

## **NOAA Teacher at Sea – NOAA Careers Lesson**

**Lesson Title:** See the Sea with NOAA

**Subject (Focus/Topic):** Exploring NOAA Career Opportunities.

**Grade Level:** 4-5

**Average Learning Time:** Three, one-hour sessions

**Lesson Summary (Overview/Purpose):** Students will examine various NOAA related careers.

**Overall Concept (Big Idea/Essential Question):** After learning about different NOAA related careers, students will further examine one NOAA career of personal interest.

**Specific Concept (Key Concepts):**

Becoming aware of various NOAA careers

Examining a NOAA career further to better understand its requirements

**Focus Questions (Specific Questions):**

What types of careers are offered through NOAA?

What requirements must be fulfilled to gain employment by NOAA?

**Objectives/Learning Goals:**

Students will examine various NOAA careers by viewing a video of interviews from current NOAA employees.

Students will further examine one NOAA career of their choosing and create a brochure highlighting the prerequisites for the career and the requirements and skills needed on the job.

**Background Information:**

NOAA has an extensive website that describes many of the NOAA careers available:

<http://www.careers.noaa.gov/>

**Common Misconceptions/Preconceptions:**

Maritime careers focus mainly on sailing ships.

Maritime careers are only for men.

**Materials:**

- Computers, one for each student
- 8 ½ x 11 computer paper
- Color ink

**Technical Requirements:**

Internet connection and access to YouTube

**Teacher Preparation:**

The teacher will need to further explore the NOAA Careers website to gain a stronger understanding of careers that are available through NOAA. The teacher will also need to explore Microsoft Word to find the brochures template to share with students.

**Keywords:**

NOAA – National Oceanic and Atmospheric Administration  
Maritime  
NOAA Corps

**Pre-assessment Strategy/Anticipatory Set:**Day 1, Part 1 (25 minutes)

1. Students will view the YouTube video of compiled interviews from crew members of the NOAA Ship Oregon II entitled, “NOAA Ship Oregon II Officers & Crew”. <http://www.youtube.com/watch?v=wYObRiLtHQ4&sns=em>
2. Students should keep in mind the careers that are explored in the video as they will need to choose a NOAA career to examine further later on.

**Lesson Procedure:**Day 1, Part 2 (30-35 minutes)

1. Students should pick a career offered by NOAA to research further. Students can choose a career highlighted in the YouTube video, or one from the NOAA careers website: <http://www.careers.noaa.gov/>
2. After students have chosen a career to examine, they will need to gather information to create informative brochures.
3. Students’ brochures should have:
  - An attractive cover
  - At least three pictures related to their chosen NOAA career
  - A definition of the chosen NOAA career
  - Schooling required for the job
  - Other requirements for the job
  - At least three other facts about their chosen NOAA career
  - A website address where others can learn more
4. Review the rubric with students so they have an understanding of what they need to focus on when they are working on their brochures.
5. Students will use Microsoft Word to create their brochures. Students can follow the steps below OR go to [www.office.com](http://www.office.com), click Templates, click Word, and type in “brochures”, choose a template they like, and download it for free. (Make sure the template is made for the computer’s version of Microsoft Word – check the year!)

**Steps:**

- 1a. Go to File, click Page Setup.
- 1b. Under Orientation, click Landscape.
- 1c. Under Margins, change Top, Bottom, Left, Right each to 0.5”
- 2a. Go to Format, click Columns.
- 2b. Select 3 columns. You may check the box Line Between if you like.

3. Students will need two pages like this. Keep in mind the columns on the first page should be in this order: inner fold, back, front. The second page will all be interior information

Day 2, 3 (60 minute sessions)

1. Students will continue work on their brochures.
2. Once a student's brochure is complete, they should go back and proofread to make sure there are no errors.
3. Brochures can be printed off double-sided if you follow the format stated above.

**Assessment and Evaluation:**

Brochure:

*See attached brochure rubric.*

**Standards:**

**National Science Education Standard(s) Addressed:**

Life Science

E.C.3 Organisms and environments

Science and Technology

E.E.2 Understandings about science and technology

History and Nature of Science

E.G.1 Science as a human endeavor

**Ocean Literacy Principles Addressed:**

Essential Principle 6:

The ocean and humans are inextricably interconnected.

Essential Principle 7:

The ocean is largely unexplored.

**State Science Standard(s) Addressed:**

Life Science:

Understand and apply knowledge of environmental stewardship.

