

# EcoVenture Class: Fun with Maps

## 1<sup>st</sup> Grade Teacher Guide

### Overview and Resource Materials



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*EXPLORE, DISCOVER, LEARN*

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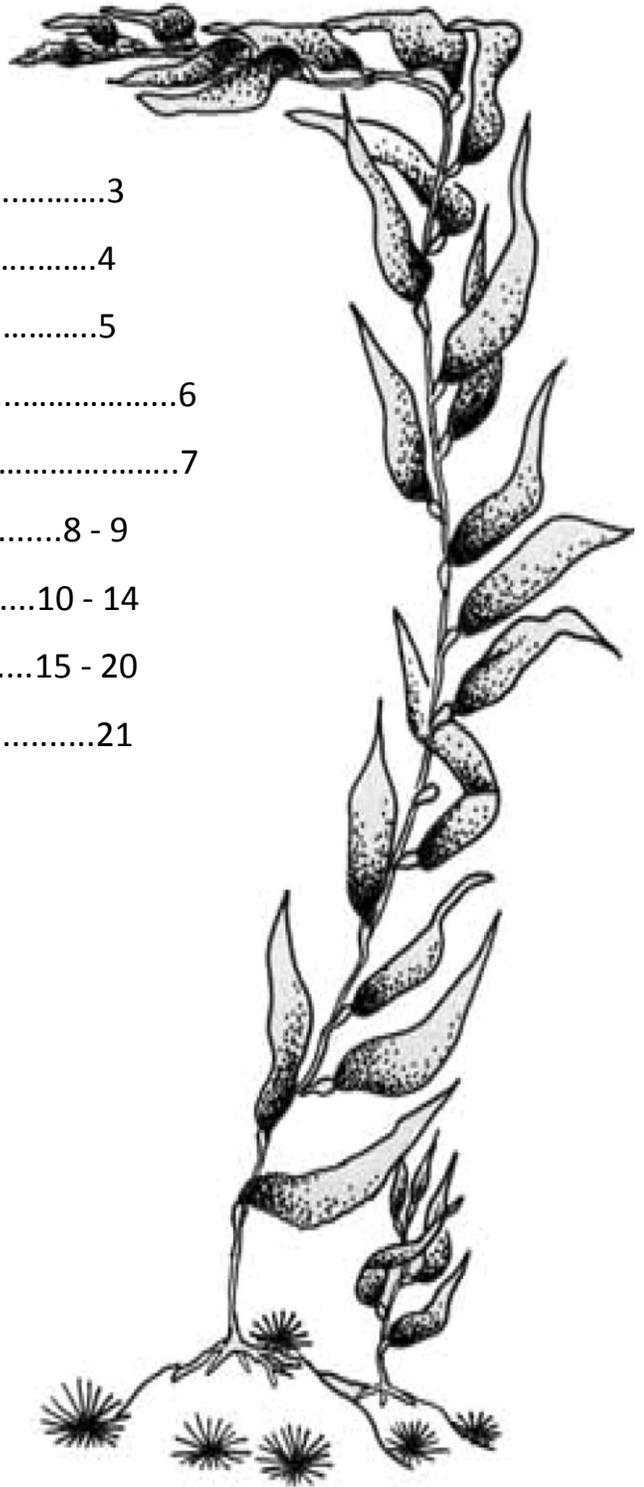
**Or visit our website**

<http://www.thelivingplanet.com>

# What's below the surface?

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# Why Have an Aquarium in a Desert?

After all, where else in the world is water so valued and respected? It's a precious resource that defines how we live in Utah. Because we're not surrounded by oceans and immense water habitats, we have fewer opportunities to experience, understand and appreciate the water environments that cover more than 70 percent of our planet. Loveland Living Planet Aquarium brings animals to people who might not have the chance to see them or their water-based ecosystems in a natural setting.

Our children are the future custodians of the environment. Yet, the majority of today's young people don't have the opportunity to understand the ocean nor their own water-dependent environments. Loveland Living Planet Aquarium provides a "living classroom," educating us all about our interdependence on the living planet's fragile ecosystems.

