

# **SALMON AND TROUT GO TO FIRST GRADE**

A Thematic Unit



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December 2009



Your purchase of fishing  
equipment and motor fuel  
supports boating access and  
Sport Fish Restoration.

Salmonids in the Classroom is part of a statewide education program sponsored by the California Department of Fish and Game along with many community partners including fishing organizations and other government entities throughout the state. You may have heard it called Trout in the Classroom or Salmon in the Classroom depending on the region of the state that the program serves.

This program involves training teachers to hatch trout or salmon in their classrooms. The classes then take them to their local waterway to be released into the wild.

We encourage teachers to take part in this program but it is not necessary to take advantage of the lessons in this book. Only one ongoing lesson directly involves the students in observing the fish.

The first step is to teach the students about the life cycle of the salmon and trout. This is done best with the aid of pictures and, if available, videos. After they understand that concept, the other lessons will fall in place.

It is our hope that this unit, *Salmon and Trout Go To First Grade*, will help you introduce and intrigue your students regarding the wonders of salmon, trout, and other life in their local rivers. We encourage you and your students to visit the local river or creek, either as a group or with their families and friends. Even if a field trip is not possible, we hope you enjoy using this guide to open the children's eyes to the delights of nature.

**I**f a child is to keep alive his inborn sense of wonder... he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement and mystery of the world we live in. — Rachel Carson



The California Department of Fish and Game maintains native fish, wildlife, plant species and natural communities for their intrinsic and ecological value and their benefits to people. This includes habitat protection and maintenance in a sufficient amount and quality to ensure the survival of all species and natural communities. The Department is also responsible for the diversified use of fish and wildlife including recreational, commercial, scientific and educational uses.

This publication includes adaptations or material from the publications:

*The Fish Hatchery Next Door, An Educator's Guide* by the Oregon Department of Fish and Wildlife

*Salmonids in the Classroom, curriculum resource materials for the study of Pacific salmonids in British Columbia*, prepared by their 36 federal Department of Fisheries and Oceans and the provincial Ministry of Environment, Lands, and Parks.

*Salmon and Trout Go to School*, written by Diane Higgins and illustrated by Gary Bloomfield.

Word searches and fill-ins were created with Discovery Channel School's Puzzlemaker.

Includes illustrations by Gail Hickman Davis.

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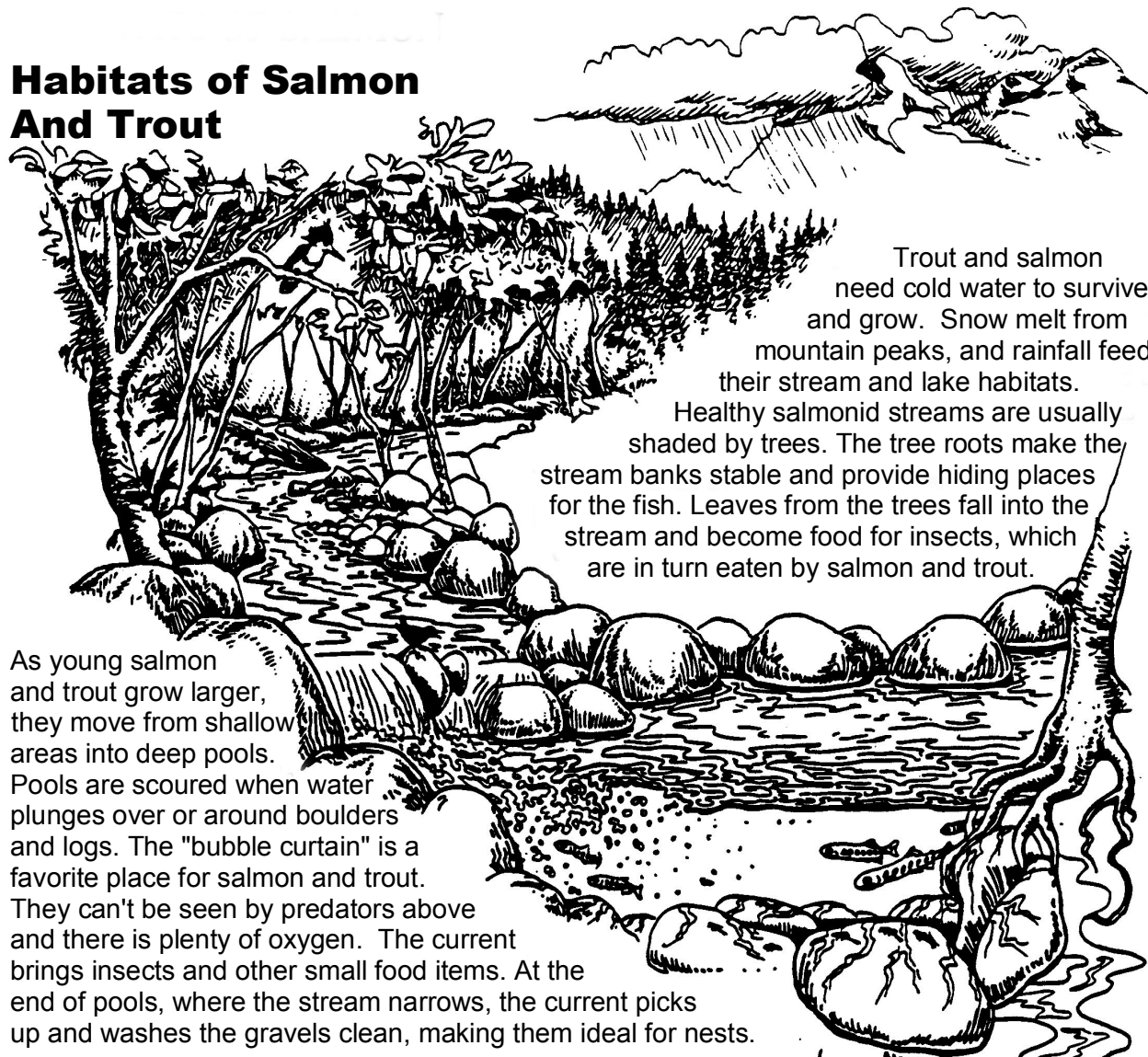
## Appendix

folded fish book covers

folded fish book pages (11"X14", legal size)



