

Fish Lapbook Research and Lessons

created by Heidemarie Swanepoel and Michelle Light

Science: Fish and Mammals

What is a fish?

A fish is a cold blooded animal that lives completely in water. A fish normally has scales covering its body. It has fins and a tail for mobility in the water. A fish breathes by taking water through the mouth which is then forced through the gill slits where oxygen is taken into the bloodstream.

Most fish have an air bladder which is used to keep the fish at the right depth in the water. Fish have bones that are made of cartilage--not hard bones like mammals. Fish usually lay eggs (although a few do give birth to live young). The small fish feed themselves on food similar to the adult diet.

Examples: shark, flounder, tuna

What is a mammal?

A sea mammal is a warm blooded animal. It comes to the surface to breathe. Air is taken into the lungs, and the blood collects oxygen from there. All mammals have some hair or fur at some point in their lives.

A sea mammal has flippers instead of fins. They have no scales. A mammal like a dolphin has a bone structure similar to all other land mammals. Even the flippers have bones that resemble finger bones in humans.

Mammals give birth to live young, which are fed on milk for the first few months of their lives.

Example: dolphin, whale, manatee, seal, walrus

What do fish and mammals have in common?

The most obvious similarity that fish and sea mammals have is that they live in water. They can both swim by use of what looks like fins, but in a mammal this is actually a flipper.

 \rightarrow Complete the mammals and fish shutterfold book.

Science: Parts of a Fish

Depending on your student's ability and interest, you may want to show your student this diagram of fish parts. What does a fish have that a human has? (brain, eyes, spine, kidney, etc.). What parts are unique to a fish?

Use the diagram in the printables section to label some fish parts.



Science: The Life Cycle of Fish

Female fish normally lay their eggs in a secluded, safe area, and then the male fertilizes them. (In some fish the eggs stay in the female, hatch in her belly, and seem to be born live.)

The embryo grows inside the egg, and in a few weeks, the fingerling or hatchling emerges from the jellylike egg. The hatchling remains in the safety of denser

seaweed and in between rocks and coral, while it feeds on a diet similar to that of the adult fish. Usually these hatchlings have to fend for themselves. As the fish grows, it ventures deeper into the ocean, and will soon be an adult fish. The adult fish will return to the breeding grounds to lay their eggs to complete the life cycle.

Some fish, like <u>Salmon</u> are very interesting in that they will venture from the rivers they were hatched in, out into the ocean, and many years later, they return to the exact river they hatched in to lay their eggs.



Here is a diagram of the basic life cycle of many fish:

 \rightarrow Complete the Fish Life Cycle printable for your lapbook.

Science: The Food Chain

The basis of the food chain in the ocean is microscopic floating sea plants, called *phytoplankton* (which means drifting plants). The phytoplankton absorb the suns energy, minerals in the water in which they live, and carbon dioxide, exactly like land plants do. This process is called *photosynthesis*. Just like all animals (and humans) need plants directly or indirectly, sea creatures also all depend on

plankton.

Due to air turbulence and wave action, the upper layers of the ocean are cooler and richer in minerals, and this is where plankton grows.

Zooplankton (microscopic floating animals) feed on phytoplankton. Larvae of shore and bottom-dwelling creatures like crabs and worms also feed on phytoplankton.

Zooplankton is in turn eaten by squid, jellyfish, and small fish like herrings, anchovies, and sardines. The basking whale shark and some of the whales including the largest whale, the Blue Whale, eat only plankton.

Tuna and other medium sized fish eat these smaller fish and creatures.

Sharks and Marlins and other large fish eat these medium sized fish in turn.

Of all the sea creatures, these large sharks are at the top of the food chain. Man is also at the top of the food chain (as we enter their territory to fish with our modern fishing equipment).

→ Complete the Food Chain Activity

Science: Oceans Under Threat

There are many factors that influence the resources of our oceans, lakes, and rivers. God told us to have dominion over nature, and we need to take care of what God has given us. We can see the impact of greed, and carelessness on these resources. Many fisheries have had to shut down in part or totally, because there are not enough fish left in the ocean.

We must balance our God-given dominion with stewardship. We are in charge, but we must use our natural resources wisely and take care of them.

There is a balance in nature: a balance between sunlight, plankton, nutrients, clean water and air. If this balance is disturbed in one area, it is going to affect all areas. Anything you throw down the drain in your kitchen will land up in the water cycle, and ultimately in the ocean.