Loveland Living Planet Aquarium is a world-class organization that enriches lives through education outreach, dynamic exhibits and programs.

Loveland Living Planet Aquarium provides an entertaining learning experience and hands-on educational opportunities to help individuals understand and appreciate the water environments encompassing our planet, leading to an enriched personal life. Having this aquarium provides us with countless opportunities to understand and respect this precious resource and the living habitats it supports, both in Utah and in our planet's oceans.



## Explore



## Discover



## Learn

# School Visit Overview

*Thank you for choosing Loveland Living Planet Aquarium for a school visit. We look forward to your arrival!*

This section of the Teacher Guide provides an overview of your visit and a checklist of things to accomplish before, during and after your experience with us.

## Utah State Core Connections

Our on-site programs are designed to be an exciting complement to what you are teaching in the classroom. Our education team examined the Intended Learning Outcomes and Core Standards for each grade and created our presentation and activities to reinforce the ILOs and Standards. You will find a list of related ILOs and Standards later on in this document.

## EcoVenture Classes

Each EcoVenture Class lasts approximately 20-35 minutes. While the class is separate from your general aquarium visit, there is not an additional cost for the classes. To provide a quality and interactive experience for your students, we allow a maximum of 35 students per class. This means, we can present the same program several times back-to-back to accommodate larger groups.

The EcoVenture Classes take place in our Education Classrooms with one or two Education Presenters, depending on the class. There are also Education Presenters located throughout the aquarium to answer any questions you or your students may have.

## EcoVenture Start Times

The contact teacher will receive an e-mail with a confirmation sheet. This confirmation sheet will list the school's arrival time and each group's EcoVenture Class start time. Please remind the chaperones to arrive promptly to the Education Classroom at their designated start time to allow the group to have the full classroom experience.

*"Give people facts and you feed their minds for an hour.*

*Awaken curiosity and they feed their own minds for a lifetime."*

(Ian Russell)



# School Visit Checklist

## Loveland Living Planet Aquarium



### Pre-Visit

Download from our website:

\_\_\_\_\_ This document (Teacher Guide)

\_\_\_\_\_ Student Research Document(s) for you to copy and bring with you on your visit

*Many of our documents are saved in PDF format. They require Adobe Acrobat Reader to open.*

*If you do not have Acrobat Reader, you can download the program for free at:*

<http://www.adobe.com/products/reader/>

### Please

\_\_\_\_\_ Educate the students and chaperones on behavior expectations.

\_\_\_\_\_ Divide your students into smaller groups and assign each group a chaperone.

\_\_\_\_\_ Supply each adult chaperone with a Chaperone Guide. This guide includes the rules, tips to facilitate learning and an aquarium map.

### Day of

\_\_\_\_\_ Bring Student Research Documents if you would like your students to use them during their aquarium visit (optional). Please bring **pencils!**

\_\_\_\_\_ Remind the students and chaperones of the behavior expectations.

\_\_\_\_\_ Remind the chaperones of their EcoVenture Class start time and location.

\_\_\_\_\_ **All groups must pay in one lump sum.** Bring payment if your school is **not** a sponsored Title 1 or Head Start school. If your visit is **sponsored**, you do not pay for your students, but please remember the chaperone-to-student ratio. Any additional adults will be asked to pay.

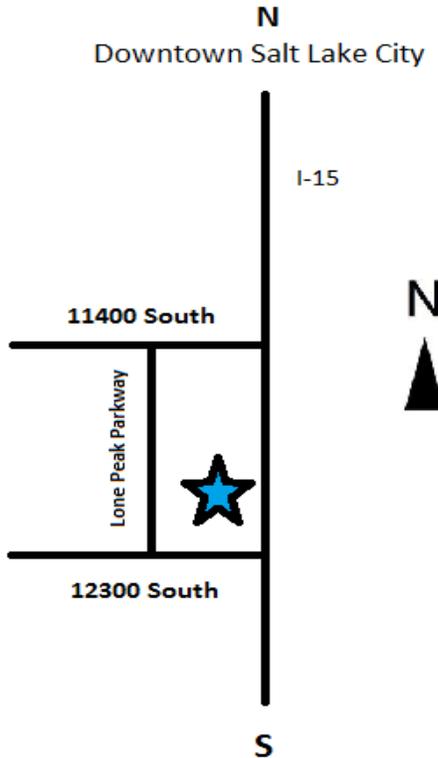
\_\_\_\_\_ Have FUN and enjoy learning at Loveland Living Planet Aquarium!