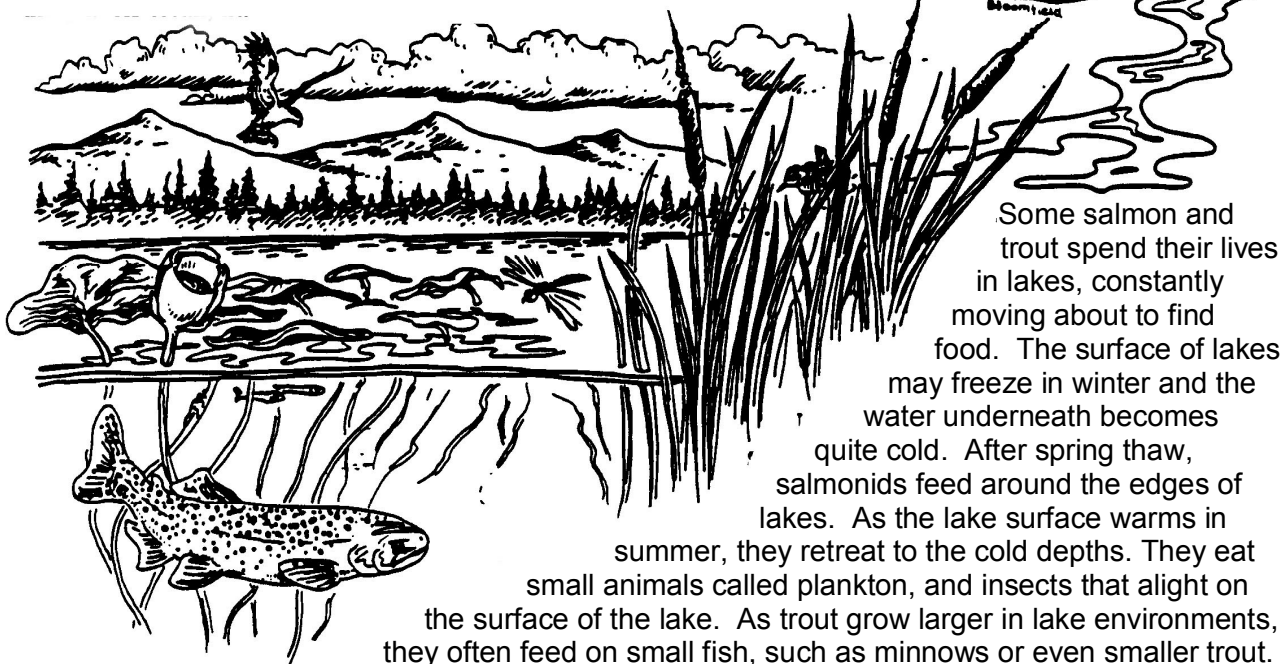
## Habitats of Salmon And Trout



As young salmon and trout grow larger, they move from shallow areas into deep pools. Pools are scoured when water plunges over or around boulders and logs. The "bubble curtain" is a favorite place for salmon and trout. They can't be seen by predators above and there is plenty of oxygen. The current brings insects and other small food items. At the end of pools, where the stream narrows, the current picks up and washes the gravels clean, making them ideal for nests.

Trout and salmon need cold water to survive and grow. Snow melt from mountain peaks, and rainfall feed their stream and lake habitats.

Healthy salmonid streams are usually shaded by trees. The tree roots make the stream banks stable and provide hiding places for the fish. Leaves from the trees fall into the stream and become food for insects, which are in turn eaten by salmon and trout.



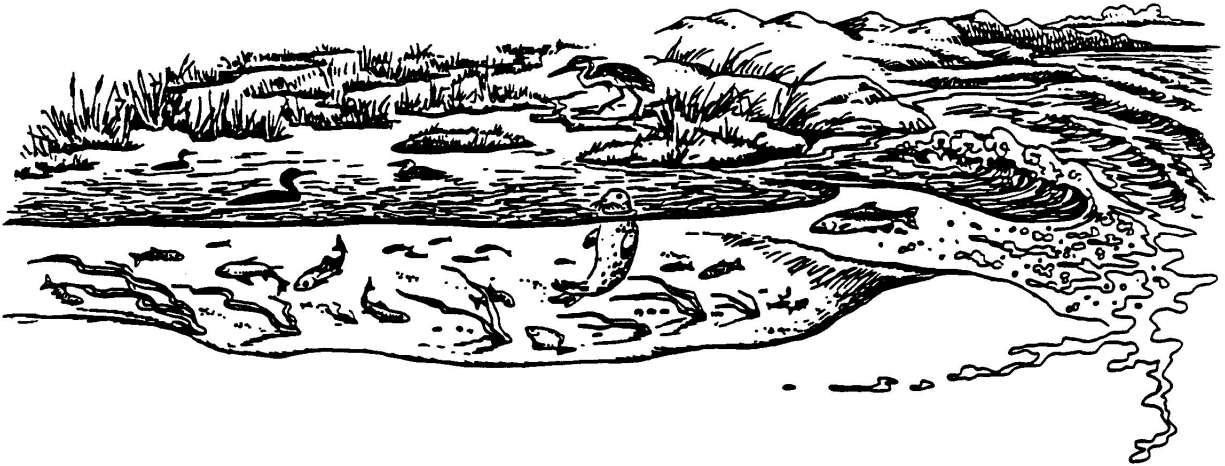
Some salmon and trout spend their lives in lakes, constantly moving about to find food. The surface of lakes

may freeze in winter and the water underneath becomes quite cold. After spring thaw, salmonids feed around the edges of lakes. As the lake surface warms in

summer, they retreat to the cold depths. They eat small animals called plankton, and insects that alight on the surface of the lake. As trout grow larger in lake environments, they often feed on small fish, such as minnows or even smaller trout.

