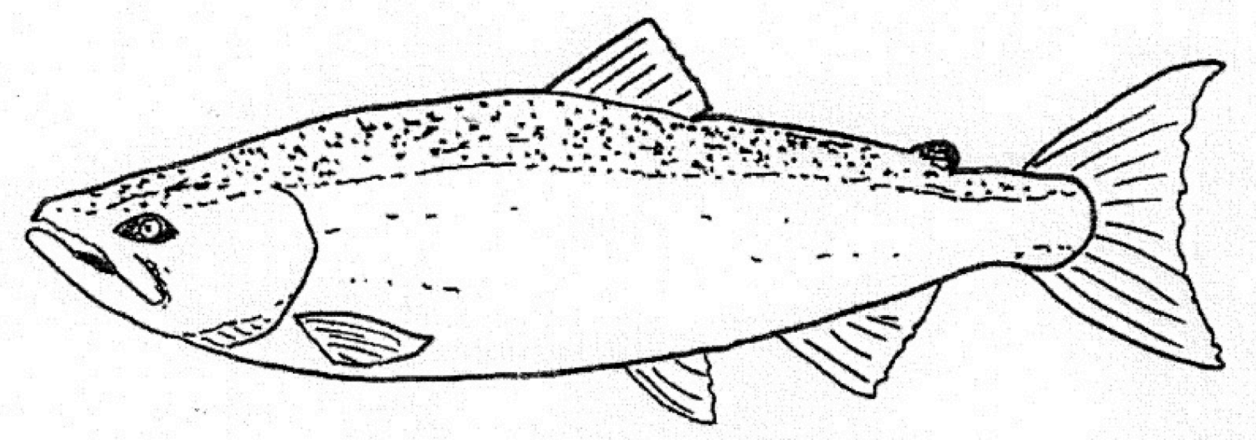
Salmon



Activity Book

Acknowledgements

The Farm to School grant was received by the Oregon Albacore Commission. Five fisheries were taught during the school year with 5th grade classes at Seaside Heights Elementary School; Salmon in October, Groundfish in December, Dungeness Crab in January, Albacore Tuna in March, and Pink Shrimp in May. Each fishery unit included guest speakers, tasting opportunities, and multi-disciplinary activity books. The salmon unit also included a field trip to a hatchery and a take-home dinner bag.

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The Oregon Legislature – provided the funding for the grant program for 2015-17

Oregon Department of Education – managed the grant which enabled teaching Oregon school children about local, fresh Oregon-grown and Oregon-processed food by providing garden-based; agriculture-based; and food-based education opportunities so that they can make better lifelong decisions concerning the food choices they make.

Oregon Department of Agriculture – co-managed the Farm to School grant program in collaboration with the Oregon Department of Education

Oregon Albacore Commission – applied for and received the grant for this project to educate students on five of Oregon's fisheries

Oregon Salmon Commission – assistance with the salmon activities of the grant and donation of the canned salmon for the Take-Home Dinner bag

Christa Svensson – Oregon Albacore Commission Vice Chair and co-developer of the project.

Nancy Fitzpatrick – Executive Director, Oregon Salmon Commission and Oregon Albacore Commission and co-developer of the project

Robin Malony – Major contributor and creator of activity book drawings and activities

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Marine Stewardship Council – assistance with promoting the project

Oregon commercial salmon fishermen who harvest Chinook salmon

Processors/buyers who buy Oregon Chinook salmon and process/distribute for the consumers' enjoyment

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This activity book, posters, photos, videos, and other materials are all available to download on the Oregon Albacore Commission website – oregonalbacore.org

Salmon Vocabulary Words

Adipose Fin: A soft fleshy fin found behind the dorsal fin

Alevin: A young salmon that still has a yolk sac

Anadromous: Returning to rivers from the ocean to spawn

Caudal Fin: Tail fin, used to swim forward

Chinook (King) Salmon (Oncorhynchus tshawytscha): is the largest species of the Pacific salmon

Chum Salmon (Oncorhyncus keta): A species of anadromous fish in the salmon family

Coho (Silver) Salmon (Oncorhynchus kisutch): A species of anadromous fish in the Pacific salmon family

Dorsal Fin: The main fin located on the back. It stabilizes the fish against rolling and to assist in sudden turns

Estuary: A place where freshwater from the rivers and streams meets the saltwater from the ocean

Fry: A young salmon that has lost its yolk sac and begins to feed on its own

Gills: The respiratory organs of fish

Habitat: A place where an animal naturally or normally lives and grows

Hatchery: A place for the breeding, hatching, and rearing of salmon

Lateral Line: Used to detect movement and vibration in the surrounding water

Operculum (gill plate): The covering over the gills of a fish

Parr Marks: The spots and vertical marks that develop on sides of fry to help camouflage them from predators

Pectoral Fin: Located on either side of the salmon behind the gills. They use these for turning in the water.

Pink Salmon (Oncorhynchus gorbuscha): A species of anadromous fish in the salmon family and is the smallest and most abundant of the Pacific salmon

Predator: An animal that lives by eating other animals

Prey: An animal taken by a predator as food

Redd: A gravel nest used by salmon to spawn

Smolts: Young salmon migrating to the ocean that have undergone changes to help them survive in the saltwater

Sockeye Salmon (Oncorhynchus nerka): An anadromous species of salmon found in the Northern Pacific Ocean

Spawn: To lay eggs

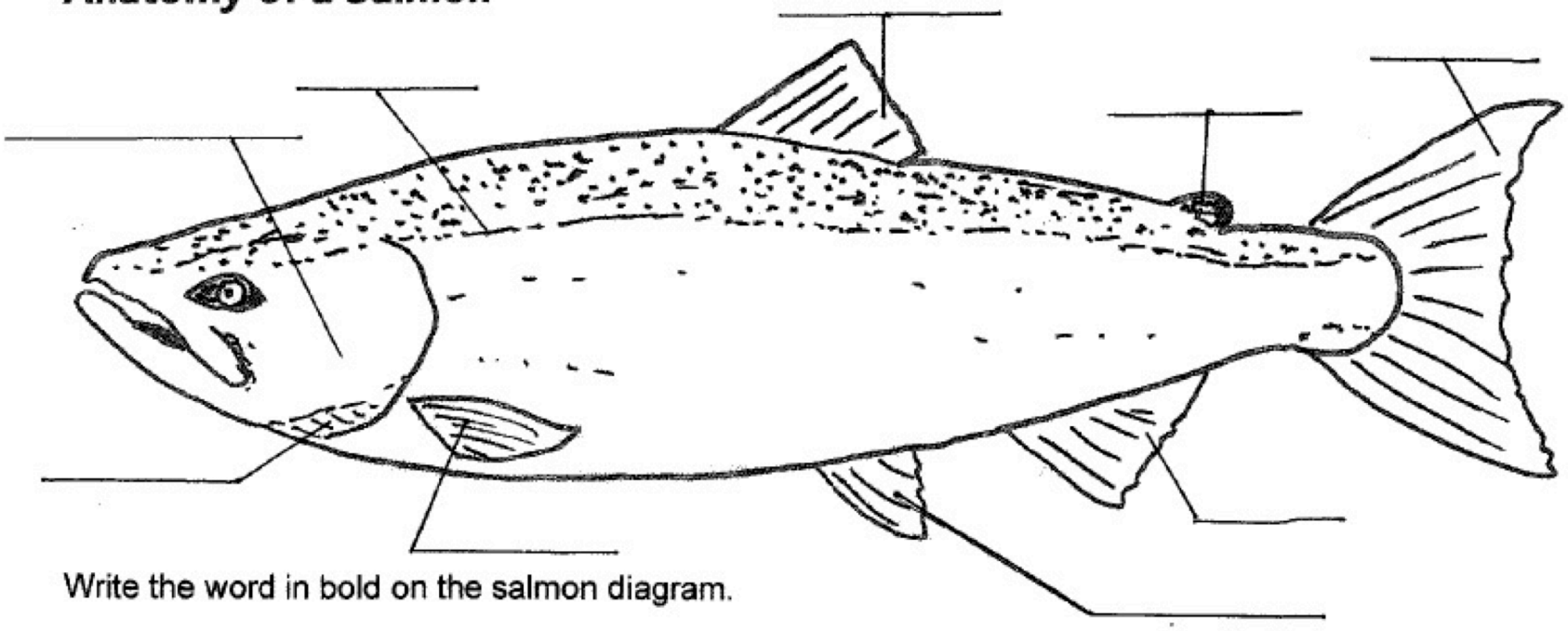
Steelhead (Oncorhynchus mykiss): A rainbow trout (a type of salmon) that has gone to live in the ocean