Pollution in the Ocean How long does it take our trash to bio-degrade? How long does pollution stay in the ocean? Nylon cloth: 30-40 years Plastic bags: 2-12 years Plastic foam containers: never Plastic container: 50-80 years Leather shoe: 5-40 years Poison: never

We need to be aware about how we dispose of our trash and what kinds of materials we use. We should make sure that our bait containers and old fishing line are disposed of properly.

Even noise pollution is making an impact on sea life. Sound travels far under water, and sea creatures depend on sound for communication and food location - for instance dolphins using echolocation. If noise interferers, they have difficulty communicating and finding food.

Social Studies: The History of Fishing

Fishing has been the major source of protein for many communities for centuries, and amazingly the basic methods of fishing have changed very little over this time. As man has ventured deeper into the oceans, his methods have become refined, but have not changed very much.

The native peoples of the Americas were adept at catching fish with their bare hands, but also by using their bows and arrows and spears made of wood. Fish and dried fish was a staple part of their diet.

In Egypt the Nile River was a fishing hotspot. Fish and dried fish were part of the staple diet. The Egyptians invented various implements to make fishing easier and more effective. They made simple boats of reeds; woven nets; weir baskets made from willow branches; hooks and lines; and harpoons. Hooks were fashioned from bones, and there are indications that some thorns were also used.

By the 12th century hooks were made of metal with barbs on. Fish were clubbed to death after capture. There are indications that fishing was not only done for food, but also as a pastime.

In Greek culture fishing was left to the lower classes. It was a peasant's way of earning money, and putting food on the table.

The Romans enjoyed fishing with nets, rods and lines and there is evidence of them having used traps and nets. The trident was also very popular for fishing. The gladiators were given tridents and nets to catch their prey, as was popular in the fishing sport of that day.

The Bible mentions fishing approximately 4,000 years ago. Job was a contemporary of Abraham. In Job 41:7 Barbed irons and fishing spears are mentioned. Fishing was a staple food for all the villages around the Sea of Galilee, and along the Mediterranean Coast.

The Greek author Oppian of Corycus wrote a treatise on sea fishing approximately 1,800 years ago. It is the oldest such work left to us intact on fishing. He describes the fishing methods used in the days that Jesus walked on earth. The fishing nets were cast from boats, and dragged behind the boats. He also mentions scoop nets that were held open with large hoops, spear fishing and trident fishing. Boats at this time were however small and had no sails; they were used close to shore, especially on the ocean.

Not much is written about fishing in the medieval times. For thousands of years the methods employed did not alter. As the sizes of the boats grew, the nets could grow, and the sizes of the catches could grow. Fishermen also ventured deeper into the oceans. Because they needed the fish to remain fresh, however, they had to still remain fairly close to shore, to bring the day's catch in on the same day.

Later, gillnets were suspended between two boats with stones attached along the bottom edge to make the bottom sink and not float away. Wood was attached to the top end to keep it floating and to keep the net open. This structure was dragged until there were enough fish, and then it was hauled in. By 1864 this method had extended to Europe, Japan, and other fisheries. These boats were normally powered by oars and some had small sails.

By the early 1900s these small boats were taken out into deeper oceans by steam powered boats. The fishermen did their catching, and were collected again at days' end by the steam boats. In this way they could venture out much further than by

themselves. By the 1930s the sailboat had virtually disappeared, only being still used by the local fisherman in fishing communities. The larger fisheries had started using gas powered boats. In 1931 the powered drum was invented, which reeled in the nets, taking much of the manual labor from the fishermen, and made reeling in the nets much less time consuming. They could now access fishing ground which had previously been too far away.

By 1940, the war effort brought new technology like better sonar devices which were employed to find large schools of fish. The technology used on ships also made them faster.

Until the 1960s natural fibers were used in making nets and lines. But modern technology gave the fishermen nylon. These synthetic fibers where stronger, and did not need as much repairing as the older type nets. They lasted longer too, as the nylon is not degraded by the ocean. The synthetic fibers were also cheaper to produce. And because the synthetic fibers become almost invisible under water, they produced larger catches.

In 1993 gillnets were banned by the United Nations in all international territories. Much damage was caused by these nets to the ecosystem in the oceans. There was unnecessary loss of marine life and damage to the environment. Gillnets are still used in many countries' national waters, where they continue to cause a lot of damage.

