossed in Slime* fun sheet and Hagfish Fact sheet (one per student, group, or class depending on age and writing skills.)

Teacher's Note: Depending on the class' reading/writing level, you can either tell them about hagfish and discuss questions on fun sheet. Or give each team a hagfish fact sheet and fun sheet.

Suggestion: You might tell students a minimal amount of information about hagfish, maybe just that they live in the deep. Then let them hypothesize the use of slime. Afterwards, tell them more about hagfish (or handout fact sheet). See if students will adjust their hypothesis based on "new" information.

## Hagfish Day SLIME

Ingredients: 1 teaspoon Metamucil™  
1 cup water.

Makes one batch.

1. Whisk **Metamucil** into **boiling water**.
2. Keep at a gentle rolling boil. Stir constantly. Cook about 5 to 7 minutes.
3. The mixture will thicken from syrup-like to gooey gelatin. You're looking for a viscous consistency that's a bit more fluid (not runny) than the flubber.
4. Remove from heat, allow to cool.
5. Allow to cool at least 3 hours before using. When cool, store in resealable bags.
6. **Enjoy!**



### Activity:

1. Divide class into teams or cooperative learning groups.
2. We suggest you start this one very serious, as if it's going to be a long dull lecture. Introduce the hagfish, give a couple facts, show a picture, another fact and then reach into the a bowl and hold up the slime. You'll get a great reaction and their undivided attention!

Teacher's note: Because it's such an ewwww moment, let them experience the slime for a few minutes before giving students their "to do" list. This is a loud activity with lots of laughing. You may want to move outdoors or somewhere other classes won't be disturbed.



3. Ask: *What is a hypothesis?* Explain. Then tell students they're going to become scientists and experience hagfish slime. Their job is to:
  - a. Write down (or think of) as many words or phrases that come to mind about the slime.(Hand out fun sheet if using.)
  - b. Come up with a hypothesis of why or how hagfish use slime.
  - c. Come up with 3 ideas on how people might benefit from the slime.
  - d. Present their hypothesis and ideas to the class



### Go Deeper

- ✍ The slime is a perfect texture and time for creating new *onomatopoeia* words as an addition to the "Slimy Observations" part of the fun sheet.
- Have students add their fun sheet to their deep-sea journal.
- Allow students time to add thoughts to journal about what they discovered about hagfish and slime.

⚡ A hagfish can fill a gallon bucket with slime in one minute. How long would it take to fill a wading pool? A swimming pool? Or, how many hagfish would it take to fill a swimming pool in 10 minutes?

## enGrossed in Slime Fun Sheet

**Slimy observations:** Write down as many words and phrases that come to mind about the slime.

Question: Why do hagfish slime?

Brainstorm notes:

My hypothesis: *I think hagfish use slime to...*

How could you test your hypothesis?

Can you think of three ways people might benefit from hagfish slime?



ACTIVITY: Make a Hagfish Bouquet



## \*Hagfish Day Activity

GRADE LEVEL(S): K to 6th



30 minutes

OVERVIEW: Celebrate Hagfish Day and share the 'beauty of ugly' with friends

DISCIPLINES: Science, language arts, visual arts

OBJECTIVES: Students will be able to:

- discuss the importance of all animals
- describe the important role of hagfish
- celebrate WhaleTimes Hagfish Day!



MATERIALS: • Photocopies of hagfish

- Cardstock
- Piper cleaners
- Tape
- Scissors
- Tissue Paper
- Construction paper
- Crayons, color pencils, or markers

(OPTIONAL)

- Decorated cup from *Feeling the Pressure* activity
- Ribbon

WHAT TO DO:

### Preparation:

- Print hagfish bouquet photos (attached) on card stock.

How many? You decide how many each student needs to make a bouquet -- two, five, a dozen! We have evenly divided the hagfish into 4 groups on the attached sheet, however there are no rules except to have fun.