Trolling: Pulling lures or baited lines through the water behind a boat

<u>How to remember five Pacific salmon species:</u>

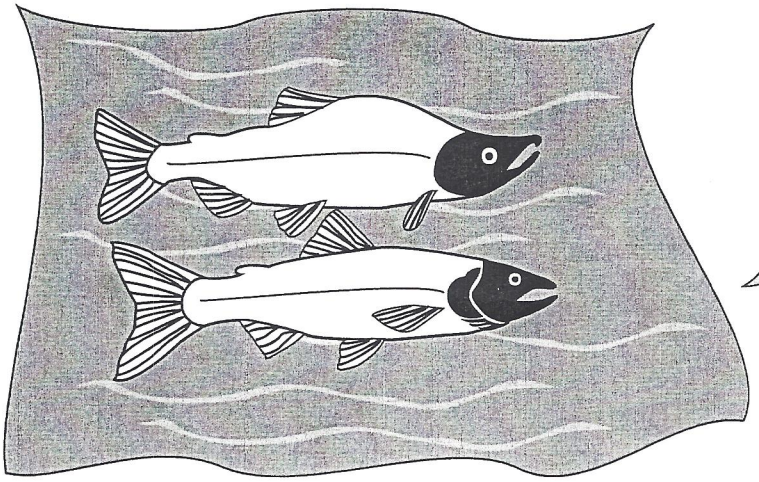
Hold up one hand and spread your fingers.
Start with your thumb – "Thumb rhymes with chum."
Use your pointer finger and point to your eye – "Eye rhymes with sockeye."
The middle finger is the largest finger on your hand, so we say the largest of all salmon is the Chinook (King).
The ring finger can wear rings of gold or silver – the fourth species is a silver (Coho).
The last finger is your pinky finger – the fifth species is the pink.

Anatomy of a Salmon

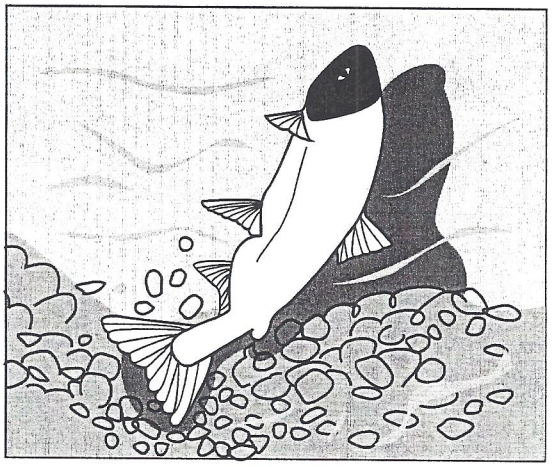


Write the word in bold on the salmon diagram.

Operculum – A hard bony flap covering and protecting the gills.
Lateral Line – Used to detect movement and vibration in the surrounding water.
Dorsal Fin – The main fin located on the back. It stabilizes the fish against rolling and to assist in sudden turns.
Pectoral Fins – Located on either side of the salmon, just behind the operculum. They use the pectoral fins for turning in the water.
Pelvic Fin – Located below and behind the pectoral fins. It is used for going up and down through the water, turning sharply, and stopping quickly.
Adipose Fin – A soft fleshy fin found behind the dorsal fin.
Caudal Fin – Tail fin, used to swim forward.
Anal Fin – Located between the pelvic fin and the caudal fin.
Gills – The respiratory organ



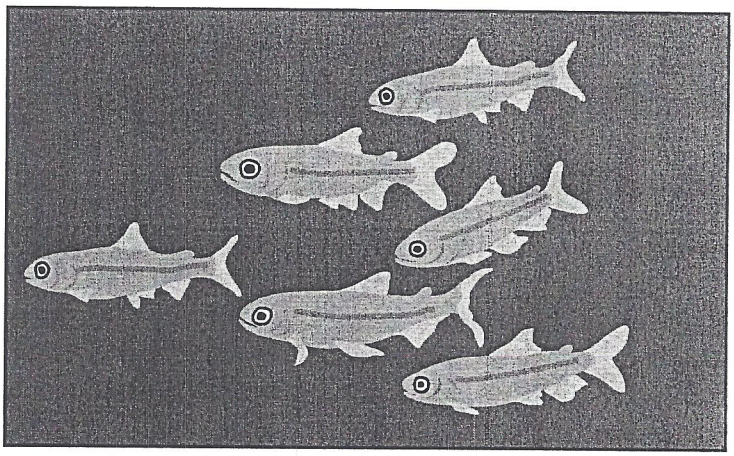
After 1 to 7 years in the ocean, the **adult salmon** that have survived countless hazards from predators, ocean conditions, and commercial harvest return to the Columbia River and head for their home streams.



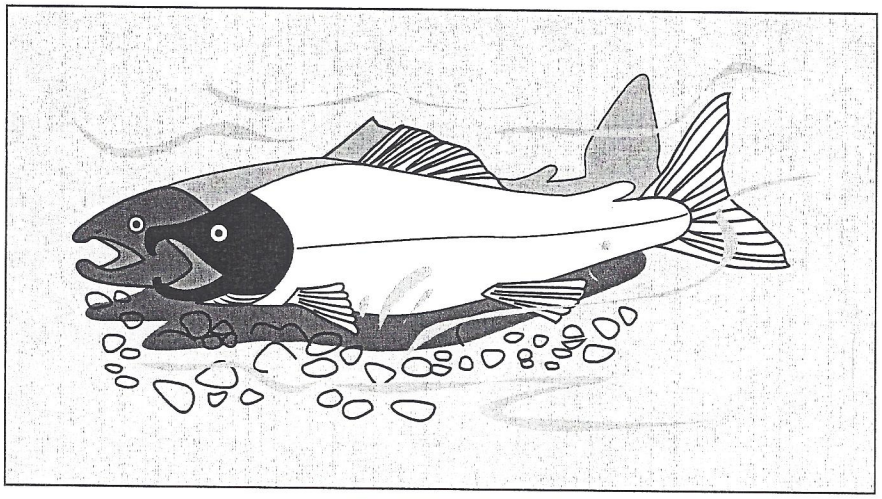
Arriving at her home stream, a female builds a nest, or **redd**, in fine, clean gravel.

Wild Salmon

During migration the fry are vulnerable to predators, such as birds or northern pikeminnow, walleye, and bass, which thrive in the reservoirs. Seven to 15 percent die passing each dam.

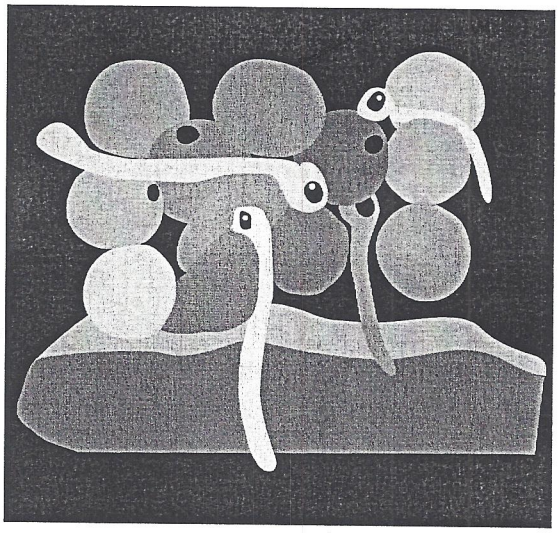


By the time they reach the estuary, the fry have become **smolts**, and their bodies are adapting to saltwater. Here they linger to feed and grow before entering the ocean. Predators, unfavorable conditions, and failure to adapt will deplete their numbers further.

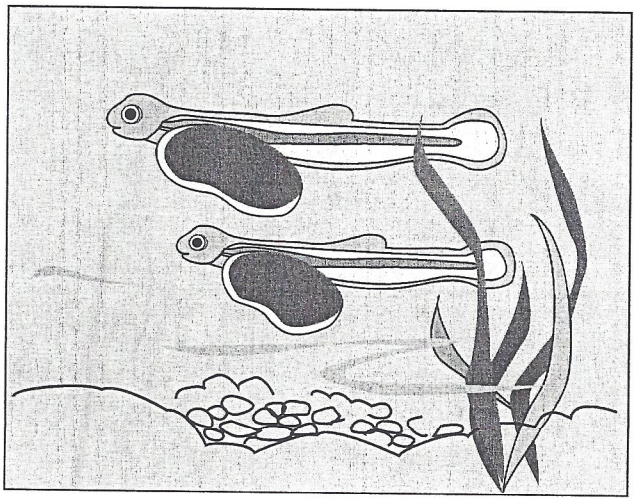


As a female deposits her thousands of eggs, a male releases milt, fertilizing them. Both male and female salmon die soon after **spawning**, except steelhead and cutthroat, which may survive another year or more to spawn again.

