



NIM'S
ISLAND

Nim's Island Unit Study

General Lessons

Science

Scientific Method

Go over with your student(s) what the scientific method is and what it isn't. When a scientist wants to answer a question, they start by doing research (using books) about the problem to know what is already known. Then they come up with a hypothesis: their best guess of the answer to the question. Experimentation is done to test the hypothesis. Finally, the results are studied and conclusions are drawn. Talk about how you might design an experiment to prove a hypothesis. What happens if you do not get the anticipated results?

Various sources will give you different "steps" in the process. Here is a simple list to explain to your student.

1. Ask a Question
2. Complete Background Research
3. Construct a Hypothesis
4. Test Your Hypothesis with an Experiment
5. Analyze Your Results and Draw Conclusions
6. Communicate Your Results

You can use the flow chart provided in the printables section to help your student understand the process. A blank chart is also provided (if you want your student to write in the steps).

Weather

Nim's island is considered to be in a tropical climate. Unlike other parts of the world, Nim does not need clothes for each season. What would you expect to be the typical weather on a tropical island? What kinds of clothes would you need there? What is in your closet or dresser that you would not need on Nim's Island?

Hurricanes (research by Tina Franks)

In the book, there is a terrible storm. One of the worst storms you can have is a cyclone.

The word *hurricane* is from the Spanish word *huracan* meaning a big wind. Hurricanes are known by other names, too (see below). Hurricanes are the most dangerous storms on earth. Even though the winds are only about half as fast as a tornado, a hurricane can be 2,000 times as wide as a tornado! Most hurricanes last less than an hour, but others go on and on for days!

Hurricanes are also known as:

Hurricanes- Caribbean Sea, Southern U.S., Central America

Typhoons- China Sea, northern Pacific Ocean including the Philippines, Japan and southern China

Cyclones- Indian Ocean including northern Australia, Indonesia, India, and Bangladesh

How Does a Hurricane Form?

1. Get out your globe and show your student the tropics (Tropic of Capricorn, Tropic of Cancer). The climate in the tropics is very warm-- the warmest on Earth-- which means the air can hold a lot of water vapor. Cold fronts sneaking in to the tropics or low pressure in the tropics causes a tropical disturbance. Conditions for a tropical disturbance to turn into a tropical storm:

- thunderstorms are present
- the disturbance is 300 miles from the equator
- ocean temperatures are 80 degrees F or more (to a depth of 164 feet below the surface); this is one of the most important conditions for the formation of a hurricane
- lots of moisture in the lower and middle part of the atmosphere
- not too much change in wind speed; winds need to come from the same direction

2. Several storms can crop up together and become one system known as a tropical depression. The storms will join and spin together. It is called a depression because it has low (depressed) air in the center which causes winds. The lower the pressure goes, the stronger the winds are. Depressions don't typically have eyes or cyclonic shapes. If the winds of the storm reach 39 mph, it is considered a tropical

storm.

3. The storm spirals throughout the ocean and collects more and more moist ocean air. It spins faster and faster and grows larger and larger! As it gets stronger, it gets rounder, and the eye begins to form. When it reaches speeds of 74 mph or higher, the storm is called a *hurricane*.

→ Complete Hurricane Formation Notebook Page, if desired

The Eye of the Storm

The center of the hurricane is known as *the eye*; here the air is calm, the temperature is warm, and the sun shines. However, the spinning winds all around the eye are violent.

Damage

When a hurricane reaches the shore, it is out of control at 500 miles wide and 150 mph winds. Winds damage buildings, peers, power lines, homes, and trees. Sometimes, a hurricane will cause a tornado to occur as well. The winds from the tornado cause even more damage. Hurricanes also cause flooding; they can cause several feet of water to drop each day and ocean waves swell up to sixty feet high! Rivers and streams can overflow causing destruction to crops, homes, and businesses. Storm surges are also damaging. A storm surge is a giant wall of water that is pushed on shore by the wind from the hurricane. When this bulge in the sea reaches the coast, it causes coastal waters to rise 20 feet above normal which produces flooding that destroys many more homes and many more businesses.

How Does a Hurricane End

1. At sea, they die when they pass over cooler waters.
2. Hurricanes need warm, moist air to keep going. Once a hurricane travels to the inland, it becomes less violent since there is less moist air. It usually merges into a small rainstorm and eventually dies out.

Naming a Hurricane

All hurricanes are named in order to keep better track of them. They are named when they become tropical storms; the names follow the alphabet, so the first storm of each year starts with an A and they are given human names.

Wind Speeds

Hurricanes are grouped according to their wind speeds. Only two CAT 5s have hit the US in the last 100 years.

Type of Storm	Wind Speeds	Effects	Example
Depression	0-38 mph		
Tropical Storm	39-73 mph	little damage	
Level 1 (CAT 1)	74- 95 mph	not much damage	Florence, 1988
Level 2 (CAT 2)	96-110 mph	quite a bit of damage	Earl, 1998
Level 3 (CAT 3)	111-130 mph	bad damage	Fran, 1996
Level 4 (CAT 4)	131- 155 mph	very bad damage	Andrew, 1988
Level 5 (CAT 5)	over 156 mph	terrible damage	Mitch, 1988

Tracking Hurricanes

Tracking hurricanes is important. People who live in the possible path of the storm need warning time to prepare as much as possible. Here are some ways the hurricane is tracked:

1. Meteorologists follow storms using pictures of the Earth taken by satellite. The pictures are taken over many hours and they reveal the direction as well as the speed of the storm.
2. Weather planes fly right into the eye of the hurricane to measure the speed of the wind.
3. Ships measure the heat of the sea around the storm. This is important because if the hurricane is moving toward warmer water, it will often get stronger.

Hurricane Season

Where and when is a hurricane most likely to hit?

In the Atlantic Basin- June 1st to the end of November marks hurricane season with the most active hurricanes between August and October. This region averages 9.7 tropical storms and 5.4 hurricanes each year.

In the Eastern Pacific- May through October; most active season is May- August This region averages 16.5 tropical storms and 8.9 hurricanes each year.

The Northwest Pacific Ocean averages more cyclones than any other region on

Earth with 25 tropical storms each year and 16 hurricanes.

North Indian Ocean has the least amount of tropical storms (5-6) and hurricanes each year (2-3), but the results of these hurricanes are often worse than any other region.

Weather Station

Nim and her father have their own weather station on the island. They collect lots of information that is tracked over time. Specifically, they look at temperature, barometric pressure (the pressure of the atmosphere usually expressed as the height of a column of mercury), and rainfall. Why is this information helpful to them? What does each of these measurements over time tell us? What tools do you have at your house to be your own weatherman? If you do not have access to the same tools that Nim did, then use a website such as weather.com or a local news station's site to track the weather in your area.

A barometer is the device used to measure air pressure. While official barometers use mercury for the measurements (with 30 inches of mercury being the normal pressure near sea level), an aneroid cell barometer is more common. This is a small, closed container with flexible sides that allows the air pressure to change the shape of the container. The scale is set to inches of mercury. Low pressure can indicate that a storm (rain or snow) is coming. High pressure indicates that fair weather is in the forecast.