- Cut-out the hagfish. Carefully cut around the barbels.
- Cut pipe cleaners if necessary. If re-using cup from *Feeling the Pressure* activity, cut the pipe cleaner to fit. If wrapping bouquet in tissue paper, you determine length.
- Cut tissue paper (used to wrap bouquet) to needed size.
- Pre-cut ribbon (if using to decorate bouquet).

ACTIVITY:

1. Ask students what they might give someone as a gift for a celebration. (Gifts, flowers, bouquet). Ask: *(Now that you know how important and amazing hagfish are) Who would you give a bouquet to (for Hagfish Day)?*

Tell kids they are going to make a Hagfish Bouquet.

2. To create their special bouquet, have students:

STEP 1: Tape a pipe cleaner to the back of each hagfish.



STEP 2: Have students arrange their bouquet by placing some hagfish higher and some lower, just like a flower bouquet.

STEP 3: Once all the hagfish are in place, gently twist the “stems” (the pipe cleaners) together to keep the arrangement in place.



STEP 4: Wrap the bouquet in tissue paper.

OPTIONAL

- If using the *Feeling the Pressure* cup as a vase, have students place their bouquet in the cup. Have them gently bend hagfish and arrange the tissue paper to make their bouquet perfect.
- If not using cup, have students gently bend hagfish and arrange the tissue paper, then tie a ribbon around the bouquet to complete their gift.



STEP 5: Have students create a *Happy Hagfish Day* card with the construction paper and crayons.

STEP 6: Give the bouquet to someone special.

## WhaleTimes Hagfish Day Activity



ACTIVITY: Make a cootie catcher (aka fortune teller)

## \*Hagfish Day Activity



GRADE LEVEL(s): 3rd to 6th  
30 minutes

OVERVIEW: Share the beauty of ugly with friends

DISCIPLINES: Science, language arts, visual arts

OBJECTIVES: Students will be able to:

- discuss the importance of all animals, even less attractive species
- write four to eight humorous Hagfish Day predictions
- celebrate WhaleTimes Hagfish Day!

MATERIALS: Photocopies of Hagfish Day catcher  
Pencils or markers  
Scissors (child safe) (OPTIONAL)

Teacher's note: We've provided two different versions. One with half the fortunes written in. One without any. Choose the one that works best for your students.

### WHAT TO DO:

**Preparation:** Print a Hagfish Day cootie catcher for each student. For younger students or if time limited, pre-cut cootie catcher.

Have students:

STEP 1: Cut out the Hagfish Catcher.

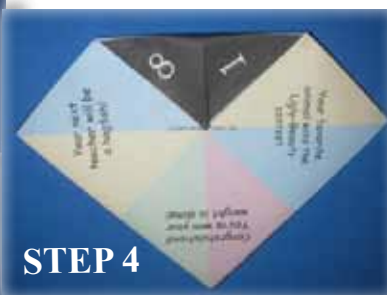
STEP 2: Have students write four (or eight) Hagfish Day predictions in the empty spaces.

STEP 3: With Hagfish Catcher face down, fold back each corner to the center.

STEP 4: Flip Hagfish Catcher over so predictions are face up. Fold corners to center.

STEP 5: Show students (unfamiliar with craft) how to slide fingers into each pocket (on outside) and give gentle squeeze to bring the cootie catcher to life.

STEP 6: Allow students time to play and share with other students.