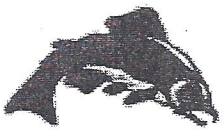
Life Cycle



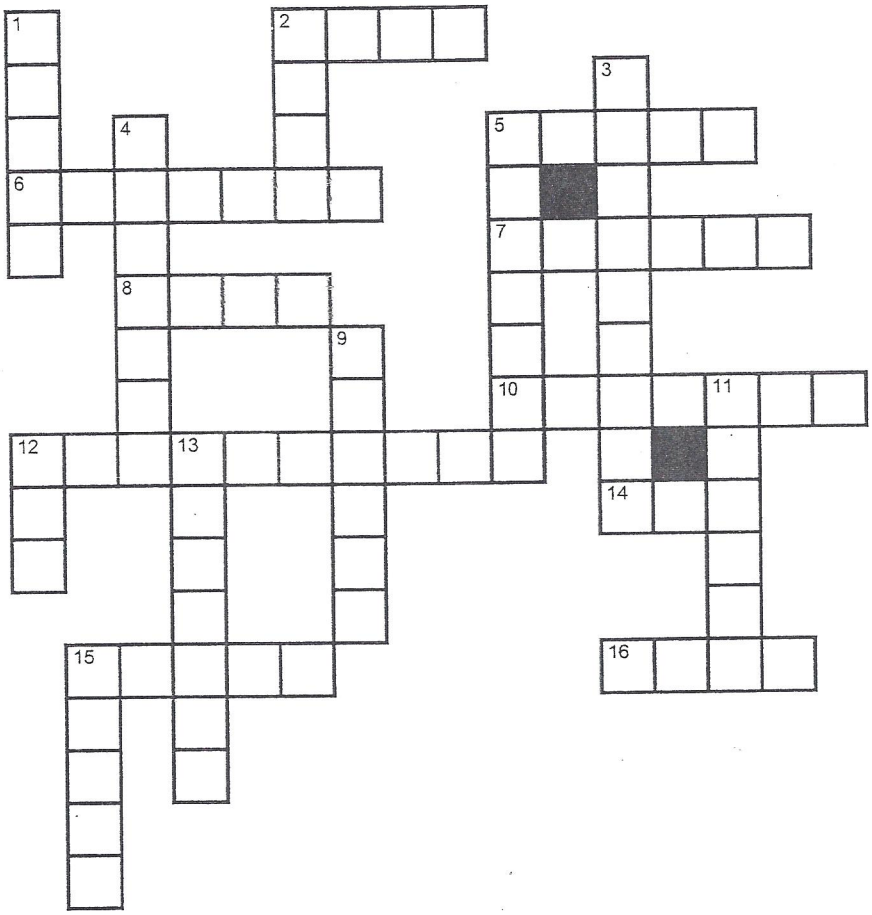
Tiny yolk-sac fry, or **alevins**, hatch after 2 to 8 months. They stay in the gravel for another 1 to 3 months until the food from the yolk sac is used up. They need cold, pure water to breathe and wash away their wastes.



The **fry** emerge from the gravel and begin to feed on their own. Many are lost to predators, competition, or failure to adapt to stream conditions. Some types of salmon begin their migration downstream soon after emergence, while others stay in freshwater for a year or more.



Salmon Life Cycle



Across

2. A kind of salmon that rhymes with plum.

5. Lay eggs.

6. The largest kind of salmon.

7. The season when most salmon spawn in the rivers.

8. A gravel nest used by salmon to spawn.

10. A place where freshwater from the rivers and streams meets the saltwater from the ocean.

12. The kind of water found in rivers and streams.

14. Salmon eggs.

15. Spawning salmon probably use their sense of _____ to go to the river from which they were born.

16. A kind of salmon that begins with P.

Down

1. To come out of an egg.

2. A kind of salmon that ends in O.

3. The kind of water found in oceans.

4. Travel far like geese or salmon in the autumn.

5. An adult salmon that is heading upstream to spawn.

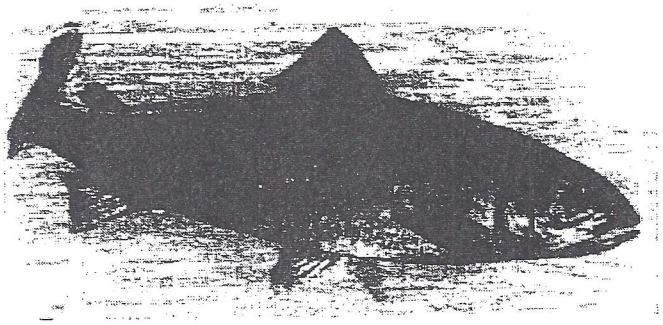
9. The kind of river bottom that salmon prefer to lay eggs in.

11. A baby salmon that still has a yolk sac.

12. A baby salmon that has lost its yolk sac.

13. A kind of salmon that begins with S.

15. Young salmon migrating to the ocean that undergoes changes to help it survive in saltwater.



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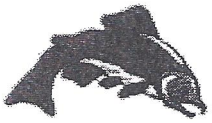


Salmon Life Cycle

Fill in the blanks below with words from this box:

hatches	gravel	egg
alevin	live	saltwater
species	estuary	fry
shrimp and fish	spawning	smolts
fertilize	rapidly	redd
avoid	leap	adult
smell	cycle	nature

A Freshwater Start

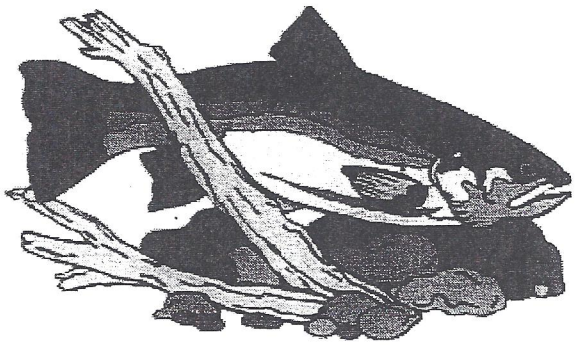
The life of a salmon begins as an _____ buried in _____ at the bottom of a stream. After the egg _____, the tiny fish with its yolk sac still attached lives in the gravel. This tiny fish with a yolk sac is called an_____. The yolk sac nourishes the alevin. After the yolk sac is absorbed, the salmon emerges from the gravel as a _____ and starts to catch _____ prey.

Journey to the Sea

Some _____ of salmon head directly to the sea, while other species live in freshwater for a while. As salmon move to the sea they have to get used to the _____. The best place to do this is in an _____, which is a place where the freshwater rivers and streams meet the saltwater ocean. Salmon that are getting ready to live in saltwater are called _____. Once in the ocean, the salmon grows _____ because there are plenty of _____ to eat.

The Return Home

Then after spending several years in the ocean the _____ salmon head back to the streams where they were born. How they get there is a wonder of _____, Scientists think they use their sense of _____.



The _____ salmon face many obstacles. They have to _____ over waterfalls and _____ animals such as bears. When they reach a nice gravel bed, females use their tales to make a nest, called a _____ where they lay their eggs. The males _____ the eggs and the _____ begins again.

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FISHING FOR WORDS

V O M S Y N D Y F V E F I N M M G S S R
N H D R I A T N M L I E F C M T N E M J
Q O F V U I N H B G X V X A L B W I O F
A C E G N X A A O T C R U R N B S C L W
I L Q I F B N A D I P O S E F I N E T X
A W L C I I S U M R K O O N I H C P G O
Z A K T A F P A P S O F W P Z X U S C L
S B A T B R J L L U T M Y E F G L E X Q
N T S F V O G V A M G L O P I J A C K W
H U L P L T G J N N O X P U Q N Z O U G
S B S A F A S P W J K N I S S P F A Y S
O T J E M D I H Q N X T M W E G Z S A H
C O F W I E F S O Y F I O L S C B T R Q
B I A M A R I N E M G M D N T D B A Z P
F S F N U P E K B R X L D C U H D L Z R
I F Q I V S W H A N W A P S A O V E T U
X R X Q C M E T S Y S O C E R N K G R I
P Y I F V A I A I I U K H M I O W Z P Y
P I D U Z O P T F U F R Z A E K A K L A
X B A A N T R O L L E R S S S F B R R V

ADIPOSE FIN
ALEVIN
ANADROMOUS
CHINOOK
COASTAL
COHO
ECOSYSTEM
ESTUARIES
FIN
FISHERIES
FRY
HABITAT
FRY
MARINE
MIGRATION
OCEAN
PACIFIC
PLANKTON
PREDATOR
REDD
SALINITY
SALMON
SMOLT
SPAWN
SPECIES
SUSTAINABLE
TROLLERS