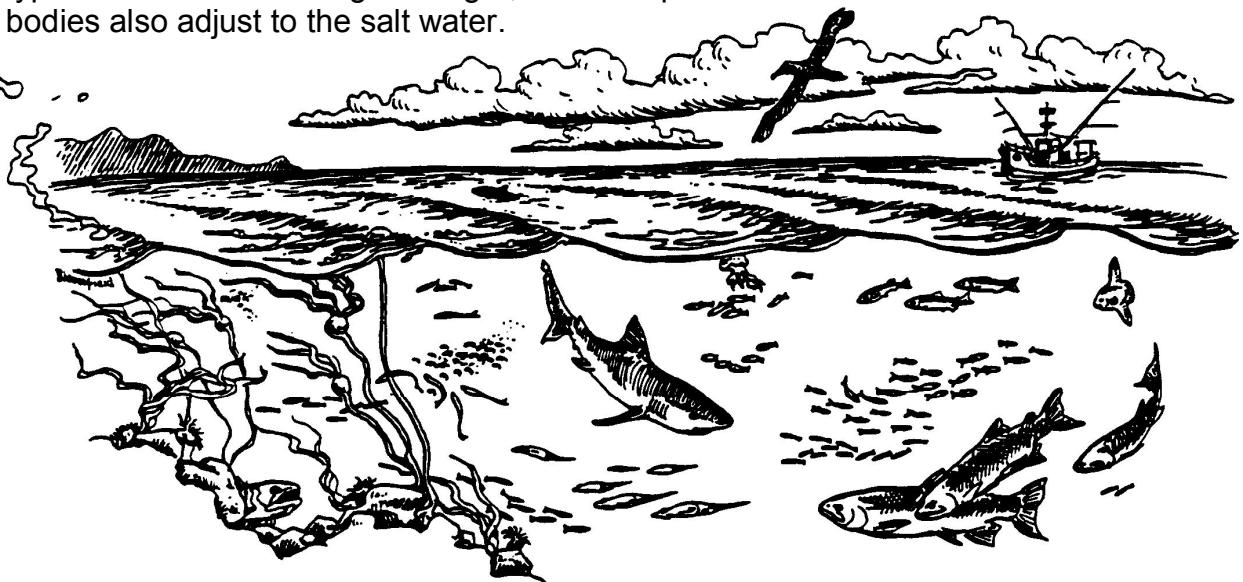
## Seagoing Salmon And Steelhead

Anadromous salmonids spend part of their lives in salt water. Chinook salmon, Coho salmon, steelhead trout and coastal cutthroat trout are all Anadromous. These fish leave their streams and migrate out to the ocean, where they grow much larger than salmonids that stay in the stream all the time. Chinook usually move into the estuary when they are several months old. The other anadromous fish all spend at least one year in the stream before migrating to sea.



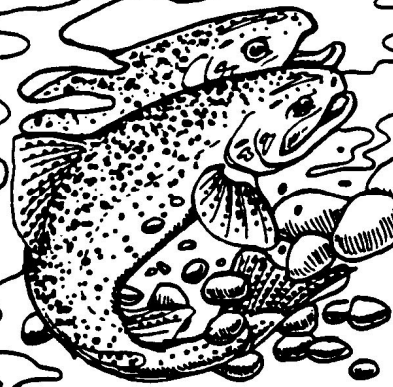
At the river's mouth, fresh water flows into the sea. The sea also surges into the river, and salt water mixes with fresh water. This area of brackish water is the estuary.

Migrating fish stay in the estuary for a while before entering the ocean. They find new types of food to eat and grow larger, which helps them survive in the ocean. Their bodies also adjust to the salt water.



The ocean is a vast resource for the fish. They find much to eat, and they grow very large. Cutthroat trout usually keep close to the river's mouth, and stay for only a few months, so they remain fairly small. But salmon and steelhead stay in the ocean for several years and grow very large. They may swim many miles up and down the coast line. California's north coast is one of the places richest in food in the Pacific Ocean.

## Trout Life Cycle



**Spawning trout** lay eggs in gravel stream bottoms. Trout often spawn several times in their lives.

**Eggs** develop in the gravel and hatch into alevins.

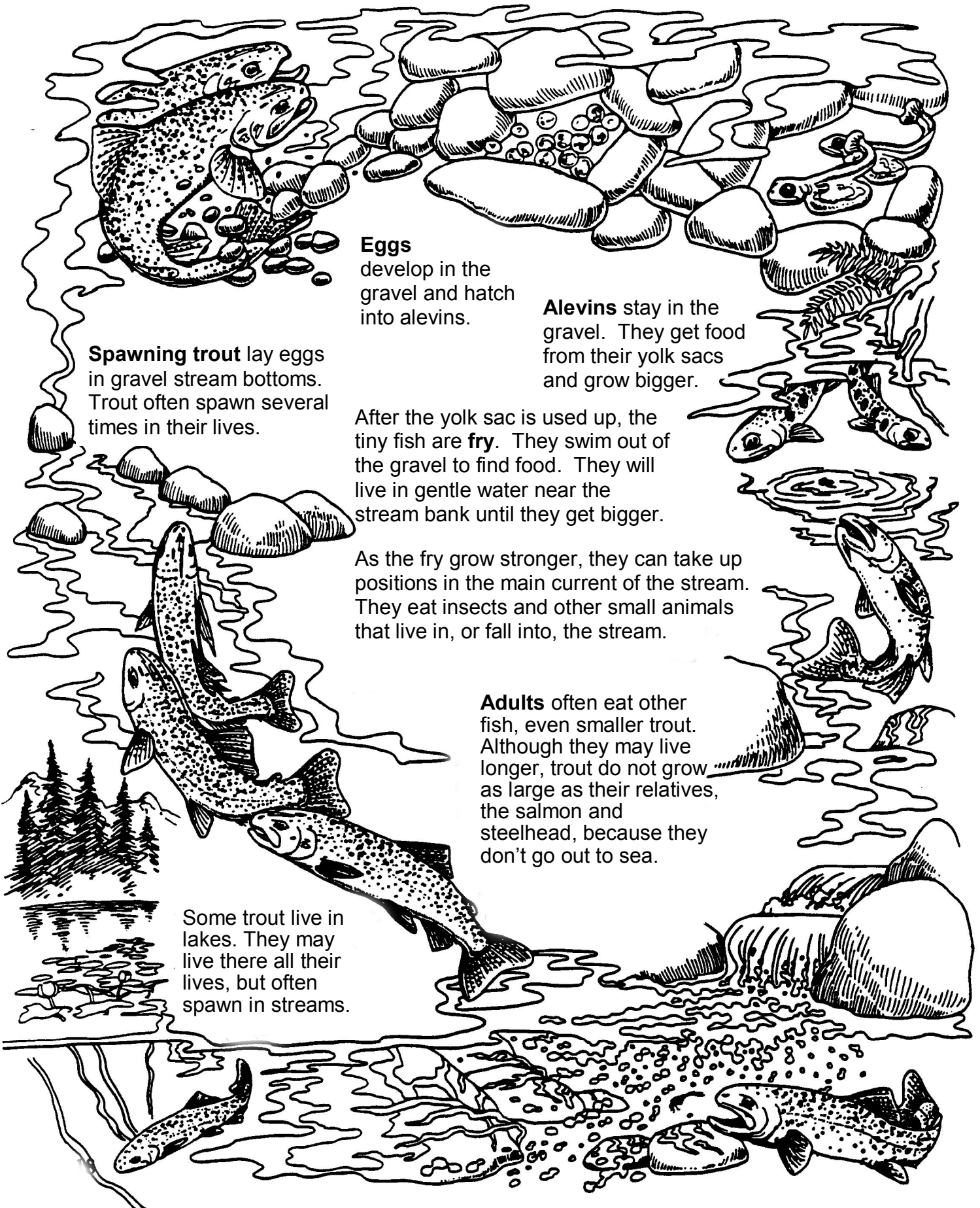
**Alevins** stay in the gravel. They get food from their yolk sacs and grow bigger.