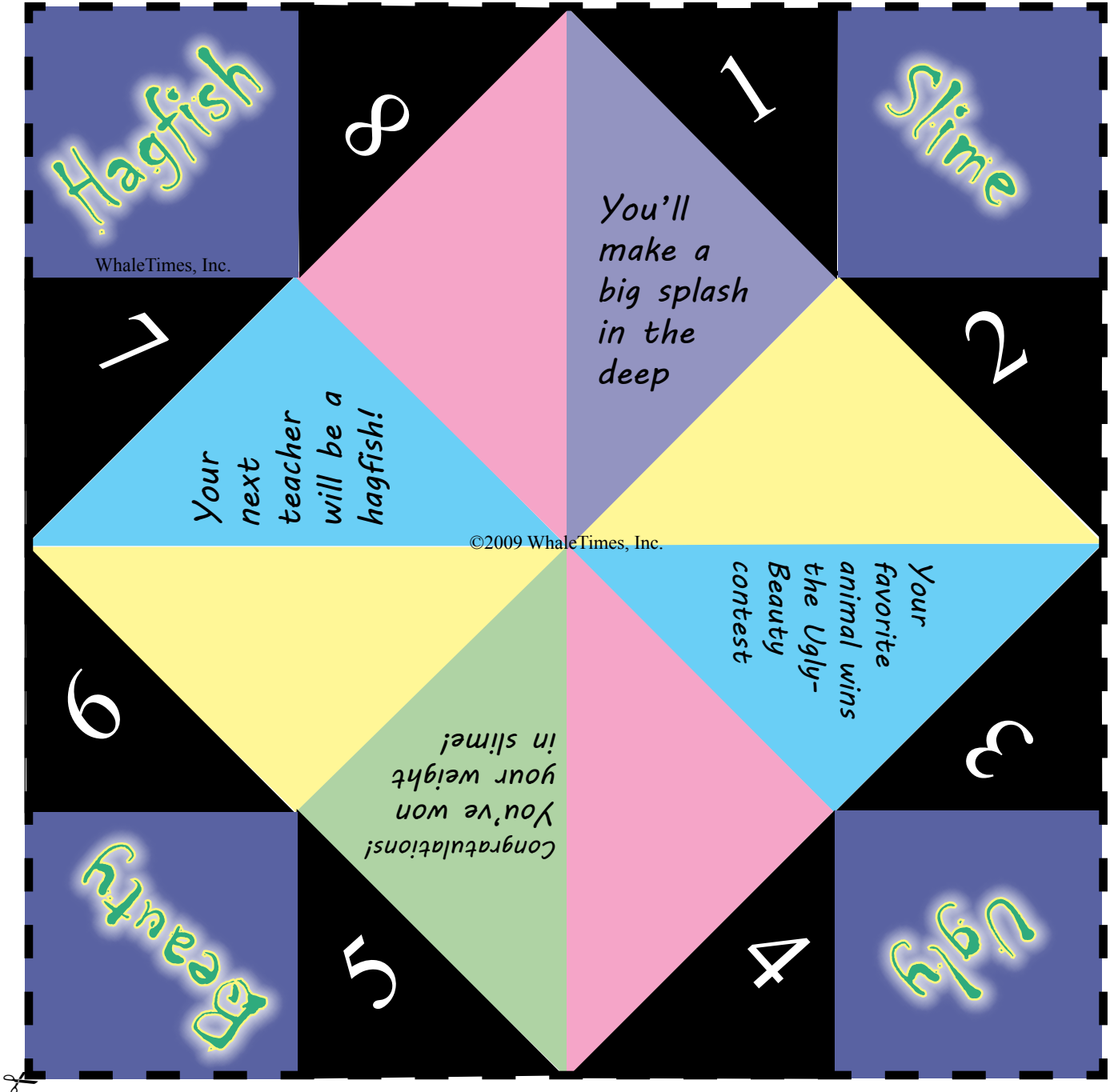
# Creep into the DEEPEND

WhaleTimes Virtual Team Member Activity

## Hagfish Catcher

## Hagfish Day Activity

Celebrate the *beauty of ugly* on **Hagfish Day**, the 3rd Wednesday in October!