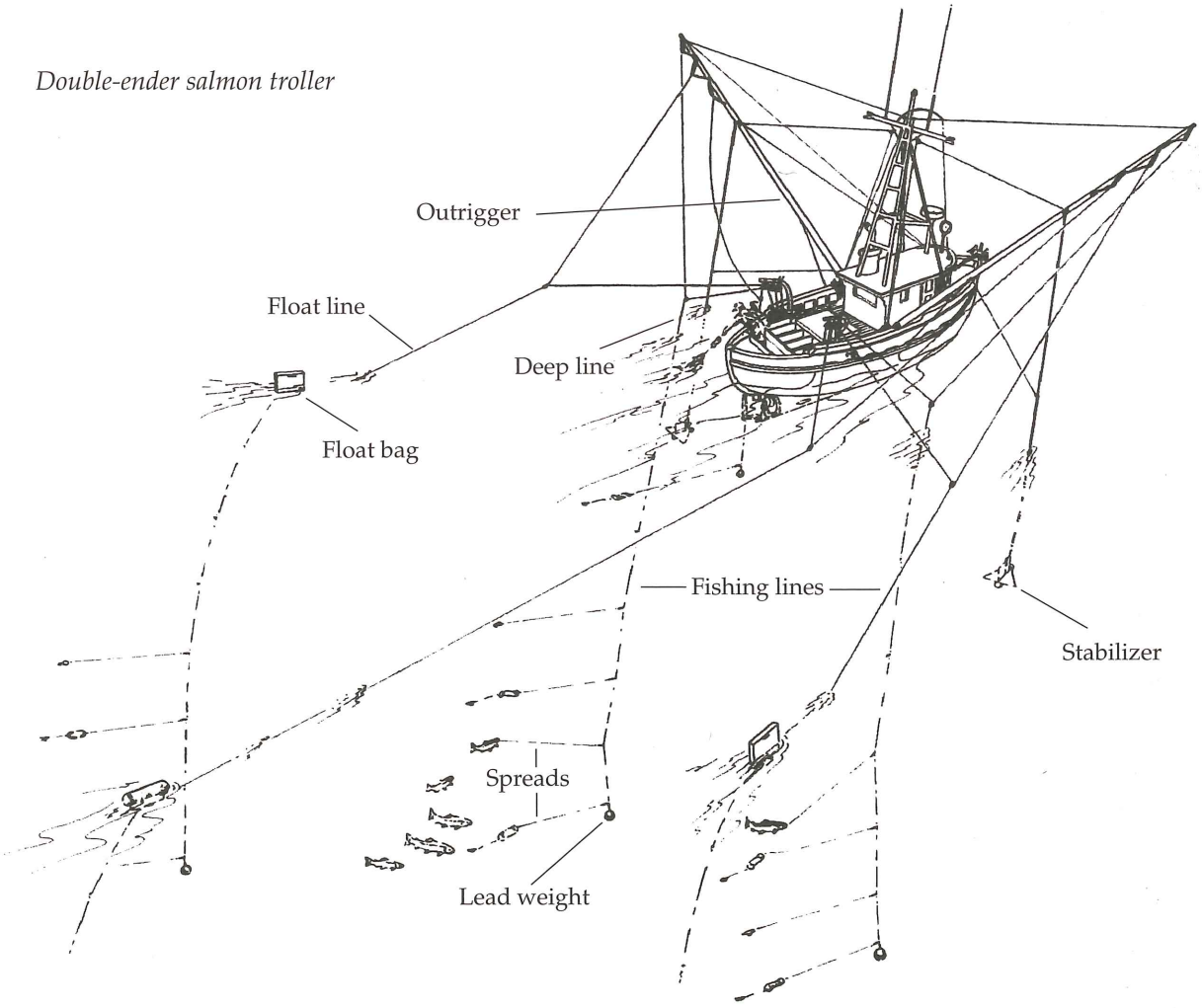
Salmon Trollers

Salmon trollers supply fresh chinook salmon to markets. The boats vary in size from 18-foot day boats to trip boats up to 60 feet. Smaller vessels return to port daily whereas larger vessels might stay at sea up to eight days.

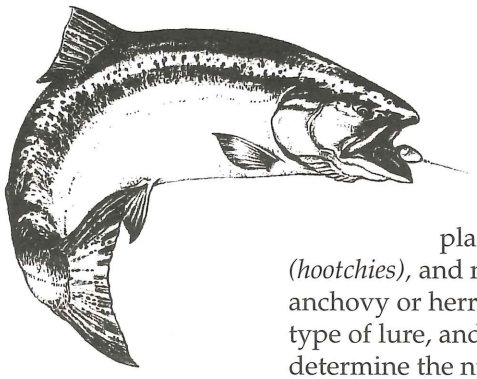
A troller fishes for salmon by towing a number of lures or baited hooks through the water. Fishing lines are rigged to a pair of *outriggers* (trolling poles) three to six inches in diameter. When lowered, the outriggers hold the fishing lines away from the boat. A type of wedge *stabilizer* (flopper stopper) might also be attached to each outrigger to help stabilize the boat. When not in use, the outriggers are held vertically by brackets secured to a crossbeam *(crosstree)* on the masthead. The gear is built to withstand the shock of hard-striking fish. Many of the vessels have a trolling pit in the stern so that fishermen can steer while operating the gear.

Stainless steel lines are fished from each outrigger. Oregon fishermen are limited to four lines. Each line has as many as four lures on monofilament leaders *(spreads)* attached at intervals of two to four fathoms (a fathom equals six feet). A 10- to 50-pound weight *(cannon ball)* takes each line to the desired depth. Fishing lines are set and retrieved using hydraulic *gurdies* (mechanical cranks). To spread out the lures and to prevent tangles, the crew uses float bags to float up to two lines per side behind the boat.

Double-ender salmon troller



Chinook biting



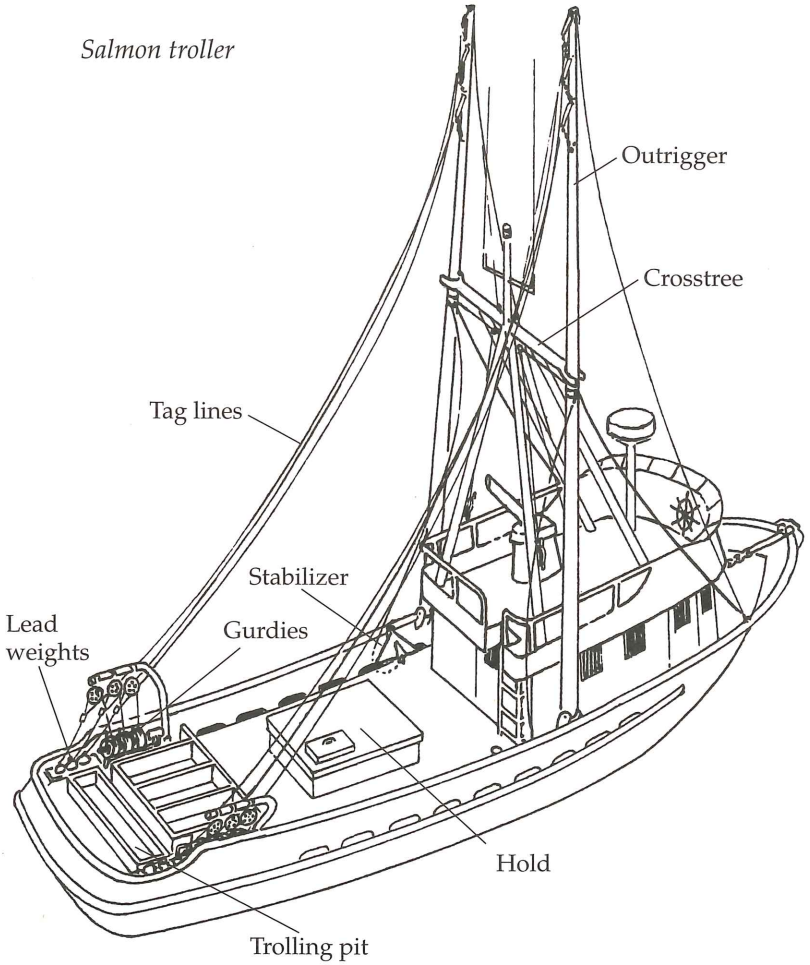
Lures

The lures, which are barbless, can be fished from just under the surface down to 80 fathoms, at speeds of one to four knots. They include spoons, flashers, plastic or rubber squid *(hootchies)*, and natural baits, such as anchovy or herring. Fish depth, troll speed, type of lure, and area fished all help to determine the number and species of salmon caught. Professional trollers can easily target the species they want to catch. Current fishing regulations protect wild Oregon coho, and so salmon trollers fish deeper to catch chinook.