For the last century fishing has split into three main groups:

1. The large commercial fisheries who are now able to process and freeze the fish they catch on board--allowing them to go out for months at a time until they have filled their ships. It is these large ships that are causing most of the damage to the fragile ocean ecosystem.

2. The local fishing communities who depend on fishing for their livelihood. They go out in smaller boats--even rowing boats are still used in many poor communities worldwide. Some local fishermen also catch from the shore. In Sri Lanka some fishermen go out on stilts, standing quietly in the sea, and catch with rods, lines and hooks.

3. Sport fishermen are another group. They often release their catches (or most of them) because they are seeking the thrill of mastering the fish. Many different methods are employed by these sportsmen, but they usually include rods and lines.

Social Studies: Fishing Nets

How were nets made and used in the past?

Making a net was a very time consuming effort. The fishermen probably spent more time making and repairing nets than catching fish. Rope and string had to be spun using grass, wool, and flax. These had to be knotted into various complicated patterns to make the nets. Two lengths of rope were hung between two posts or trees, and the rope was then knotted up and down these to make the net. Wood was knotted into the top of the net, and stones to the bottom, to ensure that the net stayed open while dragging, and that the net would not float away. They would walk into the water, and herd the fish towards shore with the net, or they would drag the net behind a boat or between two boats and pull the net together and out of the water. After each catch, the fish had to be sorted and sold. The nets had to be repaired in order to be ready for the next day's catch.

Make a net using the instructions provided in the printables section of this unit study.

Attach the net to your lapbook. Print out the different fish cards. Cut out the cards and place in the net. Use these cards for sorting, counting, or learning about fish. Sort by freshwater/saltwater or by carnivore/herbivore or color or size.

Social Studies: Methods of Fishing

1. Dredging

A heavy frame with a net made of metal rings is dragged along the seabed. This catches shellfish like oysters, clams, and scallops which normally live on the seabed, or burrow into the sand.

Disadvantages: This method not only changes the seabed, but also damages the environment for the bottom dwelling creatures. It removes some plants and fish completely. Many creatures are caught in the net and are discarded to die because they are not useful to man.

2. Trawling / Dragging

Cone shaped nets are dragged at differing depths, from below the surface, to mid water, to seabed. Different fish are targeted at different levels. Bottom dwellers like flounder, cod and shrimp and mid dwellers like sardines are popular.

Disadvantages: The seabed is damaged. Many fish are destroyed that were not targeted.

3. Gillnets

Nets are placed at various depths in the water. The fish get caught in them and when they try to back out, they get stuck by the gills. Many sea mammals and sea turtles and undesirable fish are caught and killed in gillnets each year, when they become entangled in the nets and drown.

Disadvantages: Many other marine creatures are caught in the gillnets, and killed. The seabed is damaged when the nets are hauled in.

4. Purse Seining

In this method of fishing a long netting wall is used to enclose a school of fish. The net is pulled up from the seabed, herding the fish to the middle of the net while it is being pulled up, much like an old fashioned purse is closed by pulling together the strings. The net is pulled up on deck, or next to the ship for offloading. This method is especially popular for catching large schools of tuna or sardines. Disadvantages: Because large schools of fish are often followed by sharks and dolphins, these are also often caught in the nets.

5. Traps and Pots

A wire or wooden cage is placed on the seabed either alone or in a row with others. Sometimes the cage contains bait. The fish are trapped in the cages; they can swim in, but cannot get out again. They remain alive until the trap is lifted out of the sea. A buoy is attached to the cage by rope at the water surface to find the trap more readily to haul up the catch.

Fish that are not targeted can easily be released with no harm done to the fish, as the trap does not kill them or deprive them of oxygen for any lengths of time. Disadvantages: Dragging these cages on the seabed may cause substantial damage to the ecosystem. Sea mammals also often get caught up in the line attached to the buoy, and can drown.

6. Trolling

A boat tows numerous fishing lines behind it at different depths and with various lures and baits. This method catches fish that prey on moving fish, hence they target the moving baits and lures. This is an environmentally friendly way of catching fish.

Disadvantages: Usually only the targeted type of fish will take the bait. If another fish does take the bait, it can be released easily and quickly with minimal harm done to the fish.