**Other National or State Standards Addressed:**

Iowa Core Curriculum – Writing

Text Types and Purposes

W.3.2. Write informative/explanatory texts to examine topic and convey ideas and information correctly

W.4.2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly

W.5.2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly

### Production and Distribution of Writing

W.3.4. With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose

W.4.4 Provide clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience

W.5.4. Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience

W.3.5. With guidance and support from adults, develop and strengthen writing as needed by planning, revising, and editing.

W.4.5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing

W.5.5. With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach

W.3.6. With guidance and support from adults, use technology to produce and publish writing (using keyboard skills) as well as to interact and collaborate with others

W.4.6. With guidance and support from adults, use technology, including the internet, to produce and publish writing as well as interact and collaborate with others

W.5.6. With guidance and support from peers and adults, use technology, including the internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single setting

### Research to Build and Present Knowledge

W.3.7. Conduct short research projects that build knowledge about a topic

W.4.7. Conduct short research projects that build knowledge through investigation of different aspects of a topic

W.5.7. Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic

W.3.8. Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories

W.4.8. Recall relevant information from experiences or gather relevant information from print and digital sources; take notes, categorize information, and provide a list of sources

W.5.8. Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources

## Iowa Core Curriculum – 21<sup>st</sup> Century Skills

### Employability Skills

Communicate and work productively with others emphasizing collaboration and cultural awareness to produce quality work.

- Use appropriate principles of communication effectively.

### Technology Literacy

Use technology resources to create original products, identify patterns and problems, make predictions, and propose solutions.

- Demonstrate creative thinking to generate new ideas and products using a variety of technology tools and resources.
- Create and share new ideas, products, and processes related to curriculum content.
- Work individually and collaboratively to create, display, publish, or perform media-rich products.

Utilize digital tools and resources to investigate real-world issues, answer questions, or solve problems.

- Locate, organize, and ethically use information from a variety of sources and media.
- Access information for specific purposes, and assess the validity of the information source.

Understand technology hardware and software system operations and their application.

- Use everyday technology processes, hardware, and software

### **Additional Resources:**

NOAA Careers

<http://www.careers.noaa.gov/>

“We’re All in This Together” blog

<http://teacheratsea.wordpress.com/2012/07/20/stacey-jambura-were-all-in-this-together-july-20-2012/>

“NOAA Ship Oregon II Officers and Crew” – YouTube Video

<http://www.youtube.com/watch?v=wYObRiLtHQ4&sns=em>

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## NOAA Careers Brochure Rubric:

**Student Name:** \_\_\_\_\_

**Career Researched:** \_\_\_\_\_

	<b>Excellent – 4 pts</b>	<b>Good – 3 pts</b>	<b>Satisfactory – 2 pts</b>	<b>Needs Improvement – 1 pt</b>
<b>Required Elements</b>	Includes all of the required elements.	Includes most of the required elements.	Includes some of the required elements.	Includes few or none of the required elements.
<b>Communicating Information</b>	The brochure communicates relevant information appropriately and effectively to the intended audience.	The brochure communicates relevant information appropriately to the intended audience.	The brochure communicates irrelevant information, or communicates inappropriately to the intended audience.	The brochure communicates irrelevant information and communicates inappropriately to the intended audience.
<b>Content Accuracy</b>	All facts in the brochure are accurate and match cited sources.	99-90% of the facts in the brochure are accurate.	89-80% of the facts in the brochure are accurate.	Fewer than 80% of the facts in the brochure are accurate.
<b>Conventions</b>	All of the writing is done in complete sentences. Capitalization and punctuation are correct throughout the brochure.	Most of the writing is done in complete sentences. Most of the capitalization and punctuation are correct throughout the brochure.	Some of the writing is done in complete sentences. Some of the capitalization and punctuation are correct throughout the brochure.	Most of the writing is not done in complete sentences. Most of the capitalization and punctuation are not correct throughout the brochure.
<b>Graphics/ Pictures</b>	Graphics match the topic and text in section. There are at least three graphics used in the brochure, but no more than two per section.	Graphics go well with the text, but there are so many (more than two per section) that they distract from the text.	Graphics go well with the text, but there are too few (less than three graphics for the entire brochure) and the brochure seems “text-heavy”.	Graphics do not go with the accompanying text or appear to be randomly chosen.
<b>Attractiveness/ Organization</b>	The brochure has excellent formatting and very well organized information.	The brochure has appropriate formatting and well organized information.	The brochure has some organized information with random formatting.	The brochure’s format and organization of material are confusing to the reader.
<b>TOTAL</b>	<b>/ 25</b>			

*\* Include 1 pt for completion of assignment.*

**Teacher Comments:**