Salmon hootchie

The fisherman uses the gurdie to bring in the fish. The fish is stunned, gaffed on board, bled, dressed, and washed before it is stored in an iced or refrigerated hold. Salmon trollers can fish up to 50 miles offshore. The season usually occurs from April through October. However, it is subject to changes and restrictions, depending on the condition of salmon stocks that year. Oregon's troll chinook is the first salmon on the spring market.

Salmon troller



Sea Grant Oregon

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Editor: Sandy Ridlington
Design: Rick Cooper
Layout: Sandy Ridlington

NOAA

OREGON STATE UNIVERSITY

Salmon Trollers

1. How often do trollers return to shore to supply fresh Chinook salmon to markets?

_____

2. What are ***outriggers*** used for?

_____

3. What does a ***flopper stopper*** do?

_____

5. How long is a fathom?

_____

6. What is a ***cannon ball*** and how is it used on a troller?

_____

7. How are the salmon pulled from the ocean?

_____

8. What are float bags used for?

_____

9. Name some lures used on a troller.

_____

10. What types of bait are used for catching salmon?

_____

11. Why would a fishing crew choose to fish in deeper water?

_____

12. Where are the fish stored on the boat?

_____

13. Salmon trollers can fish up to _____ miles offshore.

14. When is the salmon season?

_____

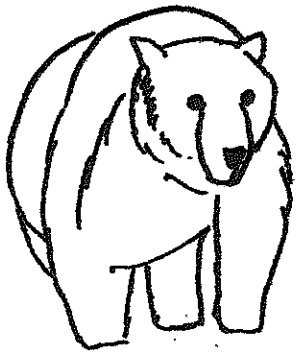
The Food Chain Game

Description

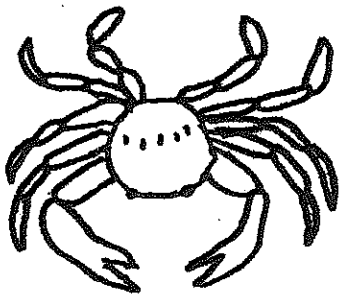
Providing the next link in a food chain is fun when it's part of a game. Cut apart the game cards and affix a strip of magnetic tape or other adhesive to the back of each one. To play, randomly arrange several game cards on a whiteboard or other surface and divide students into teams. Select one game card to begin a vertical food chain. Then invite a player from Team 1 to earn a point for his team by choosing a game card that shows a plant or animal that could be the next link in that food chain. Alternate play until none of the remaining choices work. Declare the team with more points the winner.

- See more at: http://www.themailbox/magazine/science-game-food-chains/continue-the-chain#sthash.cDLnIMIH.dpuf

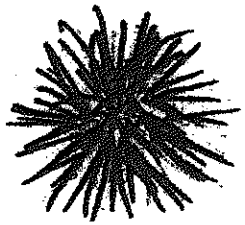
Fish Larvae



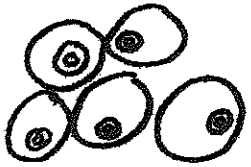
Bear



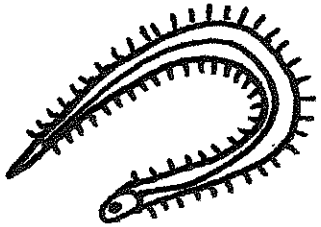
Crab



Sea Urchin



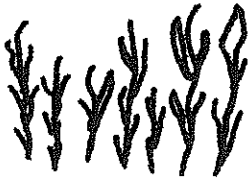
Fish Eggs



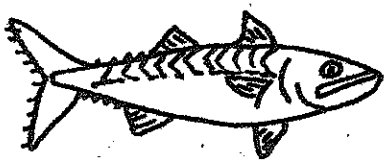
Sea Worm

Razor Clam

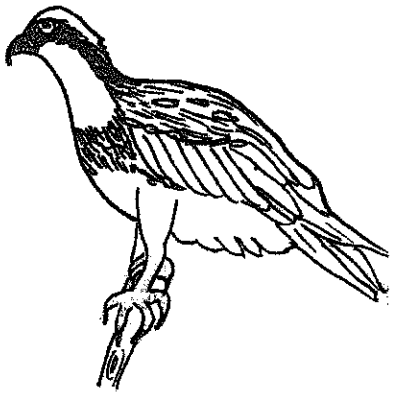
Sea Star



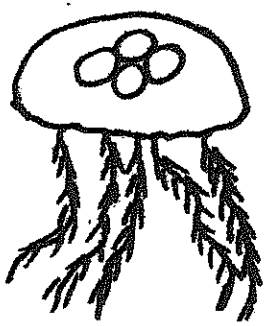
Sea Algae



Mackerel

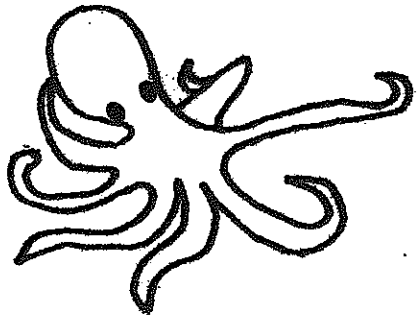


Osprey



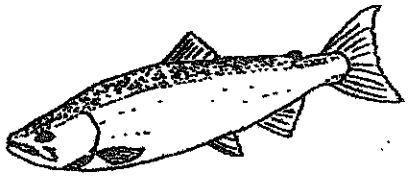
Jellyfish

Sea Otters

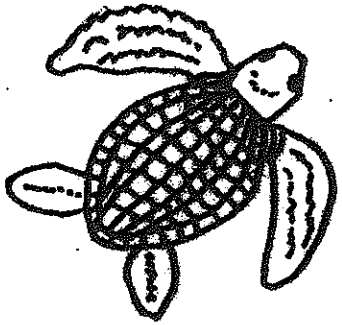


Octopus

Oyster



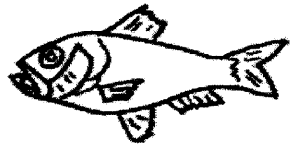
Salmon



Sea Turtle

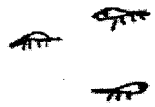
Sea Mussel

Shrimp



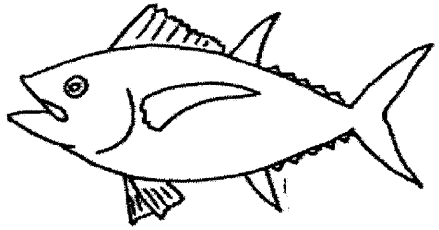
Herring

Sea Eagle



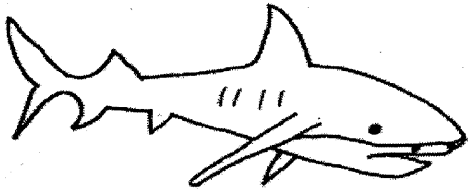
Krill

Seal



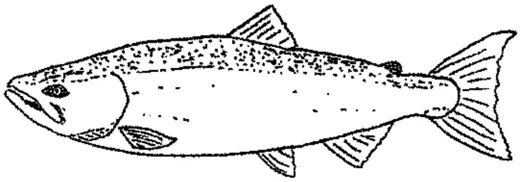
Tuna

Rockfish

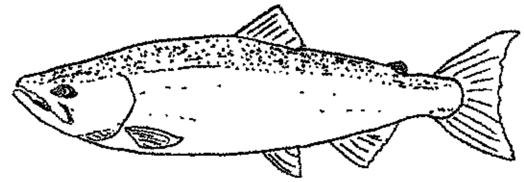


Shark

Killer Whale



Did you know?



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
17	24	10	18	13	5	23	8	20	16	9	25	26	19	11	3	7	14	4	22	21	2	15	1	12	6

_ _ _ _ O _   _ _ _   _ _   B _ _ _ .   _ _ _   O _

4 17 25 26 11 19   10 17 19   24 13   24 25 21 13 .   14 13 18   11 14

4 20 25 2 13 14   20 19   10 11 25 11 14 .

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	9	22	19	4	12	24	15	17	3	16	25	8	6	18	26	21	7	13	10	11	23	5	14	2	20

5 15 4 6   22 15 17 6 18 18 16   13 1 25 8 18 6   13 5 17 8   11 26 13 10 7

4 1 8   10 18   13 26 1 5 6 .   10 15 4 17 7   22 18 25 18 7 13

22 15 1 6 24 4 .