7. Long Lining

A fishing line measuring anything from one mile to 50 miles is strung at regular intervals with smaller lines with hooks and bait. The central line is towed out to sea, and left for a time, and then is hauled in again.

Disadvantages: These lines attract all marine life. If not for the bait, then the fish already struggling on the hook is an easy meal, and so other fish become caught or entangled in the lines. Because the lines are left out for such a long time, few fish survive a release if they are not wanted. Many seabirds also try to take the bait while it is being put out to sea, and become entangled in the lines.

8. Hook and Line

This method is employed by sportsmen and also by small scale subsistence fishermen. Hand held lies or hand held rods with lines are rigged with hooks and bait. Sometimes a few hooks will be rigged onto a single line. These are used from shore along the beach, along rovers, and on lake shores, as well as from boats on rivers, lakes, and the ocean. Different methods are employed according to the fish being targeted and the fisherman's personal preferences. Fly fishing is becoming more popular as flies are becoming more readily available. Fish are reeled in as they strike the hook.

Disadvantages: Not as many fish can be caught on a single line as in a net, but it is environmentally friendly. Unwanted fish can be released in the water as soon as it is reeled in.

9. Harpooning

A long wooden or aluminum or wooden harpoon is attached by rope to the boat and then thrust into the targeted fish once it is in visual range. The harpoon is thrust by hand or by a harpoon gun. If it successfully strikes the intended fish, it is hauled in. This method generally is used to catch the larger fish like sharks and for whales.

Disadvantages: None, as the fish is visually targeted before being caught. No other fish are harmed to catch the one.

→ Complete the Fishing Methods Matchbooks (complete as many as you like; you can pick and choose if your younger student doesn't want to complete all nine)

Social Studies: Fish Related Occupations

Professional Fisherman-

Competitive fishing in tournaments such as Bass Masters Classic. This is a hard but rewarding lifestyle. These men and women travel to lakes all over the world to compete in fishing tournaments; they do not get to spend a lot of time at home. If you have a child that loves to fish, perhaps this is a possible career path. Older students interested might want to learn more about the career path (and pros and cons of this type of career choice).

Fishing Guides

Fishing Guides are hired to take people on fishing charters to good fishing spots. These guides must have a lot of knowledge of the local area and when the fish are active. Fishing guides need to have good people skills, and they also need to own and care for all the equipment needed for fishing adventures.

Fish and Game Warden (parks and wildlife)

There are many careers in parks and wildlife and some of these pertain to fish. Check out the fish and wildlife areas in your state and find out what jobs the fish and game wardens are responsible for. Some investigate poachers and wildlife crime; some teach local people about fishing and conservation; some ensure public safety; and some compile biological data. Your state may have a local fish hatchery for your state parks. If you have the opportunity, go and visit it.

Marine Biology, Zoologists

Some scientists work at a zoo or aquarium and they care for the aquatic animals.

<u>Fishermen</u>

People who fish and sell the fish to companies and restaurants for profit.

<u>Taxidermist</u>

Taxidermy is a general term describing the many methods of reproducing a life-like three-dimensional representation of an animal for permanent display. In some cases, the actual skin (including the fur, feathers or scales) of the specimen is preserved and mounted over an artificial armature. In other cases, the specimen is reproduced completely with man-made materials.

 \rightarrow Complete the Fishing Occupations Tab Book

<u>Bible</u>

Fishing was an important part of the economy in the time that Jesus walked the earth. At least four of his disciples were fishermen, so it comes as no surprise that we read quite a bit about fishing and fish in the New Testament. Here are a few stories to read together.

Jesus calls four fishermen to become fishers of men. Read Matthew 4 : 18 - 22

Parable - If you ask for a fish, will your father give you a stone instead? Read Luke 11 : 5 - 13

Peter and Jesus pay their taxes with money from the mouth of a fish that Peter catches. Read Matthew 17: 24 - 27

The disciples catch fish all night, and get nothing, until Jesus tells them to cast their nets on the other side.

Read John 21 : 3 - 11

Jesus feeds the 5000 with 5 loaves and two fish. Read Matthew 14 : 15 - 21 and 15 : 32 - 39

A man survives being swallowed by a fish! The story of Jonah. Read the whole book of Jonah together.

Language Arts: Vocabulary

Choose some new words to learn this week and record the words in your New Words book.