A good resource to learn about the weather and makes some of your own instruments, including a barometer, is [Wild About Weather](#) by Ed Brotak.

Habitats

Every living thing has basic needs for survival. Animals need food, water, cover/shelter, and space (including a place to raise their young.) A habitat is the area where a species finds all these requirements. Different animals and plant life share each habitat.

Ask your student(s) to name different habitats (e.g. desert, rainforest, etc.) Is an island a single habitat or comprised of several? Look at the map of Nim's Island and determine which habitats are there.

Oceanography

Oceanography is a branch of Earth Science that studies the oceans and seas of the Earth. It covers a wide range of topics, including undersea plants and animals, ocean currents and waves, plate tectonics and the geology of the ocean floor, and more.

Oceanographers might study oceans in general or they might specialize in one particular area of oceanography.

- A biological oceanographer, also known as a marine biologist, studies the oceans' plants and animals and microbes.
- A chemical oceanographer, also known as a marine chemist, studies the composition of the ocean.
- A geological oceanographer, or marine geologist, studies of the geology of the ocean floor including plate tectonics.
- A physical oceanographer, or marine physicist, studies the ocean's physical attributes such as temperature, salinity (saltiness), waves, tides, and currents.
- A climatological oceanographer, or weather oceanographer, studies how the ocean is affected by temperature, precipitation, cloud cover, wind, sunshine, and evaporation, measuring these elements systematically at a site over several years.

Let's take a look at oceans and seas--

Looking at a map of the world, locate the oceans and major seas with your student. Discuss the difference between an ocean and a sea. How is a sea different from a lake?

The ocean is a large body of salt water covering approximately three fourths of the earth and is subdivided into several oceans (Atlantic, Indian, Pacific, and Artic.) These are further divided into seas (e.g. Mediterranean), which are often more surrounded by land forms.

When studying the ocean, it is useful to know some terminology:

Tide: the alternate rising and falling of the surface of the ocean that occurs twice a day and is caused by the gravitational attraction of the sun and moon occurring

unequally on different parts of the earth.

Currents: can be thought of as underwater rivers where the water is flowing in a specific direction. Wind, tides and/or gravity drive the currents.

Waves: result from a disturbance of the water, most commonly by wind blowing across the surface

Layers of the Ocean

Scientists divide the ocean into 5 major layers.

The sunlit, or euphotic, zone is where light from the sun can penetrate the water and provide heat. Plant and animal life are abundant here.

Immediately below is the twilight, or mesopelagic, zone where limited amounts of light in faint levels. Fish, squid and octopuses are the main inhabitants.

The sunless, or bathypelagic, zone has water temperatures around 4 degrees Celsius. Animals in this zone feed on dead plankton that are sinking from above.

The abyssal zone is next with dark, icy water. At this point, water pressure is high and few animals live here.

Finally, there is the ocean trenches with few animals that rely upon food sinking from above.

→ Complete Ocean Layers Notebook Page, if desired

Ocean Life

The oceans are filled with such interesting life. What you will find depends not only on the location on our planet, but also on which zone (or layer) of the ocean. There are many types of animals in the oceans including amphibians, coral, crustaceans, fish, mammals and mollusks. The main animals featured in Nim's Island as characters include a sea Lion (Selkie), an iguana (Fred), a turtle (Chica) and a frigate bird (Galileo). Encourage your student to select books at the library or off your shelves to study the animals they find most interesting.

Protozoans: Jack (Nim's father) studies smaller life forms such as protozoan. Protozoa are one-celled animals. Many of them are invisible to the naked eye, so that a microscope is needed to view them. Reproduction is through fission, basically splitting in half. Water flows through its pores and provides the protozoan with both food and oxygen. Carbon dioxide is then exhaled through the cell membrane.

Nim notes that Jack always says protozoans are important as the building block for the food chain in the ocean. Small fish eat them and larger fish and mammals eat the smaller fish.

Underwater Life (field trip)

Take your student on a field trip to see what life under the water looks like. An aquarium is one ideal place to see close up the animals and plant life living in the ocean. Another location to see would be the seashore. Some zoos have smaller aquarium exhibits that may be a good fit. Alternatively, you could visit a pet shop with different tropical fish to view. If you have an enthusiastic student, setting up your own aquarium and taking care of the fish would be a wonderful, long-term experience.

Islands

An island is a piece of land, completely surrounded by water. Even today there are new islands being created. Islands in the ocean could arise from portions of the continent being buried under the ocean leaving parts sticking out. Alternatively, they can be formed from the cooled lava of a volcano. Nim's island has a volcano on it and most likely was formed in this manner. Finally, some islands are formed completely from coral while others are barriers to other land, often with sand forming its land.

Gardening

Since Nim and her father only have a supply vessel come once a year, they are reliant upon the island for much of their food production. Some food sources, e.g. coconuts, are indigenous (native) to the island. However, they do have their own garden to complete the food supply.

What foods do they grow on the island?

What other foods might be grown in that environment?

How do you plan and plant a garden?

Beyond what to grow, you need to determine how much you would want to harvest to determine how many seeds you have to plant. Also, you have to determine when you will plant. Planting at the beginning of a dry season will require the planter to water continuously while planting at the start of a wet season could drown the seeds.

Find a seed packet and read the label with your student. Discuss what the yield might be for that particular item. Seed packets also include information about germination rate and have an expiration date. Older seed packets will have a lower germination rate than stated.

To illustrate what germination is, you can select a fast growing plant and plant it (either in soil OR put in a wet paper towel fitted into a zip lock style bag to see the roots grow.) Watch how long it takes to sprout and start to grow the roots if you are using the wet paper towel method. You can make a basic chart listing date and observation to track the growth.

→ Complete My Seeds Notebook Page, if desired

Satellites

A satellite is an object orbiting a planet. The moon is a natural satellite. Since the launch of Sputnik 1 in 1958, humans have been placing artificial (man-made) satellites into orbit around the earth. Today, there are thousands of artificial satellites in orbit, the largest satellite being the International Space Station. While some satellites used by the military, there are three other basic categories of satellites. Fixed satellite services handle voice, data and video transmissions between certain points on the earth. Mobile satellite systems connect remote regions or moving vehicles (e.g. a ship) to other parts of the world. Finally, there are satellites that provide scientific data (e.g. weather and land surveying information.) Throughout the book, satellite dishes are mentioned for use to communicate via cell phones and computers.

Social Studies

Tourism

If you go on a vacation with your family, you may have already encountered what are labeled “tourist attractions.” Discuss what these are and why they would draw someone to a particular area. Some tourist attractions are known worldwide, such as Disney World, while others may be known within a specific country or region of the country, such as Hershey Park in Hershey, Pennsylvania. What places in your community might be considered a “tourist attraction?” Are they places that you visit?

The Troppo Tourists are labeled as the bad guys in the story because of their disrespectfulness of nature. Are all in the cruise industry truly bad? Have you seen advertisements for cruises to showcase nature? Why would Nim’s Island be attractive to the cruise industry?

Design a trip to showcase something that is considered a natural wonder. This trip could be to see animals in their native habitats or to see natural landforms (e.g. the California Redwood Forest.) How can you be more respectful of nature while still having the opportunity to visit?