### Post-Visit

This document contains post-visit materials. Other materials may become available as separate downloads in the future, so check our website often.

# Location of Loveland Living Planet Aquarium

12033 S Lone Peak Parkway  
Draper, Utah 84020  
Phone: (801) 355-3474



## Directions:

- From I-15 S, take exit 291 (West 12300 South)
  - Left at fork towards Riverton (Left onto 12300 South)
  - Turn right onto Lone Peak Parkway
  - Loveland Living Planet Aquarium is on right
- From I-15 N, take exit 292 (West 11400 South)
  - Right at fork (Right onto 11400 South)
  - Turn left onto Lone Peak Parkway
  - Loveland Living Planet Aquarium is on left

# Layout of Loveland Living Planet Aquarium



## Teacher Outline

# Fun with Maps

### Duration of School Visit

EcoVenture Classes (35 students max) are scheduled in 30-minute increments unless otherwise noted on your confirmation sheet. However, each EcoVenture Class is approximately 25 - 30 minutes. Please allow your group 2 hours for a three-class visit, or 2 hours and 30 minutes for a four-class visit.

### At this time, the aquarium does not have lunch space available for field trip groups.

If you are interested in eating sack lunches nearby, we recommend Galena Hills Park which is located at 12500 South Galena Park Blvd (550 west) in Draper. Among other park amenities, there are covered picnic tables, bathrooms and a playground. This park is not within walking distance of the aquarium. If you would prefer to walk to a park, the closest one is Inauguration Park which is located at 326 West Inauguration Road. This is a basic park with a few uncovered picnic tables and a small playground. There is a large grassy area where students can sit to eat lunch. To get there, cross the street at the crosswalk outside the aquarium, then proceed to walk north on Lone Peak Parkway for 0.5 miles. Then take a left on Inauguration Road, and walk for approximately 0.1 miles. The park will be on the left. We realize weather may present a challenge and apologize for any inconvenience.

### Background for Teachers

Maps are great tools for learning about animals and their environments. The students will use maps to explore plants and animals found around the world – from the arctic to the equator. We will look at what makes these living things unique. The activities are simple yet fun and compliment a variety of learning styles (i.e. auditory, visual, and kinesthetic).

### Intended Learning Outcomes/Measurable Objectives

Students will be exposed to the objectives listed from the core curriculum through various activities. By the end of the experience they will be able to articulate in oral review an understanding of the concepts taught. Also, through use of flannel board models, the students will demonstrate having used visual observation, reading and listening skills to have answered questions relating to the CORE curriculum for their grade level.

### Connecting ← to the → Core Standards

Here's where your EcoVenture Class connects with the Utah State Core Curriculum.

**The main intent of science instruction in Utah is that students will value and use science as a process of obtaining knowledge based upon observable evidence.**

## Science Core:

**STANDARD I:** The Processes of Science, Communication of Science, and the Nature of Science. Students will be able to apply scientific processes, communicate scientific ideas effectively, and understand the nature of science.

**Objective 2:** Communicating Science: Communicating effectively using science language and reasoning

- a. Developing social interaction skills with peers.
- b. Sharing ideas with peers.
- c. Connecting ideas with reasons (evidence).
- d. Using multiple methods of communicating reasons/evidence (verbal, charts, graphs).

**Objective 3:** Knowing in Science: Understanding the nature of science

- a. Ideas are supported by reasons.
- b. There are limits to ideas in science (i.e. what can be observed, measured, and verified).

**Standard IV:** Life Science. Students will gain an understanding of Life Science through the study of changes in organisms over time and the nature of living things.