Adipose Fin: a small fin between the dorsal and tail fin

Air bladder: a balloon-like organ that helps the fish to balance and keep the correct depth in water

Anal Fin: fin located on the bottom and near the back of the fish

Bait: little pieces of food you put on your hook to make fish want to bite it

Caudal fin: the caudal fin is the tail fin or tail of a fish

Dorsal Fin: the large fin on top of the fish's back

Ecosystem: the way in which plants and animals live together in harmony, and need each other to survive

Fin: the external membranous projecting part of a fish used in propelling or guiding the body

Phytoplankton: microscopic plant matter; the first level of the food chain in the ocean

Fingerling: refers to a young fish in its first or second year of life Marine: from the sea

Photosynthesis: the way in which the suns energy is converted to plant energy in the leaf of a plant

Fry: the first stage of a fish after hatching from an egg

Gills: the fleshy and highly vascular organs comparable to lungs used in underwater breathing

Pectoral Fin: the front steering fins on either side of a fish; corresponds with front legs

Pelvic Fin: the lower fin on either side of a fish; corresponds to hind legs Scales: small bony plates made of cartilage, that cover the fish in an overlapping pattern to protect the fish

Spawn: the behavior of fish where females deposit eggs (also called spawn) on various surfaces (varying with species) and the male produces necessary milt to

ultimately turn the eggs into fry Zooplankton: microscopic and tiny animals and larvae that float in the ocean

Language Arts: Idioms

English is a language rich in vocabulary and idioms. Here are a few idioms about fishing:

Swim like a fish He does it so well, it seems like he was born to do it. It comes naturally to him.

Not the only fish in the sea Don't stop looking for new opportunities.

Packed like sardines Packed in very tightly; crowded

A loan shark

Someone who lend people money, but does it to help himself, and not the other person. This person is typically ruthless in getting their money back.

A fish out of water Feel out of place or awkward because you are not like those around you. You don't fit in.

A big fish An important person in a group or organization

A cold fish A distant person, does not show his emotions, not very friendly

Drink like a fish Regularly drink a lot of alcohol

Fish for compliments Try to trick a person to compliment you by any means necessary Fish or cut bait Make a decision, and get a job done

Have bigger fish to fry Have something more important or interesting to do

To fish in troubled waters to take advantage of a tricky or dangerous situation

Fishy Something suspicious

Live in a fish bowl Everyone knows about what you are doing; there is no privacy

Red herring Small bits of information that are leaked out to pull attention away from the a bigger, more important situation

Take the bait Someone who is manipulated into doing something

Hook, line, and sinker Someone who has been completely deceived

ightarrow Choose a few of your favorite fishy idioms, and write them in the accordion book

Language Arts: Write a Story

Write a story about fishing. Have younger children dictate the story to you (and they can illustrate the story after you've recorded it). The stories can be fiction or non-fiction. Encourage your older writer to include elements of both. Here are some writing prompts:

"If I were a fish, I would ______"

"My fun day fishing"

"My fishing trip" (include where we went, what we packed, who went, what we caught, why we went, what we did when we got home, etc.)

"I love fishing" "Fishing with my dad" "Fishing with my grandpa" "The biggest fish I ever caught..."

Art: Fish Origami

See instructions in the printables section.

Health: Safety First

Safety on water and safety close to water is important. Remember, your life is worth much more than any fishing equipment or any fish.

Young children should never go fishing alone. An adult should accompany them.

The longer grass on banks of rivers is the perfect hide-away for any snakes. Always keep an eye out for snakes, scorpions, and harmful insects.

Even the sun's rays are dangerous when out in the open for a day. Put on a good sun screen, and wear a hat with a wide brim. Wear sunglasses to protect your eyes from the light of the sun reflecting off the water.

Look at the plant growth around you. Be careful of stinging nettle and poison ivy. If you do get stung by poison ivy, wash the area immediately with clean water and soap.

Stinging nettle stings can be removed with wet sand.

Never venture out in a boat without a life jacket.

Never turn your back to the sea while standing on rocks. If a sudden wave comes up, which you did not see, you will be badly hurt on the rocks.

When casting your line, always check behind you for dangers, like power lines and other people.

Handle hooks with care. They can cause a great deal of injury and pain.

Stay with your rod and line. Always return hooks and line, sinkers to your tackle

box. Keep your tackle box closed to avoid spilling the hooks into the grass. Always wear shoes when fishing. Even when wading in the water. Be sure that both feet are secure in the water, before attempting the next step, and always test the water, and your footing before putting all your weight in a new position.