Sailing

Humans have been traveling over water for thousands of years. Sailboats were one invention that allowed for travel over greater distances as the sail harnesses the wind’s energy to move the boat. The sails are secured to a mast (tall pole) on the boat. Some sailboats have one mast while others have two masts.

Explore how a sailboat works. Find a good website for beginners to learn about different types of sailboats and the basics of how to sail. Discuss where would you use a sailboat (streams, rivers, lakes, seas, or oceans). If you are near to a body of water with sailboats, take a short field trip to observe them. Otherwise, your student might enjoy designing their own vessel.

Art

Cartography (Map Making)

Early in the book there is a hand drawn map of Nim’s Island. What important sites are on the map? How can you tell directions? Locate the compass rose. If your student has no map reading skills, then walk them through how to find direction

using the compass rose. Otherwise, ask them to show how you can tell directions on the island using it.

Design your own map. It could be of your neighborhood, your city or a place you have made up in your imagination. Make sure to put a compass rose on it to show directions! See if others can read your map and navigate around using it.

→ Complete My Map Page, if desired

Design an Ocean Habitat

With your student, design and make either a mural or diorama of the ocean life surrounding Nim's Island. They can choose to include a coral reef area or focus on the water further out from the island.

Chapter Specific Lessons

Chapter 1

Language Arts

Vocabulary:

Sheath - a case for a blade (as of a knife)

Machete - a large heavy knife used especially for cutting sugarcane and underbrush and as a weapon

Driftwood - wood drifted or floated by water

→ Complete New Words Page, if desired

Continue to add words to these pages as you complete the rest of the lessons in the book.

Communication

This chapter mentions different animals and their ability to communicate. Many animals have their own means of communication. Communication can come in the form of audible sounds as well as body movements. Some animals, such as dolphins, have been studied to decipher their unique language. The book mentions

a few different animal languages that Nim has learned. See if your student can remember them all. Our ancestors developed languages from basic sounds to the complex patterns of words and sentences that we find today. Design your own basic language using simple sounds and hold a conversation with a partner.

Science

Zoology

This chapter also begins to mention many of the animals (both large and small) you might find on or around an island in the Pacific. See how many you can find in this chapter! (I counted 6.)

Sea Lion: any of several large Pacific seals that have small ears on the outside of the body

Iguana: any of various large plant-eating tropical American lizards that have a ridge of tall scales along the middle of the back and loose skin hanging below the neck

Blue whale: a whale that may reach a weight of 150 tons and a length of 100 feet and is generally considered the largest living animal

Dolphin: any of various small whales with teeth and a long nose

Frigate bird: any of several seabirds noted for their power of flight and the habit of robbing other birds of fish -- called also *man-o'-war bird*

Plankton - the floating or weakly swimming animal and plant life of a body of water

Have your student choose an ocean animal to research. You can find many animal lapbooks right here at Homeschool Share. We have animal studies and lapbooks for lizards, whales, dolphins, and seabirds.

→ Complete Animal Research Page, if desired

Continue more pages for the other animals in this book as you complete the rest of the lessons.

Social Studies

Tools

What is the purpose of the machete and sheath that Nim uses? Are these tools you can just pick up use? Discuss common tools that you may have in your home as well as any safety precautions your student needs to take when using one of these tools.

School and Education

Nim's school experience is mentioned. She learns by living on the island and observing the world around her. How does this compare to the way you are being educated?

Chapter 2

Language Arts

Vocabulary

Kittiwake - either of two gulls that nest on cliffs and winter on the open ocean
Chasm - a deep split or gap in the earth

Personification

In this chapter, the author begins to use very visual descriptions. This continues throughout the book. When describing a cyclone, she calls it a "tree-throwing, hut-smashing storm." How does this description bring the image to life compared to just saying it was a storm?

Also, notice that the descriptions of the weather in this chapter personify the storm. A personification is a figure of speech where an inanimate object or abstract idea is given human traits and qualities. These could include physical gestures, emotions, and speech. See how many examples of personification your student can find related to the weather. Then, have the student come up with his or her own descriptions focusing on a particular weather phenomenon.

→ Complete Personification Page, if desired

Chapter 3

Language Arts

Vocabulary

Beachcombed: term used to describe searching through the sand along a beach for items.

Bamboo: any of various chiefly tropical tall woody grasses including some with strong hollow stems used for building, furniture, or utensils

Correspond: to be equivalent (as in meaning, position, purpose, or structure)

Cove: a small sheltered inlet or bay

Seaweed: a plant growing in the sea; a marine alga (as a kelp)

Rudder: a flat movable piece (as of wood or metal) attached to the rear of a ship or aircraft for steering

Wobbled: to move or cause to move with a jerky rocking or side-to-side motion

Staggered: to move or cause to move unsteadily from side to side as if about to fall

Social Studies

Heroes

Nim talks about Alex as a hero and adventurer. What comes to mind when you hear these words? Why does Nim assume that Alex is both? What is another assumption Nim makes in this chapter?

Time Zones

The world is divided up into 24 time zones based on measures of longitudes, a series of imaginary lines on the earth's surface from the North Pole to South Pole. These lines of longitude are used to navigate and measure distance on Earth. Within each time zone, there is local time that corresponds to the movements of the sun. With time zones, noon is always when the sun is high in the sky and bedtime is when the sun is setting or already gone for the evening. Greenwich, England was chosen to be the universal time zone since it is along the prime meridian. The prime meridian is the 0 longitude measurement which passes through the original site of the Royal Observatory. Time in the other zones is calculated in relationship with Greenwich Mean Time (GMT).

Science/ Life Skills

Bread Baking

Since bread cannot be kept fresh for a long period of time, Nim and her father bake their own bread. Have you ever made fresh bread at home? While some households may have a bread machine or large mixer on hand to make bread, you do not need this equipment to do so. Try your hand at baking your own bread. Kneading can be a lot of fun.

Chapter 4

Language Arts

Vocabulary

Shushed: to urge to be quiet

Grasslands: land covered with herbs (as grasses and clover) rather than shrubs and trees

Science

Buoyancy

Nim begins her experiment using coconuts as a flotation device. Coconuts float because they are buoyant. What makes coconuts able to not sink in water and sink? Also, how well an item floats depends on what kind of liquid it is surrounded by. A person can float easier in salt water than in fresh water. The nature of the salt water helps to hold us up.

Find different items around the house and see how well they float. Some could be items designed to float (e.g. a toy boat) and others could be similar to coconuts with big air pockets in the middle (e.g. a plastic ball). Alternatively, you could experiment with aluminum foil. Have your student make different shapes (e.g. a ball of foil, a flat bottom boat shape, etc.) and see which floats the best. Run the experiment using both tap water and homemade salt water. An older student can include different salt water solutions, noting how many teaspoons per cup of water are added. Ocean water has approximately 1 tablespoon of salt in 1 quart (liter) of water. Track your results in a chart similar to this:

Item Fresh Water (float or sink) Salt Water (float or sink)

→ Complete Float or Sink? Chart, if desired.

Zoology

A few more animals are noted in this chapter.