After the yolk sac is used up, the tiny fish are **fry**. They swim out of the gravel to find food. They will live in gentle water near the stream bank until they get bigger.

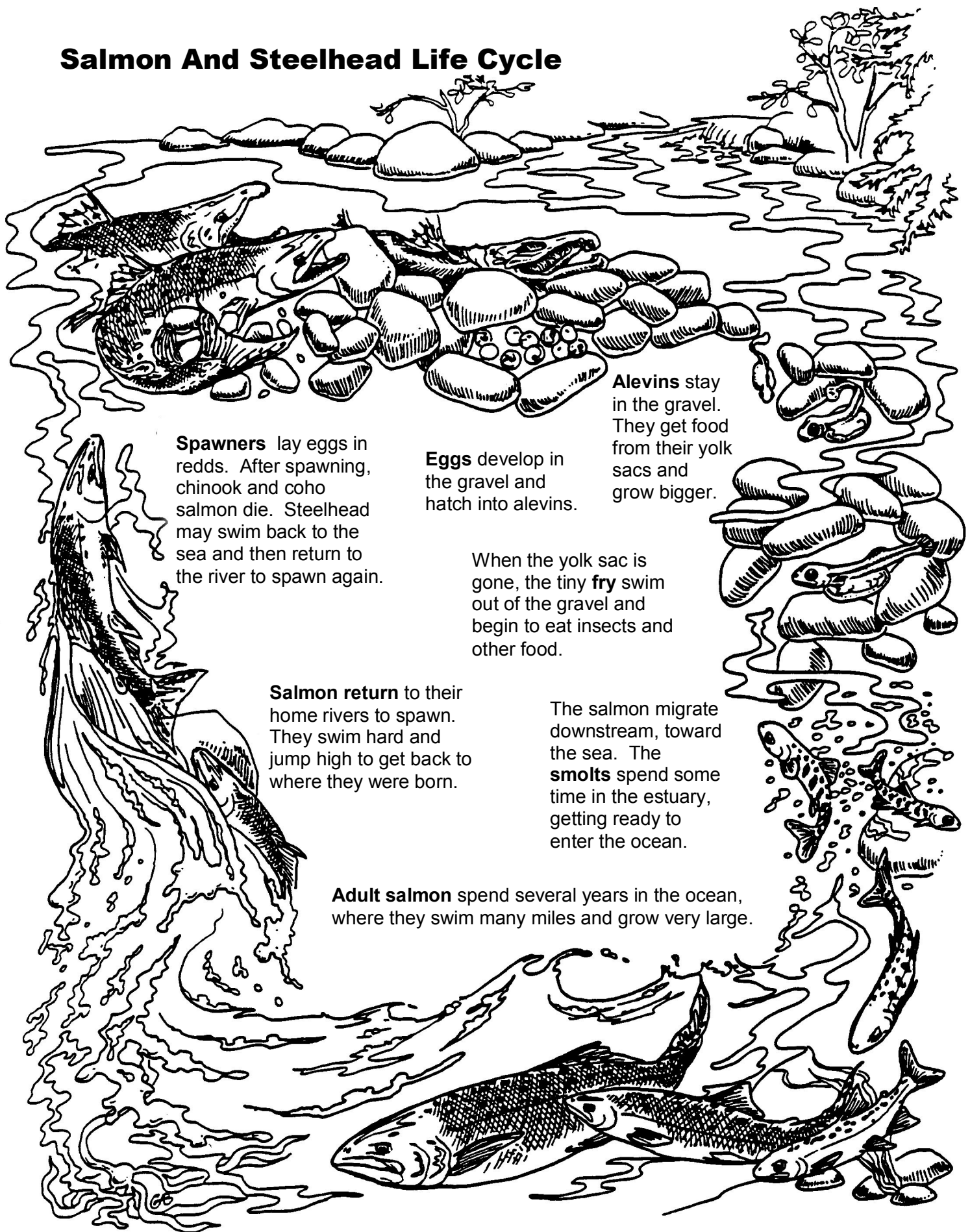
As the fry grow stronger, they can take up positions in the main current of the stream. They eat insects and other small animals that live in, or fall into, the stream.

**Adults** often eat other fish, even smaller trout. Although they may live longer, trout do not grow as large as their relatives, the salmon and steelhead, because they don't go out to sea.

Some trout live in lakes. They may live there all their lives, but often spawn in streams.