Keep a good watch on the weather. Lightning loves fishing rods! If you see a storm coming up, seek shelter immediately.

Fishing is not a dangerous sport, but if precautions are not taken, you can land up in sticky situations.

ightarrow Complete the Fishing Safety Tips Book

Basic Fishing for Kids

The only effective teacher for fishing is experience. Hopefully, a friend or relative can take your student fishing. Your student will learn so much more than fishing; they learn about life, caring for nature, safety, and more. No child should miss out on going on at least one fishing trip.

Equipment needed: The most basic need is fishing line and hook, and a rod is a benefit too. My mom loves telling the stories of how they went fishing with only hooks and line. However, a good pole or fishing rod and a reel make life much easier, and bait is what you need to tempt the fish to actually bite your hook. A good tackle box should include hooks, sinkers, lures, bait, and line.

There are as many fishing methods and perfect baits as there are anglers. The most important thing to remember is to study the fish you want to catch. If you know what the fish likes to eat in the wild, you will have a better idea of what you can use to tempt the fish. You won't tempt a carnivorous fish with a piece of corn!

Learn as much as you can about different knots and fastenings.

The most important rule in fishing is: BE PATIENT. Once the hook is baited, and the line is cast, wait patiently for a strike. And when you have a strike, the fun begins. Set the hook in the fish's mouth with a good jerk and reel him in slowly. Don't be too hasty. Many a fish has been lost through reeling in too fast and the line snapping.

Bring the fish in close to shore, and haul it in with a landing net. If the fish is to be released, do not handle it too much. Keep it horizontally straight as it would be when swimming, and do not hold it by the gills. When releasing the fish after measuring and weighing, hold it in the water, and let it swim out of your hands.

If you are going to keep the fish, keep the fish in a holding net or a bucket of water (in a shady spot) until you are ready to clean the fish. Most fish are easy to clean. The main things to know here are: 1. Cut off the head right behind the gill slits. If you do this correctly, you can pull out the entrails of the fish quite easily with the head. 2. Clean off the scales by scraping the fish with the blunt edge of a knife. 3. Cut open the fish on the belly, from the head to the anal opening near the anal fin. Open up the belly, and carefully pull out all the entrails, and wash out the fish thoroughly. Fry quickly, or freeze immediately, as you don't want your hard work to be lost through rotting.

And remember, if you don't catch one today, there are other fish in the sea.

→ Complete My Tackle Book

If desired, look at this diagram of a spinning reel. Older students may want to label a reel (see printable in the lapbook section).



Plan a Family Fishing Trip

Your older student may enjoy planning a family fishing trip. This is a wonderful educational activity.

Answer these things:

Where would we go?

How long would we be gone?

What kind of fish would we want to catch?

Would we hire a guide? If so, how much do guides in that area cost?

Would we drive or fly to our destination? (figure out the cost of gas or plane tickets)

Would we stay in a hotel, or would we camp? (figure out the cost for lodging)

What would we pack?

What other fees could you expect? Dining? Food Fish License?

Cooking

Visit your favorite seafood restaurant

How many types of fish do they serve? How many different ways can a fish be prepared? Fried, boiled in soups, broiled, grilled, pan fried, deep fried, raw (sushi). Some are served cold/some hot. Some with heads some without heads.

Recipe: Michelle's Easy Salmon Patties

Combine in a bowl: Chicken of the Sea Pink Salmon (skinless and boneless), 7.1 ounce can Ritz Crackers,1 sleeve crushed. 1-2 T. mayo

- 2 T. lemon Juice
- 1 egg

Other optional seasonings salt, pepper, onion, etc. (I like Greek seasoning.) Mix above ingredients by hand or with fork. Form small-medium sized patties. I coat mine in a mixture of flour and some crushed crackers-it makes for a little bit crunchier exterior. Pan fry in oil (about 2-3 minutes per side) until golden brown.

Serve with coleslaw, baked beans, and hush puppies.

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New Words Book

Directions: Cut on the solid lines. Write in definitions. Stack pages together with cover on top and staple on the left side.



New Words Book

Directions: Cut on the solid lines. Write in definitions. Stack pages together with cover on top and staple on the left side.