Sea horses are small fish with bony plates covering its body and a head that looks like a horse's head.

Clams are defined as any of numerous edible marine mollusks that have two hinged shells and live in sand or mud.

→ Complete Animal Research Pages, if desired.

Chapter 5

Language Arts

Vocabulary

Leathery: resembling leather in appearance or quality: tough

Limpets: a marine mollusk that has a low cone-shaped shell, moves over rocks or timbers feeding on food found there, and clings very tightly when disturbed

Science

Migration and Reproductive Cycles

Chica joins Nim on the island in this chapter. Turtles are one of several species that migrate to a specific spot for reproductive purposes. Chica's mother must have laid her eggs on this island and now Chica repeats the process. However, Nim mentions that Chica is a bit unique in this respect. See if your student remembers how she is unique (staying on the island for a while after burying her eggs.)

If your student is interested in learning more about these fascinating creatures, check out Homeschool Share's Sea Turtle Study & Lapbook.

→ Complete Animal Research Page, if desired.

Applied Math

Measurement

In the United States, we measure distances using inches, feet and miles. One foot has 12 inches and one mile has 5,280 feet. Other parts of the world use the metric system (centimeters, meters, and kilometers.) Helping your student as needed, practice converting measurements between systems. Use measurements such as their height, the length of their foot, the distance between your house and an often-visited site (e.g. the library or a relative's house).

Science

Research / Learning

There are many ways to learn. When preparing to write her novels, Alex researches rather than experiencing. Research can take the form of locating and reading information on a particular topic. How is research on a topic helpful in learning? How would experiencing something help you to learn? Is one better than the other? Give some examples on how you learn through these two methods.

Health- Sleep

After being up all night watching Chica lay her eggs, Nim is very tired. Our bodies need rest (in the form of sleep) every day to function properly. Most children ages 7-12 years old need approximately 10-11 hours of sleep in a 24-hour period. Make a simple tracking chart and have your student track how much sleep they got each night for a week. Leave a space to note how they felt throughout the following day. See if they can find any correlation between the hours slept and how they felt (alert, drowsy, dragging, happy, irritable, etc.).

→ Complete Sleep Chart, if desired.

Chapter 6

Language Arts

Vocabulary

Rippled - to become or cause to become covered with small waves

Spyglass - a small telescope

Similes

A simile is a comparison between two things, using the word *like* or *as* to make the comparison. Alex writes that she will be at home “snug as a snail in its shell.” Ask your student what visual image they get when reading that line. What other simile does Alex use in that particular email?

→ Complete Simile Page, if desired.

Physical Education

Creative Games

While going about her day, Nim plays a game of soccer using a coconut! Can you think of other games you could play using objects readily at your disposal? What about new games you can play using something meant for another game? Think of some games and test them out!

→ Complete My Game Page, if desired.

Social Studies/Science

Fishing

Nim goes fishing for some food. How does she go about it? What does she do when the fish is caught? How does she cook them?

Chapter 7

Language Arts

Vocabulary

Jagged: having a sharp uneven edge or surface

Scarlet: a bright red

Modes of Communication

Beyond verbal means of communication, we have written means to share

information with others. Since Jack lost use of his satellite equipment, he can no longer call Nim on a cell phone. Instead, he begins to use Galileo as a carrier of written messages. Birds (e.g. pigeons) have been used throughout history to carry written messages in this manner. If interested, help your student research more about this way of sending messages.

Science

Volcanoes

A Volcano is defined as a vent in the earth's crust from which melted or hot rock (called *lava*) and steam come out. The name is rooted in world history: The ancient Greeks and Romans had many gods and goddesses. Each of these deities was in charge of a special kind of work or an aspect of nature. Many of the happenings in nature were explained in myth as the actions of one or more of these gods or goddesses. The Roman god of fire was known as *Vulcanus* in Latin (*Vulcan* in English). He was thought to live inside Mount Etna, a volcano on the island of Sicily. Vulcan was a giant who worked as a blacksmith, forging the thunderbolts for Jupiter, king of the gods. The smoke and occasional fiery rocks and lava that came from Mount Etna were thought to be from Vulcan's forge. That is how his name came to be applied to a mountain that sometimes spews forth fire and smoke.

Health- Hormones

Nim finds herself running fast from lava. Her body is in “fight or flight mode” with lots of adrenaline pumping. Adrenaline is a hormone secreted when we are in life threatening situations and action is needed to survive. Its effect is to stimulate the heart-rate and open up (dilate) the blood vessels and air passages. People often find they are capable of lifting great weights or running faster than normal as their physical performance is enhanced for short bursts of time.

Physical Education

Running and Speed

How fast can you run? Time your student as they run a set distance (e.g. from you to a nearby tree.) Then, if able, have a partner chase them and time the same distance. Did they run any faster while being chased compared to just running between two points?

Chapter 8

Language Arts

Vocabulary

SOS: a distress call / save our ship

Disguised: to change the dress or looks of so as to conceal identity

Bleak: dreary, cheerless

Reproachfully: an expression of disapproval

Snooping: looking or searching especially in a sneaking or meddlesome manner

Bellowed: to make a deep loud roar like that of a bull

Vent: to serve as an outlet for

Putrid: rotten, foul smelling

Geysir: a spring that now and then shoots out hot water and steam

Smug: highly satisfied with oneself

Discussion Questions

Both Jack and Nim have opportunity to seek help from a passing ship. Before sending up their SOS, they notice the ship is from Troppo Tourists. Why didn't they seek the help they needed? Also, in what ways were they going to send up their SOS signal?

Advertising

At this point, we have heard a bit more about the Troppo Tourist Company and should have an idea of what kinds of adventures they sell. Have your student design an ad for Troppo Tourist that would attract tourists. This could be for print (with illustrations) and/or for radio (30-60 seconds).

Art

Faux Items

Nim watches as Galileo dives at the fish caps worn by the tourists. Would any old fish cap catch his attention? The term, faux, is used when something is made to look like another object. The illusion of scenery, brick, marble or other finishes can be accomplished through faux painting. The caps worn by the tourists must have done a very good job of looking like a fish to get Galileo's attention. If your student is artistic, have them try to fool your eye with their own creation.

Chapter 9

Language Arts

Vocabulary

Infection: the state produced by something infectious (as a germ or parasite) living in or on a suitable host

Hobbled: to walk with difficulty, limp

Coax: to influence by gentle urging, special attention, or flattering

Whorls: something that whirls or winds around a center

Implied Thoughts

The author wrote, "But Alexandra Rover was a dreamer, not a doer." What is she implying with this statement? Which would you be and why?

Science

Experimentation

How does Nim use the fishing net for her experiment with the coconuts? What role did Selkie play in testing?

Pearls

Nim finds a pearl in a coconut. Pearls in nature are most often found in oysters (a type of mollusk). The pearl is formed through a natural process where the oyster is trying to protect itself from foreign substances. When something enters the area between the shell and mantle (the organ which produces the shell using minerals from food), the oyster secretes a substance called nacre to cover it. Over time these layers of nacre form the pearl. Pearl farmers try to give nature a hand by placing irritants into the mantle tissue. Pearls formed by the harvesters are considered cultured pearls.

