

Topic: “Marine Critter” Tee Shirts, a Biology Related Art/Craft Project

Grade Level: 6-12, adult

Summary: Students will research a marine animal and present information to their class. For this presentation, they will design, create and wear a tee shirt which depicts their animal.

Key Words: transfer paper, Inkjet color printer, other vocabulary will specifically relate to the students’ chosen animals

Introduction: Which marine animals are you interested in learning more about? What makes your animal unique? You will be sharing facts and information in an oral presentation. You will be making a “Marine Critter” shirt to illustrate your animal.

What to Expect: Many students will be interested in learning about a specific animal. Sharks, dolphins and sea turtles are popular marine animals. They are familiar through news articles, adoption programs and species preservation projects.

Other animals are less well known. One purpose of this project can be to extend students’ knowledge about less familiar animals. Encourage students to learn about one of the less well known animals. Teachers may allow students to choose their own animals or various animals may be assigned by the teacher.

Materials for the Tee Shirts:

*Access to an Inkjet Color Printer (NOT a laser printer)

*Transfer Paper for Tee Shirts

A package costs approximately \$50 for 50 sheets and is readily available from office supply stores, craft/sewing stores and Walmart. Several teachers might want to work together to share costs for materials.

Transfer paper is available for light or dark colored fabrics. We recommend the light transfer paper as it's much easier and faster to use. Small transfers can be made with multiple pictures on one sheet. Scraps of transfer paper can also be used.

*Tee shirts

Tee shirts and tank tops cost between \$3 and \$5 at Walmart. We also found undecorated canvas tote bags in the craft department for \$3 and plain baseball caps for \$2 each.

*Iron and ironing board

The ironing board is not recommended in the directions, but we found it useful.

*Plain printing paper

*Sharp scissors

Procedure:

This project has two major components.

First, students will use the internet to find information and pictures related to their animals.

Possible topics for presentations include: scientific name and classification, habitat and global distribution, physical characteristics, adaptations, diet and eating habits, reproduction and development/life cycle, hydrodynamics, longevity and causes of death, locomotion, defenses, economic value and interesting behaviors. A bibliography or source list may also be required.

Second, students will create "Critter" tee shirts with a picture of their animal.

Creating the Tee Shirts:

Before beginning, be sure to read and follow the instructions included with the Transfer Paper. We found these were clear and easy to follow. The information below is meant to supplement these instructions.

Instructions for light and dark transfer paper are different.

We recommend that you try this out at home before making tee shirts as a group activity.

Images may be selected from the internet, Google Images or personal photographs. Select images with at least 50K as these will have enough pixels to maintain good picture quality when transferred to the tee shirt.

Images may be edited using any program such as Photoshop, Picasa (a free download) or Power Point. Your students are probably experts, so consult them when you need help.

Print out photos on regular paper to check for correct size, color and placement on the paper. Do this before printing on the tee shirt transfer iron-on sheets to avoid surprises. This test print can also be laid out on the fabric to see how the finished product will look.

Keep in mind that if the image includes text that the photo will usually need to be printed in reverse. To do this: Go to Print, click on Properties, choose Features and then select Mirror Image.

Print out the image on transfer paper and cut out. Cut out with rounded edges. Rounded edges seem to iron more securely to the fabric and are less likely to get caught on objects.

Trouble Shooting and Suggestions:

We suggest that you avoid using the dark transfer paper, at least for your first project. We did not have great success using this product. We found it difficult to use. It did not use the reverse image, had a 30 minute wait time and was much more difficult to peel off. But, use the dark transfer paper if you want to use a dark colored fabric.

You might want to pre-wash the shirts. This eliminated the “sizing” which can interfere with the transfer adhering to the shirt. We did not pre-wash but this was a suggestion from an experienced crafter.

Have a practice tee shirt making session. Teach your friends and family how to make tee shirts.

Be sure to practice with maps or words. These images need to be printed in reverse.

Google Images is a great place to search for animal pictures and photos. Just go to Google, type in the animal name and click on Images. This is one of the choices in the Google menu bar at the top of the screen.

In our experience, the shirts washed OK. Read the warnings that come with iron-on transfers and wash inside out. In some of the instructions there was concern that in the first washing there might be bleeding of the color from the shirts onto other garments in the washer. We did not find this to be a problem, but nonetheless it may be a good idea to tell the students that for the first washing of the shirts, that it be done without other light colored clothes in the same wash load.

Copyright issues:

Most images on Google come with the warning that “image may be subject to copyright”. Check on the web page for registration marks or copyright at the bottom of the page.

In general copyright protections have been most carefully enforced for instances of commercial use, particularly when this might lead to financial loss to the owner of the copyright. Limited use for educational purposes

often, but not always falls under “fair use” doctrine. Use common sense and your local resources and precedents to decide whether any of the images should not be used for this project. An excellent resource for multiple sources of excellent Internet images in the public domain can be found at the following website

(http://en.wikipedia.org/wiki/Wikipedia:Public_domain_image_resources).

NOAA’s photo Library is listed there and has many excellent unambiguously public domain photographs

(<http://www.photolib.noaa.gov/search.html>) .

Extensions:

- A simplified project would require students to present a set number of facts. For example: present 10 interesting facts written down on note cards.
- Require students to turn in a written report for a major grade. Separate grades could be given for the oral presentation and for the written report. A Bibliography or Source List might also be required.
- Create Biology themed tee shirts for other special projects. Nature Clubs and Ecology Clubs might make shirts to wear at after-school or weekend activities.
- School clubs might make tee shirts to sell as a fund raiser.
- Create theme or eco-system tee shirts. For example: assign animals that are found on a coral reef, animals from the rainforest, or Australian animals.
- Co-ordinate a tee shirt making activity with a local zoo, aquarium, museum or nature center. Students could make shirts on-site or at school. They could wear their shirts on the field trip.

Evaluation:

Sample grading rubrics can be found at the following web sites:

Oral presentations-

<http://www.sites4teachers.com/links/redirect.php?url=http://www.ncsu.edu/midlink/rub.pres.html>

Written science reports-

<http://www.sites4teachers.com/links/redirect.php?url=http://edweb.sdsu.edu/triton/tidepoolunit/Rubrics/reportrubric.html>

<http://www.tl.ab.ca/projects/Div3/Grade9/diversity/report-rubric2.html>

Resources:

Instruction sheets accompanying Transfer Paper

Sites for Teachers. Retrieved October 13, 2008.

<http://www.sitesforteachers.com/index.html>