

STATION 5

forming hypotheses

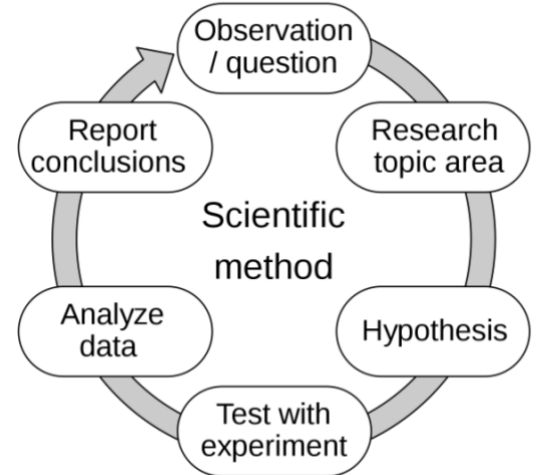
Crabbins made an observation. He reported this to **Dr. Seeksalot** and **Rep. Wordsmith** and they used their research area expertise to approach the problem.

As a group, come up with a *hypothesis* for what's happening. A hypothesis is a prediction or possible explanation for a question that needs to be investigated. Coming up with a hypothesis is one step in the scientific method, which we use when we perform scientific experiments. It uses what you already know in order to make a well-thought-out prediction (an educated guess).

A hypothesis is *testable* meaning there is a way to test if there is evidence for or against it. This test can be an investigation through a set of experiments.

A hypothesis is often an "if...then" statement.

For example, ***If** there is excess carbon in the atmosphere, **then** the temperature of the ocean will increase.*



Fill out the following as a group:

Observation:

Research topic area:

Hypothesis:

Now it's time for each person to use their role skills to help address the problem!

Follow instructions for each role and create your products.

Then come back together as a group and prepare to share your products with the class.



Dr. Seeksalot

SCIENTIST

Goal: Use research to combat ocean deoxygenation.

As a group, you've learned about several factors that affect the chemistry, biology, economics, and physics of the coastline and you've come up with a hypothesis. Can you think of an experiment to test your hypothesis for why the crabs are "missing" on a coast that experiences the effects of climate change? What other types of data may be useful to collect?



Fisher Crabbins

FISHERPERSON

Goal: Engage your community to work together.

You're the one seeing these changes from day to day on the water when you're out crabbing. Make a list of the ways these problems you experience as a fisherman could affect your local community and then think of ways this could affect the global community. With this information, come up with an engagement strategy to mobilize your community – use your imagination to think of a fun event one could host to raise awareness, create a song, come up with an idea for a compelling documentary, draw a comic to feature in the local newspaper, or write a short children's story to share with kids in your community at a local library. What will get your community excited to work together?



Rep. Wordsmith

POLICYMAKER

Goal: Raise awareness and relate to communities across Oregon (who may not live on the coast).

Being in public office means representing your "constituents" (people who live in the area you serve) and communicating with them to best meet their needs. It's your job to create a "Public Service Announcement" about this issue on the coast. This could be in the form of a Tiktok or Instagram reel, a social media post or an article that would be published in the local newspaper. Imagine you are the governor of Oregon and must connect this to people who don't live on the coast. How does this problem affect them? Be creative and communicate your message to all people in your state!



This simulation was adapted from a TRUE story of how fishermen made observations of Dungeness crabs, communicated with scientists at Oregon State and how scientists are working with policymakers to protect our coastal community, biodiversity, and livelihoods.