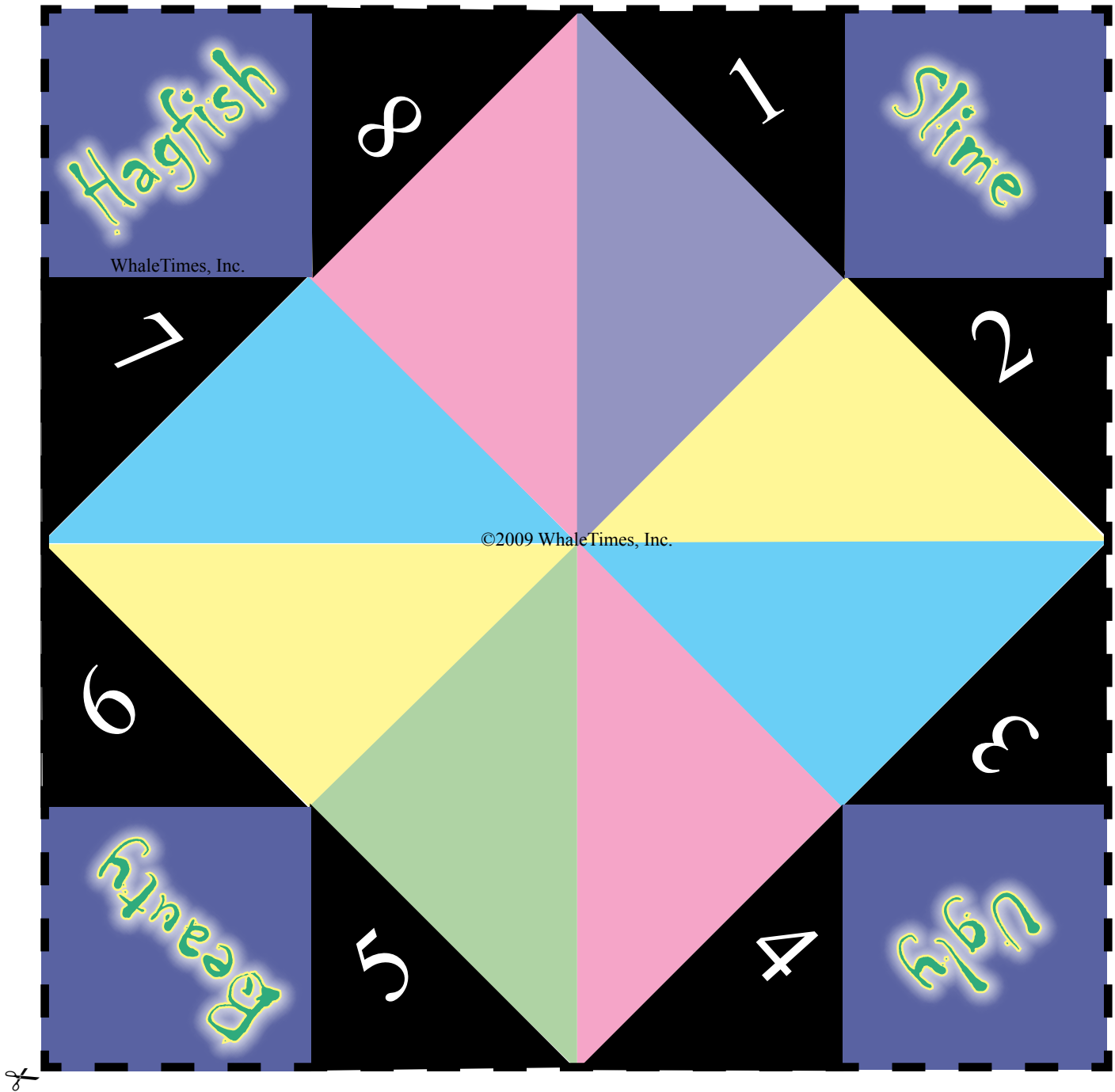


©WHALETIMES 2015 ALL RIGHTS RESERVED. FOR CLASSROOM USE ONLY. MAY NOT BE REPRODUCED OR POSTED ON-LINE.

## Hagfish Catcher

## Hagfish Day Activity

Celebrate the *beauty of ugly* on **Hagfish Day**, the 3rd Wednesday in October!



©WHALETIMES 2015 ALL RIGHTS RESERVED. FOR CLASSROOM USE ONLY. MAY NOT BE REPRODUCED OR POSTED ON-LINE.





# Creep into the DEEPEND™



## 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

NOAA-OER

Sept 2015



### WhaleTimes, Inc.

*Ocean Science in Action!*

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