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
12	4	21	25	7	14	1	8	13	22	11	24	15	6	26	17	23	9	18	10	5	3	2	20	19	16

4 7 12 3 7 9   17 26 6 25 18   17 9 26 3 13 25 7   21 9 13 10 13 21 12 24

16 12 4 13 10 12 10   14 26 9   22 5 3 7 6 13 24 7   18 12 24 15 26 6 .

Created by Puzzlemaker at DiscoveryEducat

Why Does A Boat Float?

Objective:
To explore how the shape of a boat affects its ability to float.

Research Questions
- *Why do some things float and others sink?*
- *Why does a rock sink in a puddle, but a huge cruise ship floats?*

In this experiment, the concepts of density and water displacement are explored. The more dense an object is (how tightly matter is crammed together), the more easily it sinks. In order to make something float, the density must be changed to be less than the water. Adjusting the shape of an object is one way to change its density. This is the basic theory behind the Archimedes' principle.

Materials:
- modeling clay, ball about 1" in diameter
- clear, large bowl, bucket, or tub
- water
- marker
- ruler
- camera or paper and pencil for sketching
- 20 pennies
- small scale

Experimental Procedure
1. Gather the necessary materials.
2. Pour water the bowl, bucket, or tub until the water level is about 3" from the bottom.
3. Mark the water-line on the bowl, bucket, or tub.
4. Place the ball of clay into the water. Record the results including the amount in inches that the water raised above the water-line.
5. Mold the clay into a boat. Take a picture of the boat or sketch a picture of it. Place the boat into the water. Record the results again noting the water-line. Continue to model the clay until you get a boat that will float. With each adjustment to the boat, take a picture or sketch.
6. Weigh a penny and record the weight.
7. Add one penny at a time to the boat and record the results including the change in the water-line until the boat sinks. Make adjustments to your boat in order to allow all 10 pennies to float. Take pictures of or sketch any adjustments in the boat.

8. Analyze the data to conclude how the shape of a boat affects its density and its ability to carry weight.

Terms/Concepts: density: the heaviness of an object for its size displacement: the exchange of space between one substance by another; For an object to float, the upward push of the water must be the same as the weight of the water being displaced by the object. To cause an object to float, the density of the object must be adjusted to equal the density of the water being displaced.

References:

"Why can boats made of steel float on water when a bar of steel sinks?" at http://science.howstuffworks.com/science-vs-myth/everyday-myths/question254.htm "Eureka! The story of the Archimedes Principle" at http://quest.nasa.gov/aero/planetary/archimedes.html "Archimedes' Principal" at http://physics.weber.edu/carroll/archimedes/principle.htm "Archimedes' Principal of Buoyancy" at http://www.grandpapencil.net/science/archimed.htm

END ARTICLE BODY

“Salmon Life Cycle Song” on YOUTUBE. A parody of “I Will Survive” by the Frizzlives

Am Dm
First I was afraid. I was petrified

G Cmaj7
In a gravel REDD, three thousand brothers by my side.

Fmaj7 Bm7-5
It’s nice and safe here in the dark, ‘cause I am just so sensitive,

E7sus E7
But I’ll grow stronger, gonna show you how to live.

Am Dm
Gotta watch your back, lot of danger here.

G Cmaj7
Like changing temperatures and silt and floods and predators we fear.

Fmaj7 Bm7
Gotta wait about 3 months and then I’ll hatch and grow

E7sus E7
Into an ALEVIN . . . I’m not just an embroyo!

Am Dm
I’m gonna live. It’s not a drag.

G Cmaj7
Imagine a fish that comes with its own lunch bag.

Fmaj7 Bm7
I’m the one who likes the dark and always hides.

E7sus E7 Am Dm
I’m still fragile, but soon I’ll be a FRY! Oh but I, I will survive!

G Cmaj7
As long as I know how to swim, I know I’ll stay alive.

Fmaj7 Bm7
I’m gonna get my life in motion. Gotta swim down to the ocean.

E7sus E7 Am
I will survive, I will survive! Hey Hey

Am Dm
Now I’m swimming free, darting left and right.

G Cmaj7
No more living in the REDD or hiding from the light.

Fmaj7 Bm7
I'm eating lots of little bugs and plankton from the stream.

E7sus E7
EAT OR BE EATEN! Sometime you just gotta be mean!

Am Dm
And so I'll grow – what'll be my fate?

G Cmaj7
One day, I might just end up on your dinner plate.

Fmaj7 Bm7
I've almost reached the estuary, I've heard,

E7sus E7
Let's just hope that I don't get eaten by a bird!

Am Dm
'Cause now I've grown to be a SMOLT,

G Cmaj7
I'd like to stick around and talk, but I've gotta bolt!

Fmaj7 Bm7
Pretty soon I'll be – an ADULT and full grown,

E7sus E7
Make my way back to the only stream I've known . . .

Am Dm
Now I, I'll stay alive!

G Cmaj7
As long as I can lay my eggs, my species will survive.

Fmaj7 Bm7
A SPAWNER'S life is 'but a dream' . . . I'm just trying to swim upstream

E7sus E7
They will survive, they will survive!

Am Dm
And it starts all over again. No I, I'll stay alive

G Cmaj7
As long as I can lay my eggs, my species will survive.

Fmaj7 Bm7
A SPAWNER'S life is 'but a dream' . . . I'm just trying to swim upstream.

E7sus E7 Am
They will survive, they will survive! Hey Hey!

FISHING FOR DATA

George went out on his boat with his crew, Dale. Together they caught a total of 15 salmon. They decided to collect data on the average weight of each fish. The mode, median, and the mean are three ways to find the average weight. What is the, mode, median, and mean of the data? . What is the weight range of the data?

The following data is the weight in pounds of each fish:

10 16 15 9 27 19 15 22 18 15 30 15 25 11 17

The range is the difference between the greatest number and the least number in a set of numbers.

The mode is the number or numbers that occurs most often in a set of numbers.

What is the range? _____

What is the mode? _____

The median is the middle number in a set of numbers arranged in order from least to greatest; if the set contains an even number of numbers, the median is the mean of the two middle numbers.

The mean is the quantity that is found by adding the numbers in a set of numbers and dividing their sum by the number of addends.

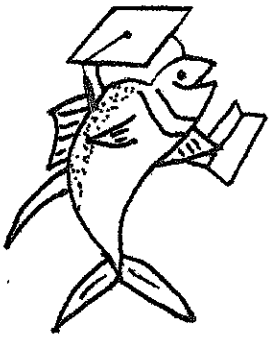
What is the median? _____

What is the mean? _____

Using the code, color in the grid to reveal the largest species of salmon.

Color Green	Color Pink	Color Yellow	Leave white
4 x 4	8 x 8	9 x 9	5 x 10
4 x 1	2 x 7	2 x 3	6 x 5
7 x 4	9 x 8	1 x 9	3 x 5
2 x 4	1 x 7	8 x 6	5 x 8
8 x 4	7 x 7	3 x 6	5 x 7
6 x 4	9 x 7	9 x 9	5 x 1
8 x 3	10 x 8	6 x 7	9 x 5
12 x 3	7 x 8	10 x 9	2 x 5
2 x 6	3 x 7	6 x 9	10 x 10
6 x 6		9 x 2	2 x 10
3 x 4			5 x 4
2 x 2			5 x 5
2 x 8			

50	10	5	100	50	40	25	20	10	100	30	45	20	100	45	35	15	25	20	25	20	50	35	40	15
5	20	50	40	30	5	35	30	25	10	5	50	36	40	15	15	45	40	45	35	10	15	45	4	45
15	30	20	100	45	15	32	16	4	28	32	12	24	28	20	25	40	50	20	10	100	30	12	10	20
30	10	20	32	24	8	28	36	12	36	16	8	16	28	36	24	4	15	5	35	30	24	32	35	10
100	24	12	60	64	7	80	63	64	49	63	56	14	80	72	7	21	8	4	24	36	28	16	100	50
20	81	9	18	54	18	42	6	18	42	54	81	9	18	42	81	6	18	81	90	9	12	4	10	30
50	5	40	90	18	48	54	18	54	48	18	81	42	6	48	24	12	32	20	45	5	36	8	50	35
5	100	35	15	100	9	42	90	6	9	90	24	16	32	40	45	4	20	35	10	30	25	100	40	25
35	50	20	25	50	5	40	35	20	30	5	10	8	25	40	25	30	5	20	50	45	30	15	35	10



Fish Talk Letter #1

FISH TALK SPEECHES

Date: _____

Dear Parents,

On Friday, _____ your child will be presenting his/her first "Fish Talk" speech. "Fish Talk" is a way to get children comfortable with, and skilled at speaking in front of the class. Every other month your child will come home with a new "Fish Talk" topic. This first topic will be **"All About Salmon"**. Your child will have one week to prepare and one week to practice a **one minute** speech about the week's topic. This will be part of their homework each week. **The written copy of their first speech will be due on Friday, _____.** On Friday, _____, they will then stand in front of the class and deliver their speech. The scoring rubric we will be using is attached to this letter. The scoring rubric is directly linked to the fifth grade Common Core English Language Arts Standards (Speaking and Listening).