# Salmon And Steelhead Life Cycle



**Spawners** lay eggs in redds. After spawning, chinook and coho salmon die. Steelhead may swim back to the sea and then return to the river to spawn again.

**Eggs** develop in the gravel and hatch into alevins.

**Alevins** stay in the gravel. They get food from their yolk sacs and grow bigger.

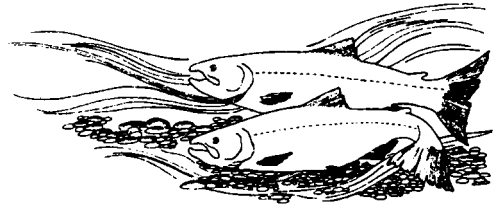
When the yolk sac is gone, the tiny **fry** swim out of the gravel and begin to eat insects and other food.

**Salmon** return to their home rivers to spawn. They swim hard and jump high to get back to where they were born.

The salmon migrate downstream, toward the sea. The **smolts** spend some time in the estuary, getting ready to enter the ocean.

**Adult salmon** spend several years in the ocean, where they swim many miles and grow very large.

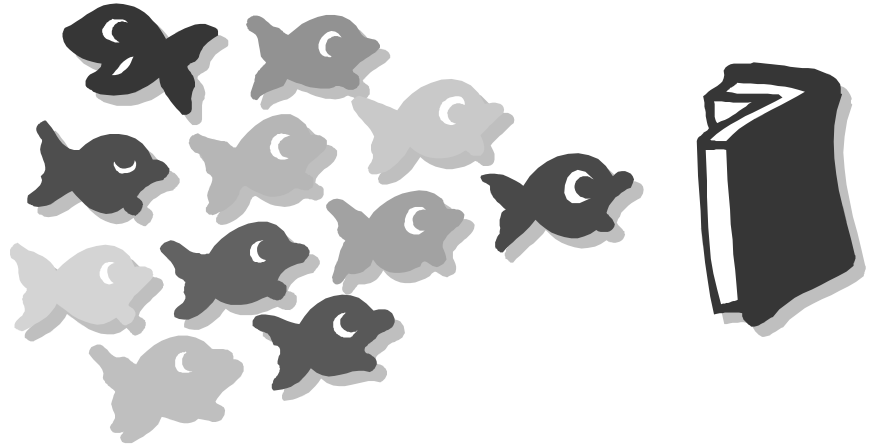
Name \_\_\_\_\_



# WHAT I KNOW!

# MY SALMON OR TROUT BOOK

This book is meant to be an introduction to the life cycle of Pacific salmonids that the students can read, decorate, and call their own.



**STEP 1:** Copy the next to pages back-to-back (2-sided). Make sure the tops of the pages are at the same end of the paper.

**STEP 2:** Cut the page in half on the horizontal dashed line.

**STEP 3:** Fold the two halves on the vertical dashed line.

**STEP 4:** Insert the half with page 2 into the half with cover as shown.

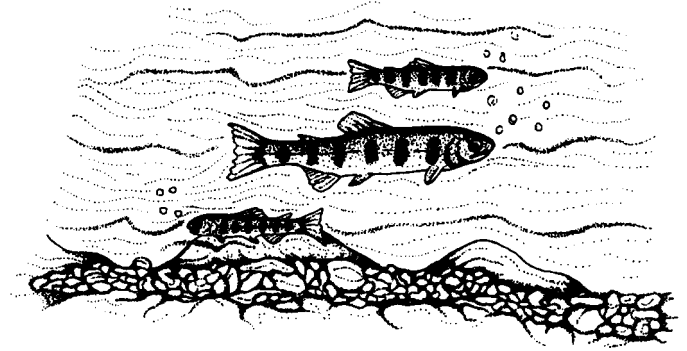
**STEP 5:** Staple to bind the book together.



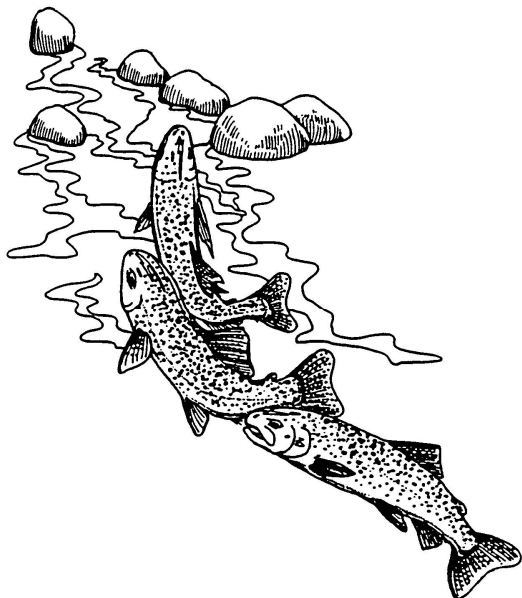
Your purchase of fishing equipment and motor boat fuel supports boating access and Sport Fish Restoration.

Classroom Aquarium Education Program, Grade 1 Thematic Unit  
California Department of Fish & Game, Central Region

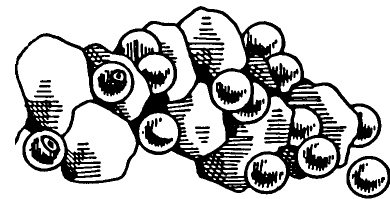
# My Trout Book



Name \_\_\_\_\_

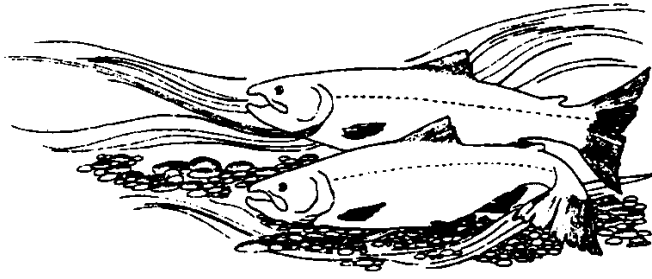


The smolts grow up to be adults.