**Objective 2:** Living things change and depend upon their environment to satisfy their basic needs.

- a. Make observations about living things and their environment using the five senses.
- b. Identify how natural earth materials (e.g. food, water, air, light, and space), help to sustain plant and animal life.

## Social Science Core:

**STANDARD III: (Geography):** Students will use geographic tools to demonstrate how symbols and models are used to represent features of the school, the neighborhood, and the real world.

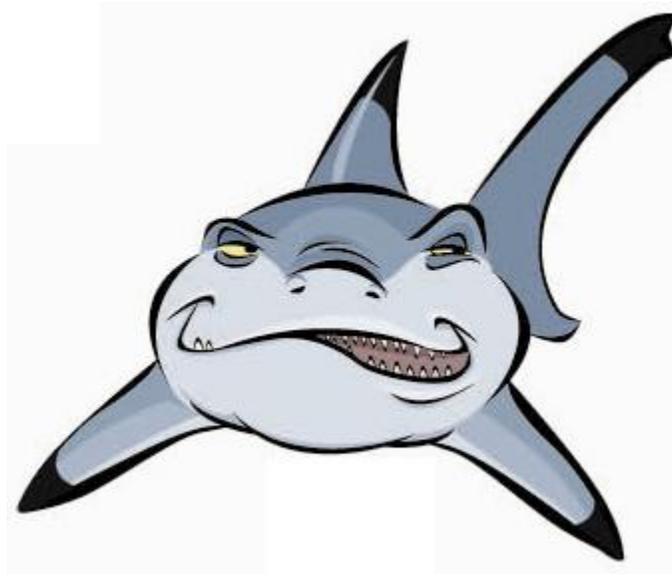
**Objective 1:** Identify and use geographic terms and tools.

- a. Use a compass to locate cardinal directions.
- b. Identify the equator and north and south poles.
- c. Identify Utah on a variety of maps and on a globe.
- d. Identify the United States on a variety of maps and on a globe.

**Objective 2:** Recognize and use a map or a globe.

- b. Locate physical features (i.e. continent, oceans, rivers, lakes), and man-made features (equator, North and South poles, countries) on a map and on a globe.
- c. Identify the compass rose and cardinal directions on a map and on a globe.





## Pre-Visit Resources

The following pages offer pre-visit information you can use in the classroom before your visit to Loveland Living Planet Aquarium. These resources correlate with material that will be covered in your EcoVenture Class or in post-visit materials. There may also be links to UEN's website for additional information. As a suggestion, if you have internet access for your class, you can visit our website to let the children investigate what we have to offer. Here is the link: <http://www.thelivingplanet.com>

## Tacky Goes to Jr. Map School

### Curriculum Tie:

- Mathematics  
1st Grade  
[Standard 2 Objective 1](#)
- Mathematics  
1st Grade  
[Standard 3 Objective 2](#)
- Social Science  
1<sup>st</sup> Grade  
[Standard 3 Objectives 1 and 2](#)

### Summary:

Students will become familiar with the compass rose and North - East - South - West.

### Main Curriculum Tie:

1st Grade - Content

#### [Standard 3 Objective 3](#)

Demonstrate how symbols and models are used to represent features of the environment.

### Materials:

- Postcard from Antarctica
- CD of song *We All Live Together*
- [Soggy Waffle Song](#) (pdf)
- Utah map, [World Map](#) (pdf), globe
- Props for *Soggy Waffle* song
- [100's Chart](#) (pdf)
- Bingo chips, paper, markers
- Word cards: North, East, South, and West
- Map of school neighborhood

### Additional Resources

#### *Books*

- *Tacky the Penguin*, by Helen Lester; ISBN 0-590-99451-4
- *Somewhere in the Universe*, by David Drew (Harcourt Achieve Big Book, 6-pack); ISBN 076351182X
- *The Nystrom Block Buddy Atlas*, by Charles Nystrom; ISBN 0-7825-0657-7

#### *Additional Media*

- *We All Live Together Vol. 1*, #1 song We All Live Together, by Greg and Steve ([www.gregandsteve.com](http://www.gregandsteve.com)); Item YM001C
- Marilyn Linford—Your World at a Glance (visuals and CD)  
[marilynmlinford@yahoo.com](mailto:marilynmlinford@yahoo.com)