Chapter 10

Language Arts

Adjectives and Imagery

Imagery is important in storytelling. Using good, descriptive adjectives helps. Adjectives are words used to modify a noun. In this chapter, the author uses “shimmering waterfall” and “grumbling volcano.” Think of places near your house or objects you have at home. Come up with different descriptive adjectives for several of these places or items.

→ Complete Descriptive Phrases Page, if desired.

Science and Health

First Aid

In her email to Nim, Alex gave suggestions for healing Nim’s knee. Specifically, she told Nim to soak her knee in the ocean, pour coconut juice on it, rest in the shade and drink lots of water. How are those actions helpful in treating the infection?

First aid refers to the actions taken to help an injured person before further help is available. Some injuries do not require advanced medical care, while others do. Discuss with your student basic first aid skills for these common injuries. Stress the fact that anyone providing first aid should be calm and keep safety in mind at all times. Safety includes avoiding situations when the person helping could become injured as well as minimizing disease spread through the use of gloves and other protective equipment. Here are some common first aid situations your student may encounter:

Small cuts: wash the area with clean water and soap; cover with a sterile bandage.

Bleeding: using a clean gauze pad, apply pressure to the cut and elevate if possible. A roller bandage can be used to wrap around the area and supply slight constant pressure to the wound. Keep applying pressure and additional bandages as needed.

Burns: Burns can be caused by several sources. All burns need the source removed before further action is taken. If the burn is not caused by electricity, you can cool the area using running tap water. If the burns occur to the head, neck, feet, hands, or genital area, medical attention needs to be sought. Further medical attention is also needed when the burn area comprises more than 10% of the injured person's body. The person's palm can be used to approximate 1% of their skin surface area. Do not put anything besides water on the burn. Substances such as butter can lead to infection.

→ Complete First Aid Page, if desired.

Chapter 11

Social Studies

Emotions- Fears

Alex's fears come to light at this point in the story. She specifically mentions her fear of airplanes and oceans. These fears have been keeping her from experiencing the world first hand rather than just reading about different places. Everyone experiences fear at some point in his or her life. Discuss with your student different types of fear and how some are good to have and can keep us safe and that others can be overcome with help. Further discussion can focus on the student's own experience and draw upon how their fears can change over time.

Issues of Human Relationship- Misconceptions About Other People

Nim became disappointed that Alex was not the brave hero or the man she envisioned. She also learns that Alex had some misconceptions as well. What misconceptions did Alex have about Nim? Have you ever found yourself thinking one thing about a person to later find out you had been wrong?

Emotions- Catharsis

Catharsis refers to an emotional release, often through drama or art. When Nim realized Alex was a woman and not a brave hero, lots of emotions began to flood over her. Nim wrote a letter to Alex that she later burns rather than sending. Nim feels a sense of relief from her emotions just by writing them out. This action is known as a cathartic experience.

Packing for a Trip

When Alex realized Nim is alone, she decides to travel to her and help. What items did she pack for her trip? When you go on a trip you need to consider the climate and environment (e.g. where you will stay and what you will be doing) when packing. Think about a trip you have made or one you would like to make. What would you bring?

Chapter 12

Language Arts

Vocabulary

Daredevil: a recklessly bold person

Parachute: a folding umbrella-shaped device of light fabric used especially for making a safe jump from an aircraft

Influencing Others Through Writing

Parables are stories used to convey a moral or spiritual message to the listener or reader. There are many parables in the New Testament when Jesus is trying to teach his followers. In this story, Alex tells her own story to influence how the Troppo Tourists will act. The captain becomes worried about how she could affect their business. His worries about this are greater than the desire for a new destination spot. Could anyone else have told the same story and had this effect on him? Have your student compose or narrate their own parable drawing from their life experiences.

Science

Airplanes

There are many different types of planes in a variety of sizes. Alex begins her journey to Nim's Island on a big jet plane and then goes on a smaller plane. Besides the number of travelers going to a location, the length of the airstrip determines which plane can fly into a specific location. If you are interested, research different commercial planes to see when and where they are used. Also, what do the different instrument panels tell the pilot?

Social Studies

Famous People

Upon boarding the plane, Alex is recognized by the crew and even invited into the cockpit. She is considered famous, or well known, for her work as a novelist. Did she enjoy this recognition? How are the lives of famous people different from yours? Would you want to trade places with them? Write about a day in the life of a famous person you admire.

Chapter 13

Vocabulary

fronds - a large leaf especially of a fern or palm tree that often has many divisions
Gale - a strong current of air

Science & Health

Preparing for Emergencies

Nim noticed the birds reacting to the changing weather. Also, she receives a note from her dad telling her to go to the emergency cave. Before this happened, she was given a plan for emergencies. Since she could not bring everything into the cave, what items needed to be moved. In our world, there are different situations when we might have to seek emergency shelter. When would you need to seek shelter? Does your family have a plan for these situations? The American Red Cross has many resources available on their website to help you plan for disasters. Take some time to read about preparing for disasters [on their website](#) and talk with your family about them. Come up with disaster plans for those disasters that could happen to you in your area (e.g. fire, flood, hurricane, tornado.)

→ Complete Family Disaster Plan, if desired.

Chapter 14

Science

Rescue Mission

when Nim realizes that Alex is trapped on the sailboat in the storm, she decides to go rescue her. Nim does not go alone to find Alex. Going with her are two excellent swimmers, Selkie and Chica. Organizations, such as the US Coast Guard, employ individuals to be rescue swimmers. They are strong swimmers who undergo rigorous training to safely rescue people trapped in the water. Lifeguards are also considered a type of rescue swimmer. They also undergo training and employ tools to help them to safely rescue individuals.

Chapter 15

Science & Social Studies

Storm Aftermath

Every violent storm leaves behind debris. On Nim's Island, they found many ways the storm created debris, e.g. destroying the hut and garden. Throughout the year, we see pictures of destruction from different disasters and accidents around the world. Talk about the different kinds of damage you might see for the different major natural disasters (earthquake, cyclone/hurricane, floods from heavy rains, tornados, tsunami/tidal wave.)

Earthquakes cause ground shaking and rupture and can lead to landslides, avalanches, fires (by breaking gas lines), soil liquefaction, and tsunamis. Entire buildings may be reduced to rubble.

A cyclone can flatten buildings through its storm surge (huge walls of water crushing onto the shore) and high winds. Flooding may be seen in areas long after the storm has passed. These storms can also produce tornados.

Tornados often leave a visible line of debris indicating the path traveled. After the tornado is gone, you might find one house destroyed while the neighboring house is intact. The amount of destruction can help indicate the strength of the tornado. A weaker one will damage trees, but not substantial structures.

Tsunamis are a series of waves created when a body of water is rapidly displaced. These violent waves have little advanced warning, although the first signal is a dramatic receding of the shoreline which may include a sucking sound. Like the

storm surge of a cyclone, the water comes crashing down violently on everything in its path.

Family Structure

Nim has been in a single parent family for just about her whole life. At this point, Alex becomes a surrogate (or substitute) mother for Nim. Discuss what roles a mother and father can play in a child's life. Have your student write about these different roles or illustrate them.