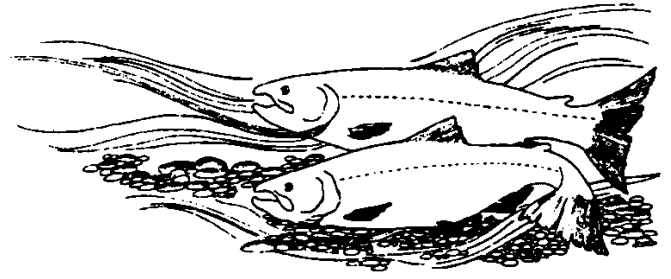
Eggs stay in the nest.  
The nest is called a redd.





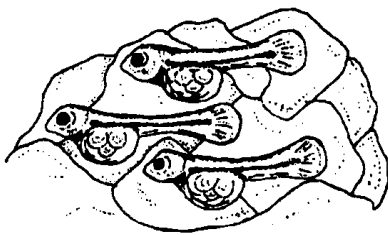
Adults lay eggs.

1



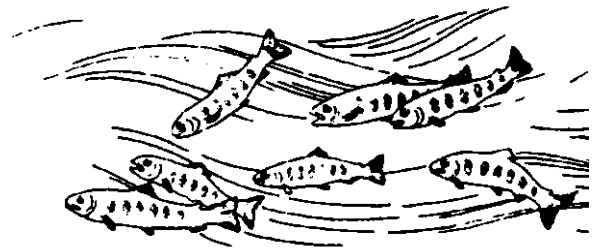
Adults lay eggs.

6



The alevins hide  
in the gravel.

3



The fry look for food.

4

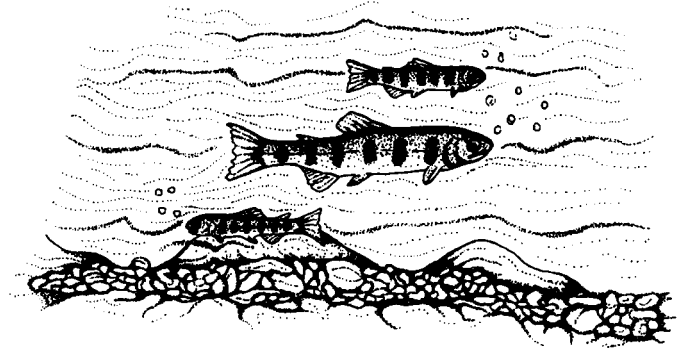




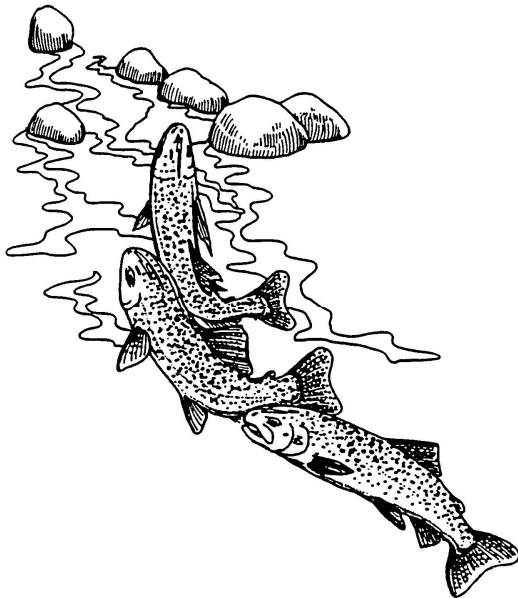
Your purchase of fishing equipment and motor boat fuel supports boating access and Sport Fish Restoration.

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California Department of Fish & Game, Central Region

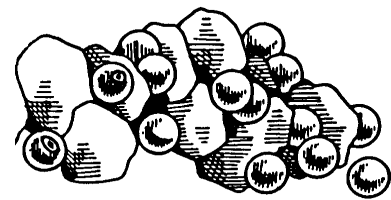
# My Salmon Book



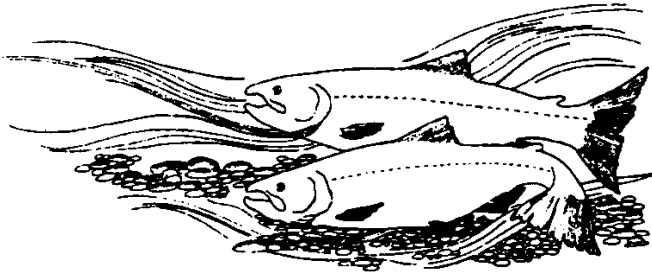
Name \_\_\_\_\_



The smolts grow up to be adults.

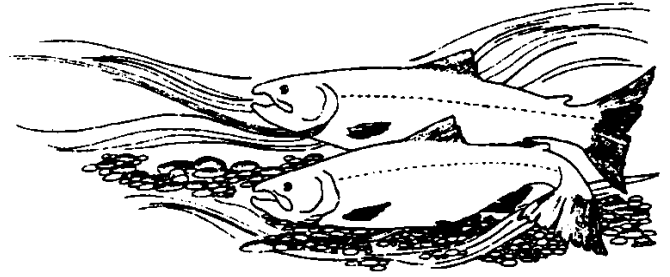


Eggs stay in the nest.  
The nest is called a redd.



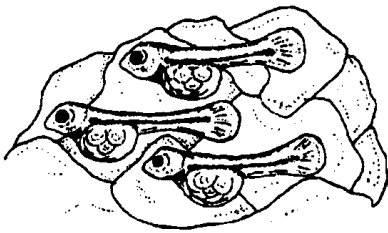
Adults lay eggs.

1



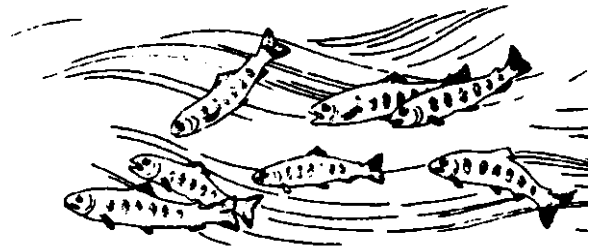
Adults lay eggs.

6



The alevins hide  
in the gravel.