### Attachments

- [world\\_map.pdf](#)
- [soggy\\_waffle\\_song.pdf](#)
- [100s\\_chart.pdf](#)

## Web Sites

- [Tom Snyder](#)  
Neighborhood Map Machine Grades 1-5, by Tom Snyder (Scholastic)
- [MapQuest](#)

## Background For Teachers:

A *compass rose* shows directions on a map. A *key* shows symbols used on a map. A *grid* can help locate features on a map. *Labels* on maps give important information.

## Intended Learning Outcomes:

1. Demonstrate a positive learning attitude.
5. Understand and use basic concepts and skills.
6. Communicate clearly in oral, artistic, written, and nonverbal form.

## Instructional Procedures:

### Invitation to Learn

Ticky the penguin, who lives in a Utah zoo, gets a postcard from his cousin Tacky, who lives in Antarctica. Tacky invited him to come to see him in Antarctica. Ticky doesn't know where that is, so he asks around and decides to go to Jr. Map School. (This little story is an original story that weaves throughout the three lessons in this section.)

## Instructional Procedures

1. Sing *We All Live Together* by Greg and Steve with map visual aids.
2. Introduce the compass rose with the *Soggy Waffle Dance* (Hat–North, Glove–East, T–shirt tied around hips–South, Glove–West.) Sing [Soggy Waffle Song](#)
3. Participants write N, E, S, W on the borders of paper that will go under a [100's Chart](#). Teacher gives directions starting with the one square. (Move three spaces south, five spaces east, etc. and class recites new number each time in tens and ones.)

## Extensions:

- Use a neighborhood map (with children's pictures taped where their house is) for direction game. (Matt lives east of the school. Who else lives east of the school?) Pictures help ELL and students with special needs.
- Child with N-E-S-W hat, gloves, and T-shirt can lay down on the floor of the classroom to orient North. (Label directions on classroom walls.) Draw a classroom map on the overhead that includes a compass rose.

## Physical Education

- Allow several children to try the compass rose outfit to lead the class (his/her back

toward the class) in directional movements.

### Family Connections

Send home [100's Chart](#) with directions to play N-E-S-W activity as math homework.

- For math homework, have each student draw a map of his/her bedroom, including a compass rose.
- Send home neighborhood map. Have parents help student draw walking route to school. Draw an alternate route to school from his/her home.

### Assessment Plan:

- Observe during the *100s Chart* activity.
- Observe student interaction and skill with [Places on a Map](#). (You will need to copy the [Map Grid](#) on 11" x 17" cardstock for this activity.)

### Attachments

- [places\\_on\\_a\\_map.pdf](#)
- [map\\_grid.pdf](#)

Author:

[Utah LessonPlans](#)

Created Date :

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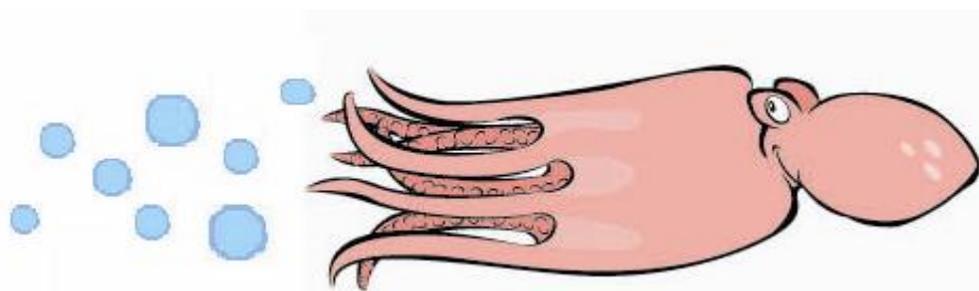
Tangram Fish and other ideas that teachers have used.

[Ocean Activities](#)



Here is a link to resources for lesson plans associated with Rainbow Fish books.

