

INV. 4 ACTIVITY—ANALYZING EXPERIMENTS

Review

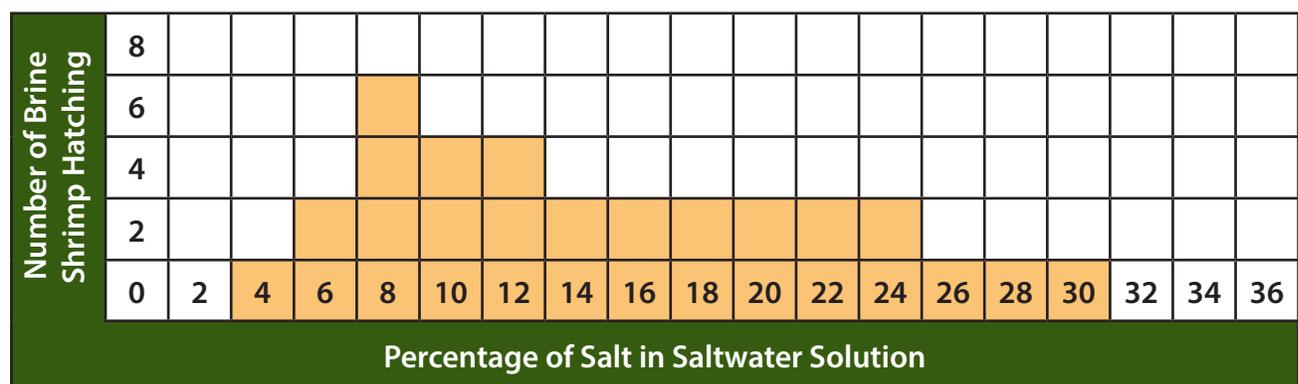
If we had been learning at school, we would have investigated the phenomena of what environmental conditions result in the best growth for plants. We would have investigated the amount of water that different plants grow the best in, and in another experiment, we would have looked at how varying levels of salt concentration in salt water affect growth of seeds. Today we are going to engage in an online tutorial to think about optimum conditions, preferred environments, and a range of tolerance.

Engage with Online Activity—Tutorial: “Analyzing Environmental Experiments”

Go to FOSSweb, log in, and click on the Environments. Under Online Activities, Click on “Tutorials,” and then the “Analyzing Environmental Experiments” link.

During the first few minutes you will be reminded of things we would have done if we had been learning in school.

The tutorial then shares these data for number of brine shrimp that hatched in varying percentages of salt water solution. Look at the chart and think about what it is displaying.



The range of tolerance—is the range of percentages of salt in saltwater mixtures, that allow any hatching of brine shrimp. Finish the following sentences in your notebook:

1. Brine shrimp can hatch in saltwater solutions ranging from ____% to ____%.
2. The optimum, best, condition for hatching brine shrimp is ____% saltwater solution.

In the tutorial, you will go through six different experiments and you need to decide if the experiment is exploring: range of tolerance, optimal conditions, or preference for the various organisms. Record your results in your notebook. State the following for each:

- a. What is the question the experiment is trying to answer?
- b. Is the experience exploring: range of tolerance, optimal conditions, or preference? Explain why you think so.

INV. 4 ACTIVITY—ENVIRONMENTAL SCIENTISTS

Read the interactive eBook on FOSSweb—FOSS Science Resources: *Environments*

Login to FOSSweb, click on Environments and go to the Media Library.

Click on the eBook.

Use the Table of Contents to go to the article called “Environmental Scientists.”

Read about four different environmental scientists.

Rachel Carson,

Edward O. Wilson,

Tyrone B Hayes, and

Wangari Muta Maathai

After reading about all four, select one of them and create a mini poster telling someone else about them. If you do not have a big piece of paper at home, you could tape two pieces of computer paper together.

Your poster should be colorful and interesting to look at. It should include:

1. The scientist’s name
2. When they were born/and the year they died (unless they are still alive)
3. Where they went to college
4. Their profession
5. What they are best known for
6. Other fun facts about them
7. Also, your poster should have some art that reflects the work of that environmental scientist.

You can conduct more research online to supplement what you read in the eBook.

Share your poster with a family member and ask them if they have any questions about this environmental scientist.

Send a picture of your finished poster to your teacher.

INV. 4 ACTIVITY—PLANT ADAPTATIONS

Read the interactive e-Book on FOSSweb—FOSS Science Resources: *Environments*

Login to FOSSweb, click on *Environments* and go to the Media Library. Click on the eBook. Use the Table of Contents to go to the article called “Variation and Selection.”

Answer the following questions in your notebook:

1. What is natural selection?
2. What is it about populations that allow natural selection to occur?
3. What is an adaptation?
4. What might happen to a population of organisms when the environment changes?

View the Streaming Video—*All about Plant Adaptations*

Go to your Media Library. Click on Streaming Videos.

Now you are going to watch the video *All about Plant Adaptations*. In it you learn about a variety of plant adaptations.

Focus Question: What are some examples of plant adaptations?

After watching the video—draw scientific drawings of 4 of the plants you learned about in the video and label the drawings, listing some of the plant structures.

Also record what the specific plant adaptations are that help that plant survive. All of this will help you respond to the focus question.