3

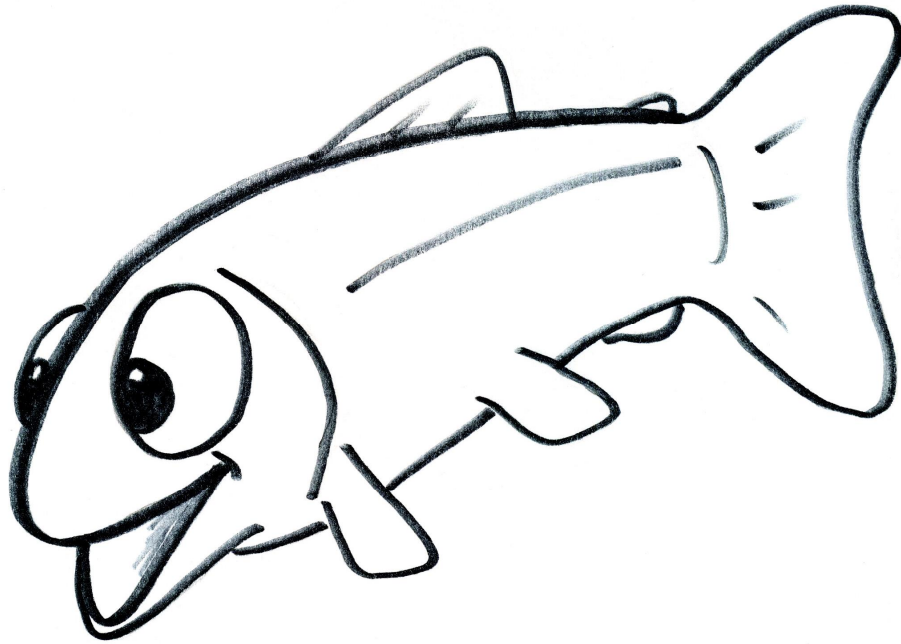


The fry look for food.

4

# My Salmon/Trout Observations

The students will witness three main life stages of the trout or salmon during this project- the egg, alevin, and fry stages. This book is designed to give them space to observe and record those three stages. Of course, more pages can be added if the students record more observations.

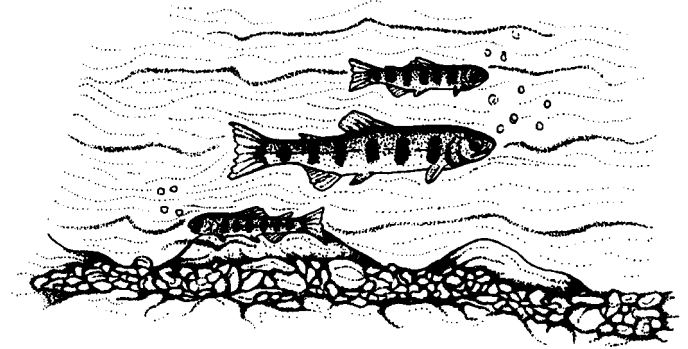




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California Department of Fish & Game, Central Region

# My Salmon Observations



Name \_\_\_\_\_

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Handwriting practice lines (solid top and bottom lines with a dotted middle line) for page 1.

1

Handwriting practice lines (solid top and bottom lines with a dotted middle line) for page 6.

6

Handwriting practice lines (solid top and bottom lines with a dotted middle line) for page 3.

3

Handwriting practice lines (solid top and bottom lines with a dotted middle line) for page 4.

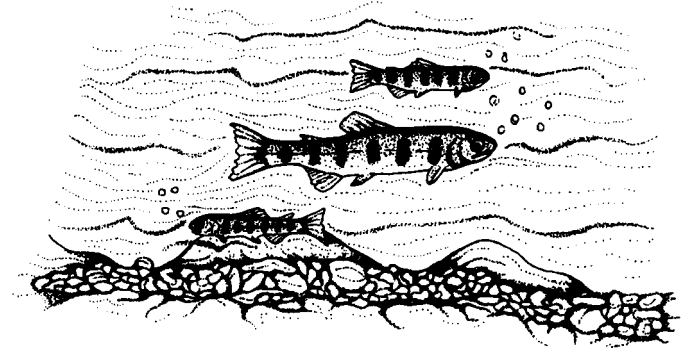
4



Your purchase of fishing equipment and motor boat fuel supports boating access and Sport Fish Restoration.

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California Department of Fish & Game, Central Region

# My Trout Observations



Name \_\_\_\_\_

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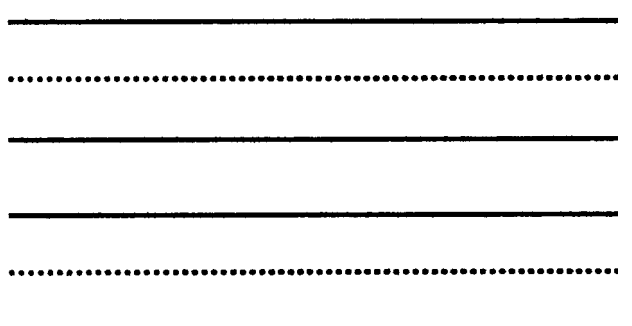
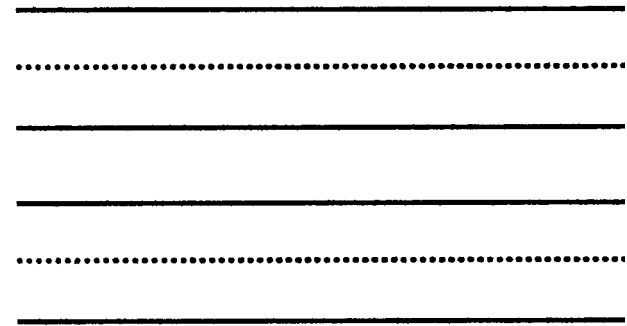
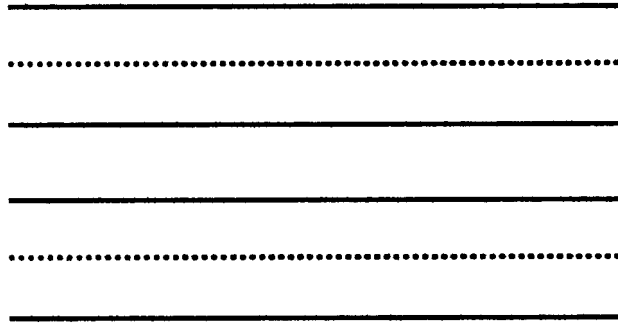
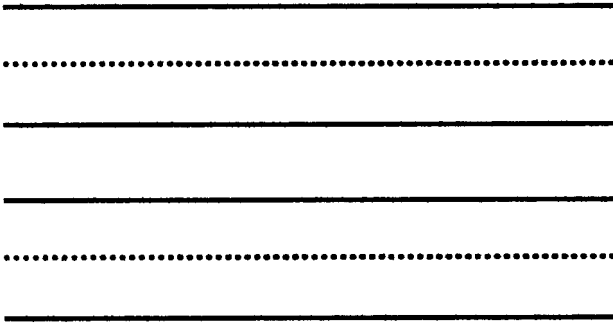
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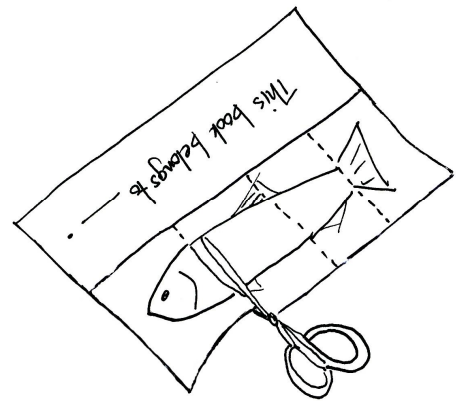