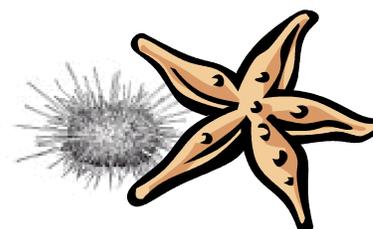
[Rainbow Fish Lesson Plans](#)



## **Now, you're off to Loveland Living Planet Aquarium**

**Remember to use your checklist to help you on this day.**

You should take some time to share copies of the Chaperone page with each adult leader as well as the aquarium layout map. Remember that teachers are free and you get one additional adult free for every 10 students. Any adults above this 1:10 ratio will need to pay a fee upon arrival. All entrance fees must be paid in one lump sum.



# Post-Visit Resources

## 1<sup>st</sup> Grade

- **Review Student Research Booklets and draw favorite creature that they saw and share why it is their favorite.**
- **Do activity: Exploring The Ocean**
  - Author: <http://www.teachers.net/lessons/posts/1076.html>
  - Science, level: Elementary
  - Posted Thu May 6 16:27:51
  - PDT 1999 by Rhonda (). Education Student, Detroit, USA
  - Activity Time: 2 hours
- **Objectives Knowledge:** Explore the locations and extent of the ocean and ocean life. Examine the relationships among depth and sea life.
- **Skills:** Navigate the ocean. Identify sea animals and their sounds
- **Prerequisite Knowledge:** Basic knowledge of computers and the mouse.
- **Instructions to the teacher:**
  1. My suggestion is to read a book about the ocean to the children first. I chose The Magic School Bus On the Ocean Floor by Joanne Cole. I found this book and other books on the ocean at the local library. Here are some other suggestions Baby Whales Drink Milk by Ebensen, What's Under the Ocean? by Janet Craig. There are also many videos about the ocean and I would suggest showing one after you read the book. Suggestions on videos: Spouts Ahoy by Time Life at the local library.
  2. Now let the children run the computer program. After they have completed this, have them do an arts and crafts project. There is a book called Crafts for Kids Who are Wild About Oceans by Kathy Ross that has a lot of crafts about the ocean.
- **Hardware and software requirements:**
  - \*A multimedia PC or compatible with a 486sx or higher microprocessor
  - \*25 MHZ, 4 MB of RAM
  - \*5 MB of available hard disk space
  - \*An 8-bit audio board capable of playing audio CDs with speakers or headphones
  - \*An AVGA display capable of 256 colors
  - \*Either MS-DOS version 5.0 or later with Microsoft Windows 3.1 or later, or Microsoft Windows 95
  - \*The Magic School Bus CD program, Exploring the Ocean Floor
- **Instructions to the students:** 30 minutes to run the program and explore, Day 1 30 minutes to go on a treasure hunt, Day 2 Student handouts None
- **Time limit:** 30-45 to explore on the first day, 30-45 to go on a treasure hunt
- **Internet sites to look at:**
  - <http://www.ecsu.ctstateu.edu/depts/edu/textbooks/marine.html>
- **Assessment mechanism:** A quiz (see attached)
- **References:**
  - Ebensen. Baby Whales Drink Milk. Harper Collins, 1994.
  - Cole, Joanna. The Magic School Bus On the Ocean Floor. New York: Schoolastic, 1992.
  - Craig, Janet. What's Under the Ocean? Mahwah, NJ: Troll, 1982
  - Spouts Ahoy. A Wildlife /BBC Lion Heart production in association with Time-Life Video, 1992.

- **Sample Questions:**
  1. Can whales breathe under water? A. yes B. no
  2. Are whales fish? A. yes B. no
  3. How far away can one whale hear another? A. 1 mile B. 10 miles C. 100 miles
  4. What whale gives its babies piggy-back rides underwater? A. Beluga B. Humpback C. Killer whale
  5. What is a group of dolphins called? A. a herd B. a pod C. a pack
  6. Is it possible to explore the ocean in one day? A. yes B. no

- **Answers:**
  1. B. no
  2. B. no
  3. C.100 miles
  4. A. Beluga
  5. B. a pod
  6. B. no