Instructions: Cut out the circles in one piece along the outside lines. Paste the pictures in the order as above. Fold down circles 3 and 5, to the middle, and fold up circles 4 and 6 to the middle. Fold circle 1 to the left, and paste the "chain" circle on it. Fold circle 8 to the right, and paste the "The Food" circle on it. Paste it into your lapbook.

Food Chain



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Mammals vs. Fish Shutterfold



Directions: Cut on solid lines. Fold on dotted. Write mammal characteristics under the "mammals" flap. Write fish characteristics under the "fish" flap. Write similar characteristics of both animals in the middle area.

Fishing through History Tab Book

Fish	ning thro	ough History
Native Peoples		REMOVE THIS AREA
	Early Egypt	REMOVE THIS AREA

Fishing through History Tab Book

Directions: Cut out the five strips along the solid outer lines. If there is a rectangle piece in the right corner of the strip, cut it off as indicated (remove this area). Stack your strips in order with cover on top and staple as indicated.

Greek Empire	REMOVE THIS AREA
R	oman Empire



Life Cycle of a Fish Circle

Directions: Cut out circle. Write the correct stages on the circle: eggs, embryo, larva, juvenile, and adult.

Fish Diagram





Directions: Cut out shapes on solid black lines. Fold on dotted lines like an accordion (back and forth).

Glue back of last piece to your lapbook.

Write a fishy idiom on each section.

Hint: You might want to tie a ribbon or string around your accordion before you glue the back to your lapbook.

Fishing Safety Tips Book



Directions: Cut out pages. Stack together with cover on top and staple to secure.

Fishing Safety Tips Book



Directions: Cut out cover piece. Cut out tackle box. Glue tackle box items to the appropriate places. Use the blank space to add one extra item to your tackle box.

Use a thin line of glue to paste the cover to the tackle box.

My Tackle Box

Use this strip to glue cover page.		
Hook	Sinker	Bobber
Live Bait	Lures	Needle-nose Pliers
Fishing Line	Pocketknife	



Directions: Cut out books. Fold on lines (matchbook style). If desired, draw an illustration on the front of each book.

Purse Seining	Traps and Pots	Trolling

Directions: Cut out books. Fold on lines (matchbook style). If desired, draw an illustration on the front of each book.

Long Lining	Hook and Line	Harpooning

Directions: Cut out books. Fold on lines (matchbook style).



Fish Related Occupations Tab Book



Park Warden	Fish Related	Occupations Tab Book	
			Fisherman
	Marine Biologist		
			Taxidermist

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Directions: Cut on solid lines. Fold on dotted.

What are some ways we can take care of rivers, lakes, and oceans? Let your student record their ideas inside the book.

Taking Care of Our Waters Simple Fold











Cut out the cards, and place them in the fishing net. If you are not brave enough to attempt the fishing net, make the following pocket to place the cards into. Use them for sorting games, counting, or print out two sets and play matching games or memory games.

Instructions for pocket:

Cut out on the outsides. Fold the flaps inward, and glue the flaps down onto the lapbook, taking care not to paste the pocket itself down.



Fishing net craft

Needed - just a ball of string



1.

Firstly cut 10 lengths of string of approximately 20 inches (50 cm). Lay them flat on a table, parallel to each other, approximately 3/4 of an inch apart.

2.

Lie the full ball of sting vertically over the strings, and tie the first two firmly together.





3.

Tie the next horizontal string around the vertical string. Continue like this with all 10 strings. When the strings are ties in this way, you can move the knots along the string so that the knots lie straight and evenly.



4.

Make a knot in the bottom string about ¹/₂ an inch further along.



5. Make another knot



6.

Place the string vertically up parallel to the first vertical line, and tie the horizontal lines around the vertical line, one by one. Space them evenly again.



7.

Tie of the top string a half inch further again. Continue down again and then up again until your net is the desired size, or until the string is too short to continue.



8. Tie the ends securely, and your net is complete.

www.h@mesch@Olshare.c@m

Instructions for folding.

1. Cut out a square piece of paper. Fold your square in half diagonally. Open it and then fold it in half diagonally the other way, and open again.

2. Now fold your page in half horizontally0

3.'Hold the horizontal line in gently, to bring the two triangles to lie on top of each other.

4. Fold over the top flap where shown in the diagram.

5. Fold the right side over the left side











6. Turn it over





7. Fold down the small flaps



8. Draw in a mouth and eye.

9. Glue the fish into your lapbook by the bottom fin.

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