Chapter 16

Language Arts

Story Structure

In this last chapter, everything seems to be wrapped up. The proceeding chapters feature both climatic events and the path to resolution. For the older student, chart out the basic story structure (using a pyramid structure) noting the beginning, rise, climax, fall and resolution of the story.

The beginning (or exposition) of the story sets the stage before any action occurs. This could include information on the location as well as main characters for the story. The rising action encompasses all the action up to the climax of the story. The climax is the turning point in the story where a crucial event occurs. The falling action refers to everything occurring after the climax. Finally, the resolution is where the story is wrapped up with the stories threads tied up.

→ Complete Story Structure (Plot Diagram), if desired. Add specific details from Nim's Island for each part of the plot.

Compare and Contrast

If interested, you can watch the movie with your student and do a movie review. Make sure the student includes which they enjoyed more (book or movie) and how the two differ.

Social Studies

Consequences & Punishment

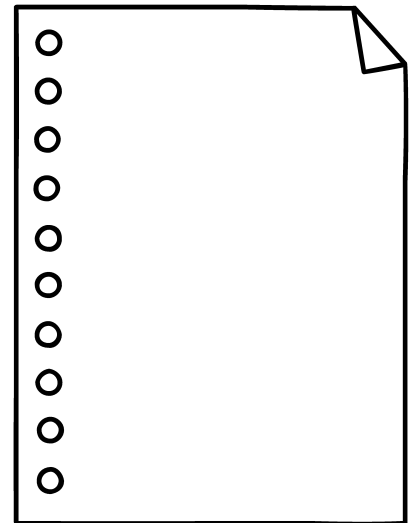
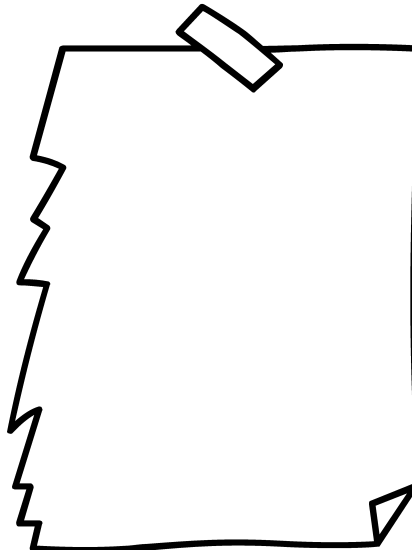
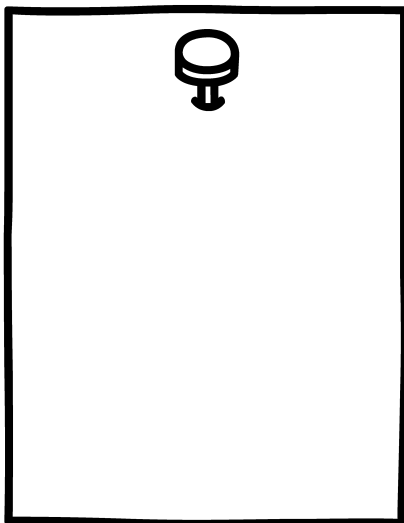
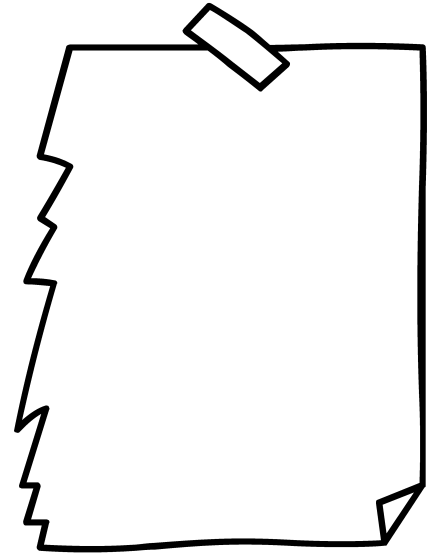
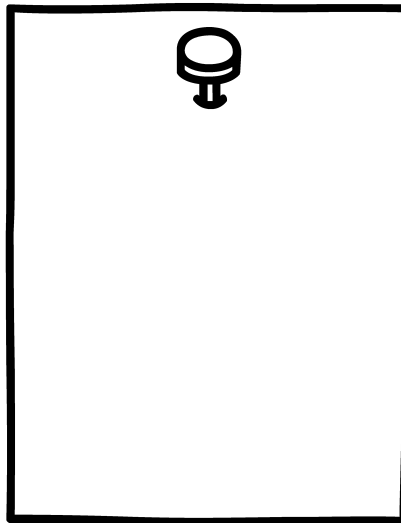
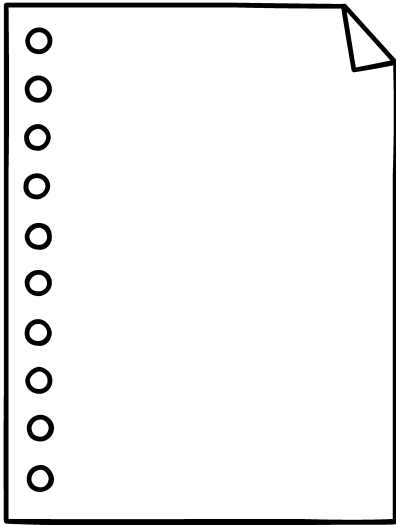
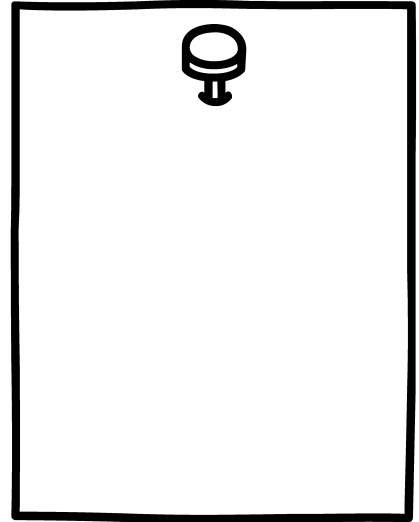
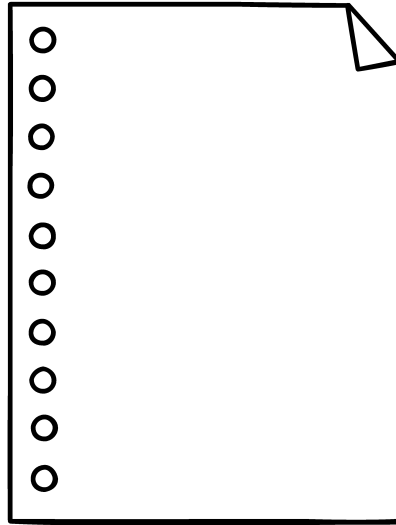
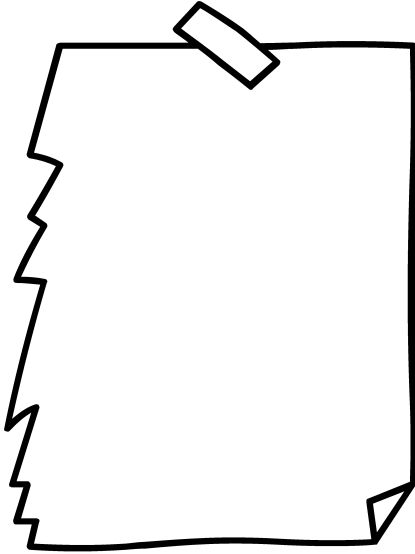
Every action we have or choice we make affects what happens next. Alex was mad that Jack had left Nim alone on the island while he did his research. However, she quickly sees that Jack is already punishing himself for his choices. Ask your student to recall times they made poor choices and what consequences resulted from them. Does a parent always determine these consequences? Are there times when they might inflict more punishment (through how they feel) than any consequences an adult could dole out?