Public speaking is an invaluable skill to have and we are excited to see the students grow in their skills throughout the year. We realize for some children, "Fish Talk" is going to be a very intimidating experience for the first "Fish Talk" speech. Extra practice at home is a great way to minimize some of their worries. Research says that students who regularly public speak throughout the year become more comfortable, improve their speaking skills, and find it to be fun.

In class we will be talking a lot about what makes a good speech. Students are welcome to use home computers to write, print, and read their speeches. They may also have note cards, or visuals with them during their speech as long as they still have eye contact with their audience.

Parents are welcome to come watch. If you would like to come watch your child's speech, please contact your child's teacher before Friday morning so that they can coordinate the time of your child's presentation with your visit. If you can't attend the in-class speeches., we will be recording each speech using our ipads and you can view your child's speech on google docs.

If you have questions or concerns, don't hesitate to email us or give us a call.

Sincerely,

_____, email address, classroom phone.

HOMEWORK

Friday, Date: _____

Dear Parents,

Don't forget that next Friday, Date: _____, your children will be presenting their first "Fish Talk" speech, **"All About Salmon"**. Please spend time practicing this week so that your child feels comfortable speaking in front of the classroom. Be sure to time their speech to see how close to one minute they can get.

For homework this week, they will need to complete the below "tally sheet." Your child should make a tally in the box each time he/she practices his/her speech. Once he/she gets 8 tallies, please sign the sheet. **This tally sheet is due Friday,** Date: _____. Please help your child keep a copy of his/her speech in his/her binder so that it will be at school on Friday! Thanks for your help!

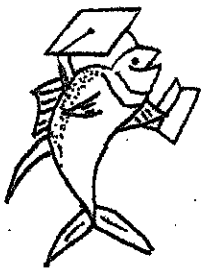
Have a wonderful week! Please call or email with any concerns or questions.

_____

Teacher, email address, school phone number

HOMEWORK

I practiced my "Fish Talk" speech 8 times this week at home .

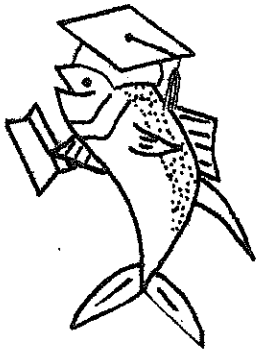


Times practiced "tally box"

Parent signature _____

Student signature _____

Public Speaking Scoring Guide



Name: _____
Topic: _____
Time: _____
Date: _____

Based on a 1-5 scale: (4 meets grade level standard)

_____ Ideas/Content: Ability to communicate knowledge of the topic using relevant facts, examples and details.

_____ Organization: Information is clearly sequenced using beginning, middle and end with correct transitions of ideas.

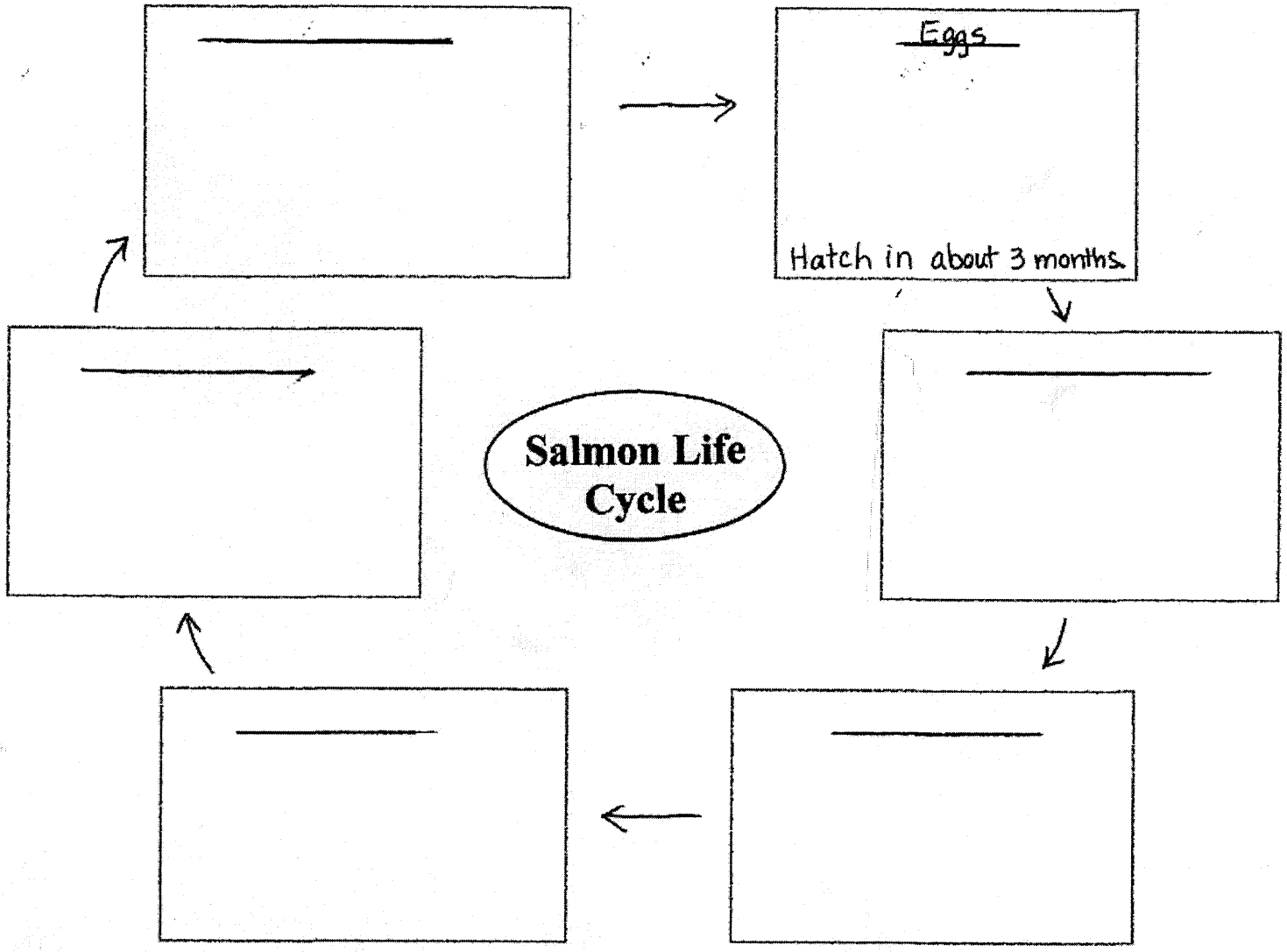
_____ Language: Functional, precise and descriptive words are used and the language is appropriate for the audience and purpose.

_____ Delivery: Demonstrates control of eye contact and speaks at an appropriate rate and volume.

_____ Time: Speech was one minute long.

_____ Audience Participation: Ability to respectfully and attentively listen to peers' speeches without causing disruption. Able to compliment students on their performance.

Fill in the boxes by drawing a picture of a salmon at each stage of its life cycle from egg to spawning adult. Label the stage and include the age of the salmon at each stage.