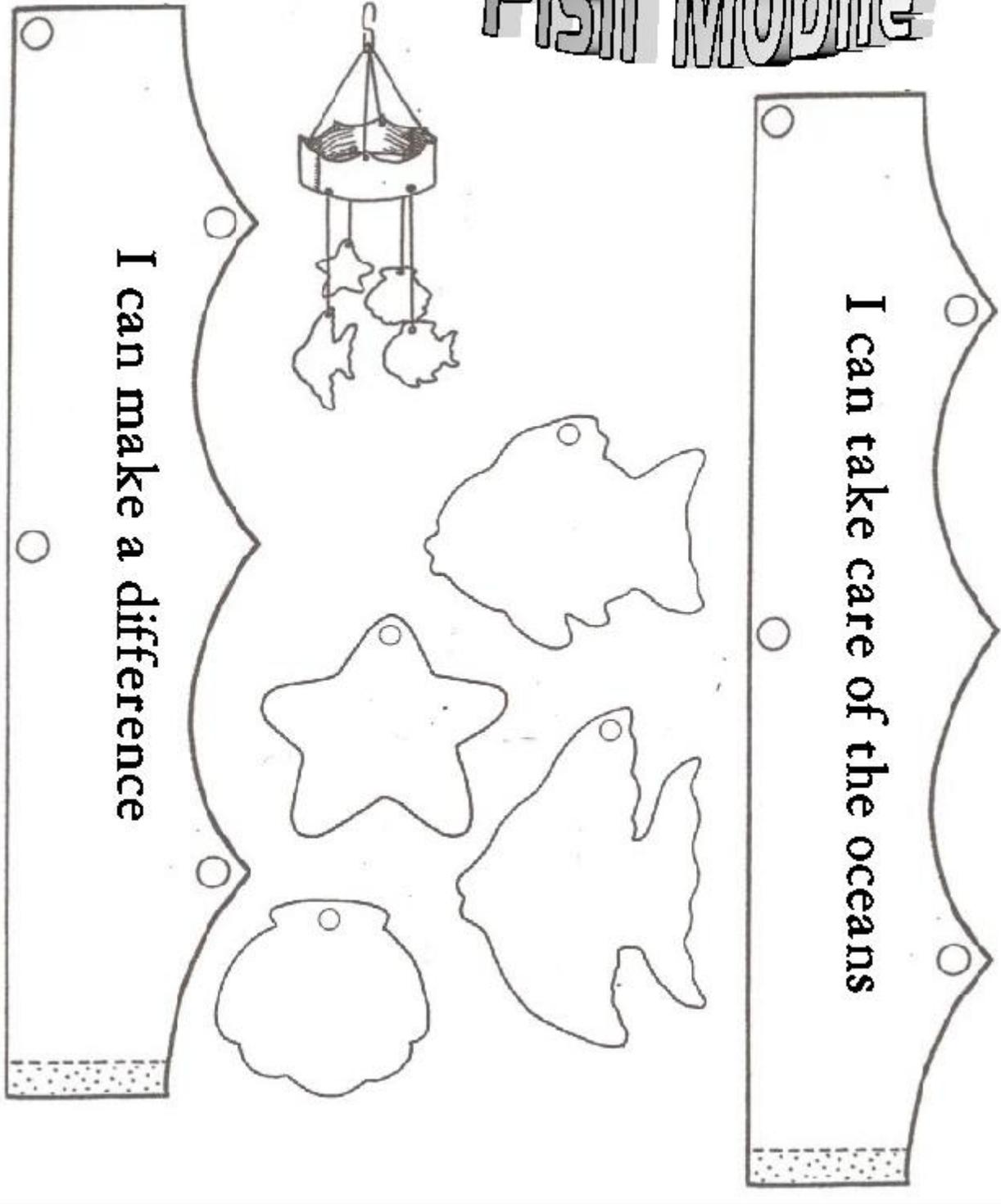
- **Venn Diagram With One Fish, Two Fish by Dr. Seuss,**  
 Author: <http://teachers.net/lessons/posts/707.html>

- **Elementary**

Posted Tue Feb 23 19:36:42 PST 1999 by Kathleen Carpenter ([kat@teachers.net](mailto:kat@teachers.net)).  
 Plainfield Memorial School, Plainfield Connecticut US.