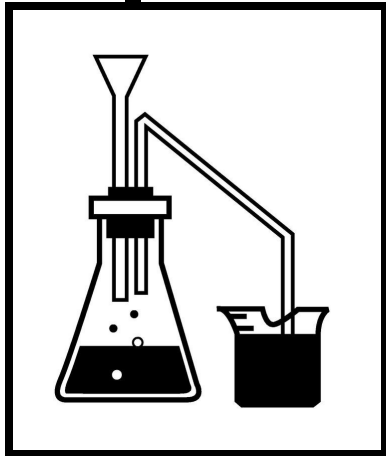
Staying on the Island

Much to Nim's surprise, Alex and Jack do not plan to leave the island. Instead, Alex requests that her publisher send supplies. If you were going to stay on an island, what supplies would you need to survive?

NIM'S ISLAND NEW WORDS

Add new words and definitions to the papers below.





THE SCIENTIFIC METHOD

Ask
Question

Complete
Background
Research

Construct
Hypothesis

Test with
Experiment

Analyze Results
Draw Conclusions

Hypothesis
Is
True

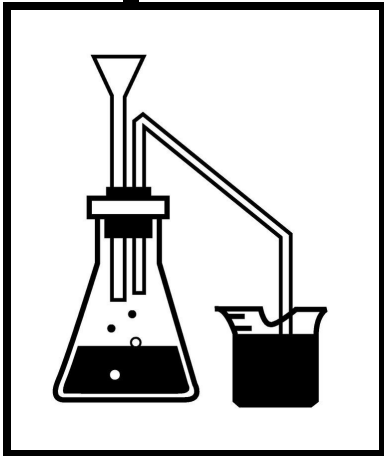
Hypothesis Is
False or
Partially True

Record
Results



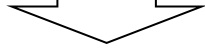
Regroup and
Try Again!



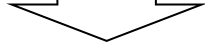


THE
SCIENTIFIC
METHOD

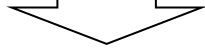
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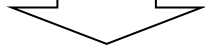
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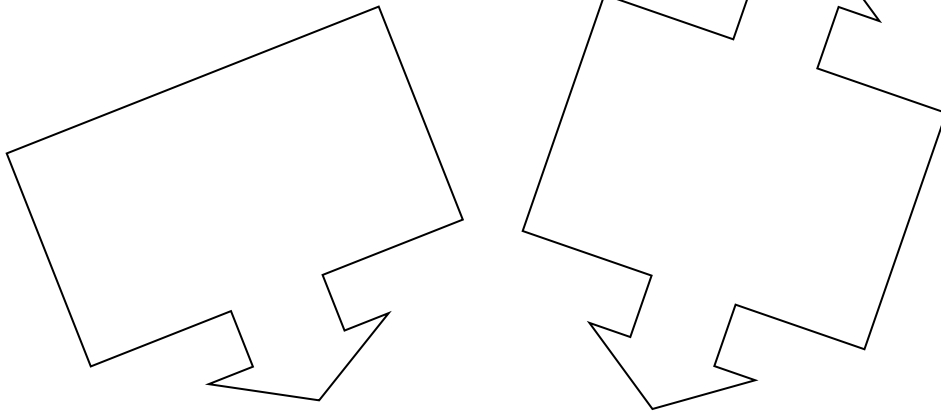
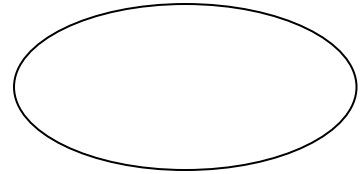
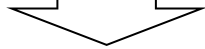
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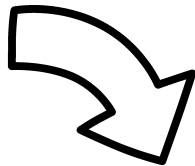
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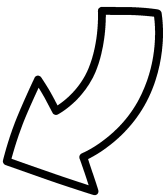
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HURRICANE FORMATION

1.



2.

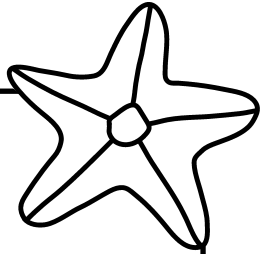


3.



OCEAN LAYERS

1.

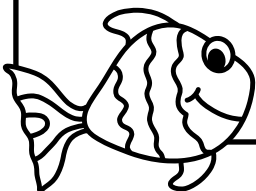


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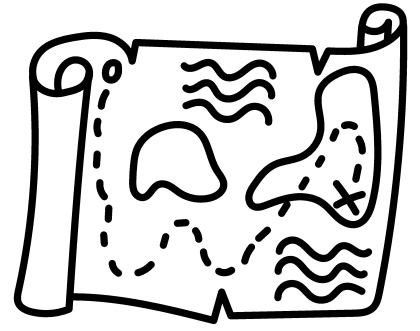
3.

4.

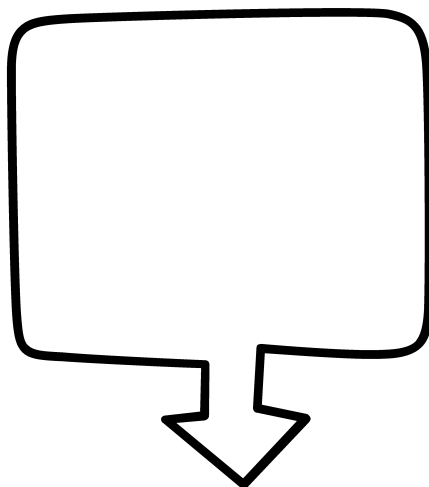
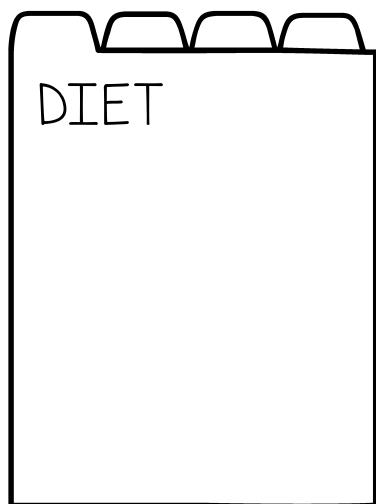
5.