Overlapping Fish

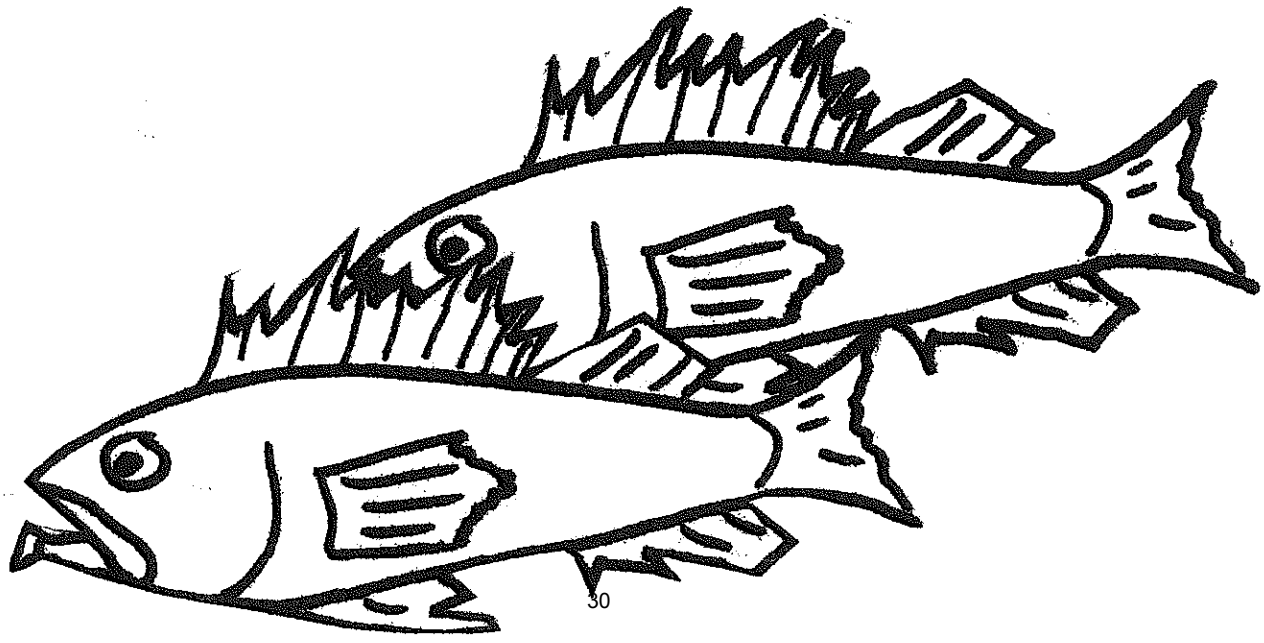
Criteria:

1. With a pencil, draw one fish on a 8 x 11 piece of drawing paper. Use lines and shapes to create texture. Draw another fish behind the first fish to show overlapping fish.

2. Fill in the empty spaces of the paper with some of the following ideas: rocks, seaweed bubbles, starfish, or use your own ideas.

3. Color your fish and the other parts of your picture with oil pastels. Press firmly to create vibrant colors. Fill in all of the spaces.

4. Create a background by washing the picture with diluted tempera paint. You may use more than one color.



National Oceanic and Atmospheric Administration
National Data Buoy Center

www.ndbc.noaa.gov

NOAA deploys buoys through the ocean to provide data on weather and ocean conditions that can be used by fishermen, scientists, and students like you.

Go to the above website.

Select a region that you wish to investigate (right side of the map). As you point your cursor over the words in the list, a box will show up on the map designating the region.

For example, select Pacific (North)

Zoom in on the Oregon coast (use the plus button in the top left corner of the map).

With your cursor, find the yellow diamond that says Station 46050 (about mid state in Oregon). When you click on this station, a box with current information will pop up. Select 'View Details' at the bottom of the box.

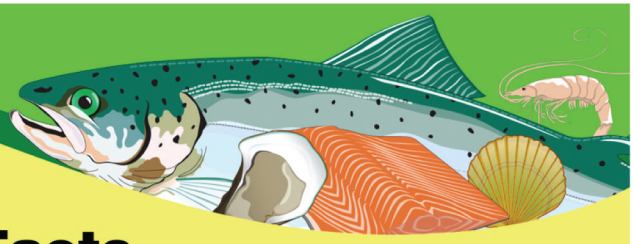
This page gives you information about the buoy as well as what it is reporting.

1. What is the current wave height? _____
2. What is the current atmospheric pressure? _____
3. What is the current water temperature? _____
4. What is the current wind speed? _____
5. In the middle of the page is a chart for the last two days showing the month/day, time, wind direction (WDIR), wind speed (WSPD), and more. During the last 24 hours, describe how the wind speed has changed.

   _____
6. The next chart shows the Detailed Wave Summary. What is the current wind wave direction (WWD)? _____
7. The following chart shows the previous 24 hours. How has the WWD changed during this period? _____

Check out other areas around the world to learn about ocean conditions.

Seafood Nutrition Facts



Cooked (by moist or dry heat with no added ingredients), edible weight portion. Percent Daily Values (%DV) are based on a 2,000 calorie diet.

Seafood Serving Size (84 g/3 oz)	Calories	Calories from Fat	Total Fat g / %DV	Saturated Fat g / %DV	Cholesterol mg / %DV	Sodium mg / %DV	Potassium mg / %DV	Total Carbohydrate g / %DV	Protein g	Vitamin A %DV	Vitamin C %DV	Calcium %DV	Iron %DV
Blue Crab	100	10	1 / 2	0 / 0	95 / 32	330 / 14	300 / 9	0 / 0	20g	0%	4%	10%	4%
Catfish	130	60	6 / 9	2 / 10	50 / 17	40 / 2	230 / 7	0 / 0	17g	0%	0%	0%	0%
Clams, about 12 small	110	15	1.5 / 2	0 / 0	80 / 27	95 / 4	470 / 13	6 / 2	17g	10%	0%	8%	30%
Cod	90	5	1 / 2	0 / 0	50 / 17	65 / 3	460 / 13	0 / 0	20g	0%	2%	2%	2%
Flounder/Sole	100	15	1.5 / 2	0 / 0	55 / 18	100 / 4	390 / 11	0 / 0	19g	0%	0%	2%	0%
Haddock	100	10	1 / 2	0 / 0	70 / 23	85 / 4	340 / 10	0 / 0	21g	2%	0%	2%	6%
Halibut	120	15	2 / 3	0 / 0	40 / 13	60 / 3	500 / 14	0 / 0	23g	4%	0%	2%	6%
Lobster	80	0	0.5 / 1	0 / 0	60 / 20	320 / 13	300 / 9	1 / 0	17g	2%	0%	6%	2%
Ocean Perch	110	20	2 / 3	0.5 / 3	45 / 15	95 / 4	290 / 8	0 / 0	21g	0%	2%	10%	4%
Orange Roughy	80	5	1 / 2	0 / 0	20 / 7	70 / 3	340 / 10	0 / 0	16g	2%	0%	4%	2%
Oysters, about 12 medium	100	35	4 / 6	1 / 5	80 / 27	300 / 13	220 / 6	6 / 2	10g	0%	6%	6%	45%
Pollock	90	10	1 / 2	0 / 0	80 / 27	110 / 5	370 / 11	0 / 0	20g	2%	0%	0%	2%
Rainbow Trout	140	50	6 / 9	2 / 10	55 / 18	35 / 1	370 / 11	0 / 0	20g	4%	4%	8%	2%
Rockfish	110	15	2 / 3	0 / 0	40 / 13	70 / 3	440 / 13	0 / 0	21g	4%	0%	2%	2%
Salmon, Atlantic/Coho/Sockeye/Chinook	200	90	10 / 15	2 / 10	70 / 23	55 / 2	430 / 12	0 / 0	24g	4%	4%	2%	2%
Salmon, Chum/Pink	130	40	4 / 6	1 / 5	70 / 23	65 / 3	420 / 12	0 / 0	22g	2%	0%	2%	4%
Scallops, about 6 large or 14 small	140	10	1 / 2	0 / 0	65 / 22	310 / 13	430 / 12	5 / 2	27g	2%	0%	4%	14%
Shrimp	100	10	1.5 / 2	0 / 0	170 / 57	240 / 10	220 / 6	0 / 0	21g	4%	4%	6%	10%
Swordfish	120	50	6 / 9	1.5 / 8	40 / 13	100 / 4	310 / 9	0 / 0	16g	2%	2%	0%	6%
Tilapia	110	20	2.5 / 4	1 / 5	75 / 25	30 / 1	360 / 10	0 / 0	22g	0%	2%	0%	2%
Tuna	130	15	1.5 / 2	0 / 0	50 / 17	40 / 2	480 / 14	0 / 0	26g	2%	2%	2%	4%

Seafood provides negligible amounts of *trans* fat, dietary fiber, and sugars.

U.S. Food and Drug Administration
(January 1, 2008)

A joint project of Oregon State University, Cornell University, and the Universities of Delaware, Rhode Island, Florida and California.

RESOURCES

WEBSITES

Bonneville Hatchery
http://www.dfw.state.or.us/resources/visitors/bonneville_hatchery.asp

Wy Kan Ush Pum (Native American) Salmon Activity Book
http://www.critfc.org/wp-content/uploads/2012/11/activity_book.pdf

Oregon Salmon Commission – industry-funded state commodity commission representing Oregon commercial salmon trollers:
www.oregonsalmon.org

Oregon Department of Fish & Wildlife fishing resources:
www.dfw.state.or.us/resources/fishing/

Pacific Fishery Management Council – management agency for salmon regulations:
www.pcouncil.org

BOOKS
Salmon Stream by Carol Reed-Jones

The Salmon by Sabrina Crewe

The Life Cycle of a Salmon by Bobbie Kalman

Come Back Salmon by Molly Cone