- Materials Required: 2 hoops or yarn, circles (one red, one blue)
- Activity Time: 1 period (15-20 minutes)
- Concepts Taught: Classification
- Venn Diagram to accompany One Fish, Two Fish, Red Fish, Blue Fish by Dr. Seuss.
- Cut out (or have the children cut and color) a set of paper fish, one third of them colored red, one third of them colored blue, and the other third colored a combination of red & blue. The number of fish could depend upon the number of students. Use 2 hoops, or yarn circles, (preferably one red, one blue) on the floor, overlapping to create a third section in the middle. Lead the kids to sort red fish into the red circle, blue fish into the blue one, then ask where the 2- colored (red & blue) fish would go. Lead them to put them in the overlap (center where the 2 circles overlap). You could ask the students to fill in a Venn diagram on paper to illustrate or give each a picture of a Venn Diagram and a set of objects (such as more fish, or a different set of pictures to sort) to reinforce and assess understanding.

# Fish Mobile



## Web Sites for Fun

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**All links are suggested resources only.** Loveland Living Planet Aquarium does not specifically endorse any of the following sites or organizations. If a link does not work you can try copying and pasting the URL into your web browser.

### **NOAA Year of the Ocean Web site**

<http://www.yoto98.noaa.gov/kids.htm>

### **Planet Ocean**

<http://school.discovery.com/schooladventures/planetoccean/index.html>

Discover what it takes for amazing ocean animals to survive this underwater world.

### **Ocean-Themed Lesson Plans**

On-line resources for lesson plans. There are many others like this.

<http://www.lessonplanz.com/go/search.cgi?query=ocean&grade=&bool=OR>

<http://edavenue.homestead.com/sea.html>

### **Jason Project**

<http://www.jason.org/public/whatis/start.aspx>

Visit this site to explore ocean facts.

### **From the makers of the Blue Planet series of videos**

<http://www.bbc.co.uk/sn/>

Wide array of resources not only on the ocean but on all areas of science. Also offers fun educational online games.

### **Steve Spangler Science**

<http://www.stevespanglerscience.com/>

This site has a large number of hands-on science experiments and materials for students and teachers. There are videos, tutorials and products that can be purchased for activities and science fair projects.

### **Sheppard Software**

<http://www.sheppardsoftware.com/>

Lots of games, activities, and articles for elementary school students.

## References

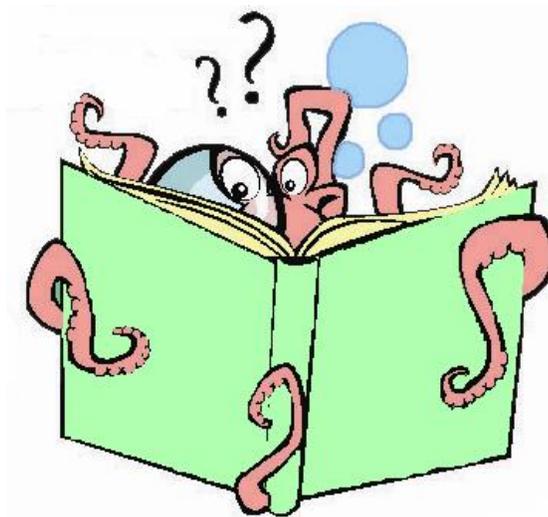
The following resources were used in the development of these materials and or field trip presentations and were not among those cited in the text body.

Smithsonian Institution Press (1996) Sea Life – A Complete Guide to the Marine Environment

Duxbury and Duxbury (1994) An introduction to the World's Oceans, Wm. C. Brown Publishers, 4th edition: Dubuque: Iowa.

Pinet, Paul (1998) Invitation to Oceanography, Jones and Bartlett Publishers: Sudbury, Massachusetts.

<http://www.montereybayaquarium.org/cr/seafoodwatch.aspx>



Thank you for bringing your class.  
We look forward to serving you again!