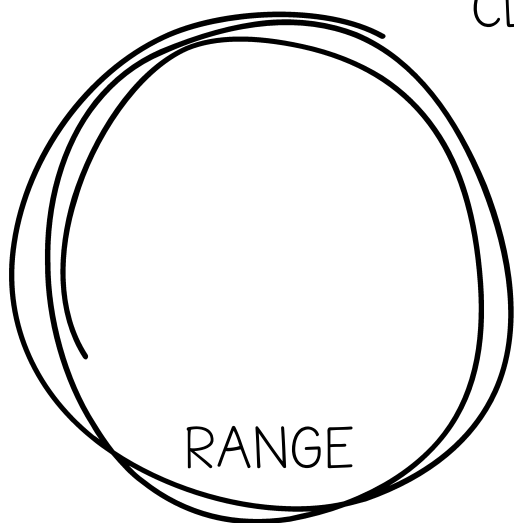
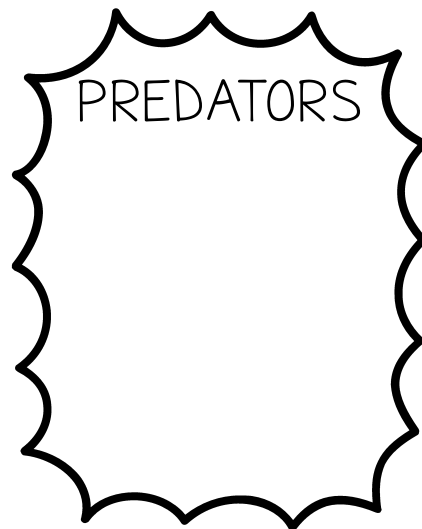
MY MAP



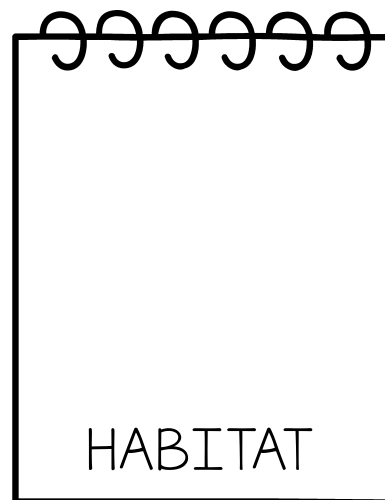
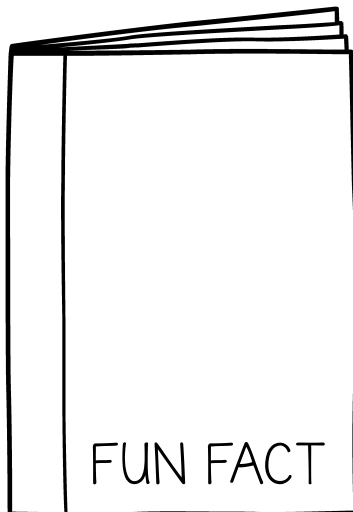
ANIMAL RESEARCH



CLASSIFICATION



ANATOMY



PERSONIFICATION

DEFINITION



EXAMPLES from *Nim's Island*



WHAT IS A SIMILE?



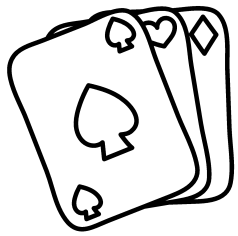
DEFINITION

EXAMPLES from *Nim's Island*



My Original Simile

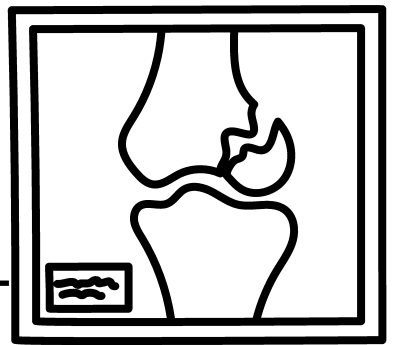




MY GAME

○	×	○
	×	
×	○	

FIRST AID



1. Small Cuts

2. Bleeding

3. Burns

FAMILY DISASTER PLAN

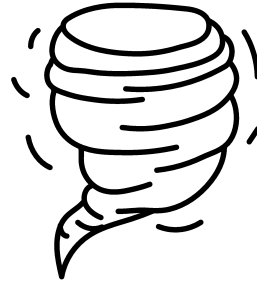
Type of Disaster (circle one)



Fire



Flood



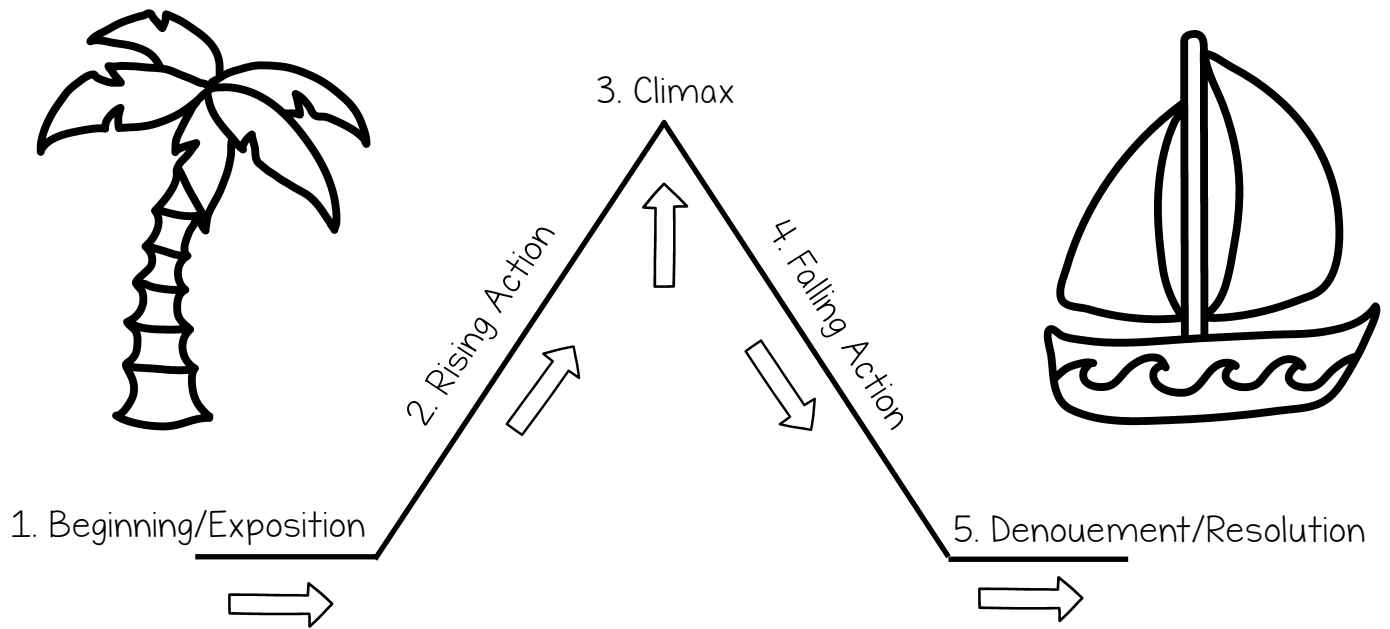
Tornado



Hurricane

Our Plan

STORY STRUCTURE



1.

2.

3.

4.

5.

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