# MY FLIP FLAP FISH BOOK

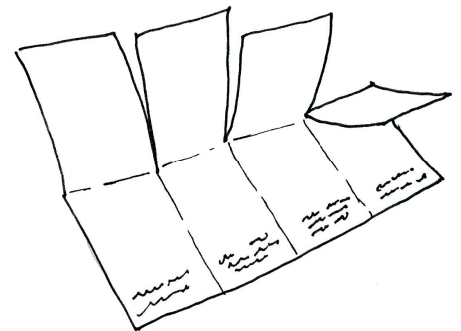
To make this book, copy pages 17 and 18 back to back so that behind the fish the page is blank. Behind "This book belongs to" should be the text on the 4 mini pages. Make one copy per student.

To make the book:

1. Fold lengthwise so that the fish is on the outside.
2. Unfold the paper.
3. Cut along the dotted lines to the fold (up to the stop signs).



4. Refold the page. You should have four mini covers now.
5. The students can now illustrate their books.



Adapted from the flip flap book on [www.vickiblackwell.com/makingbooks.html](http://www.vickiblackwell.com/makingbooks.html)





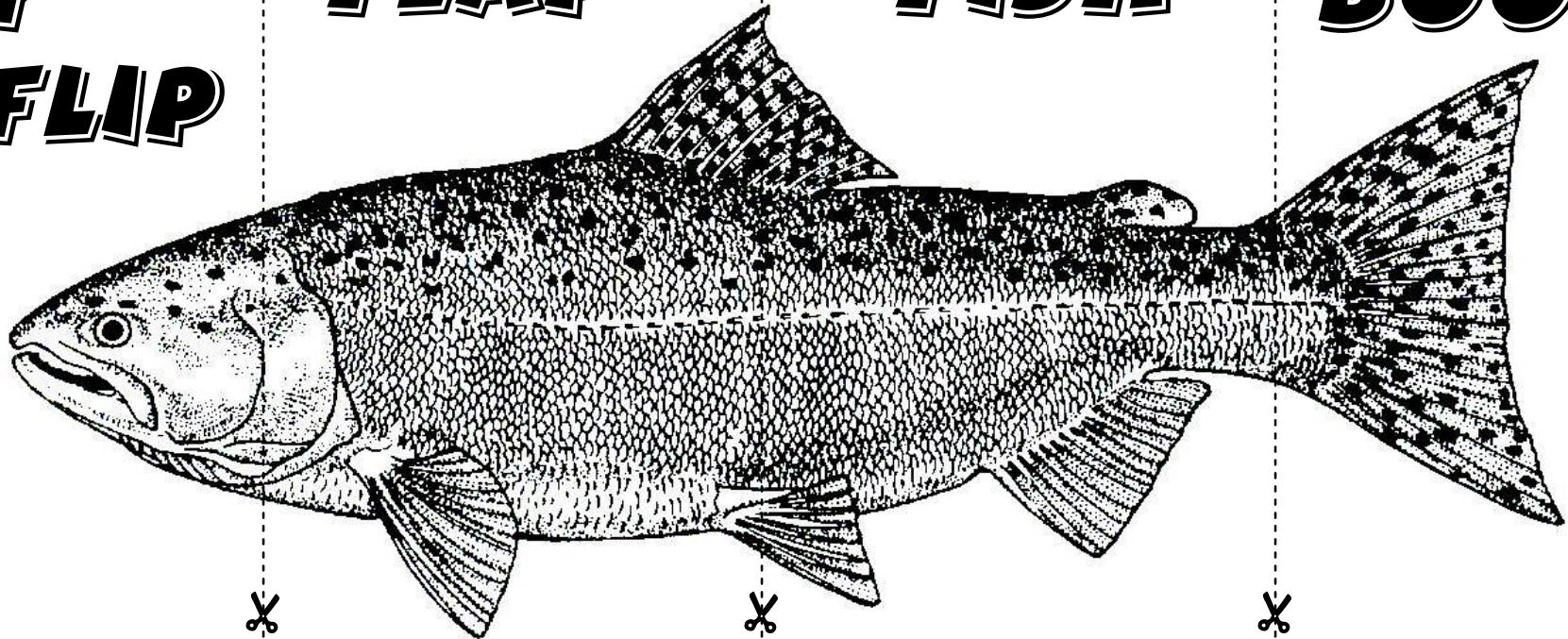
This book belongs to \_\_\_\_\_.

**MY  
FLIP**

**FLAP**

**FISH**

**BOOK**



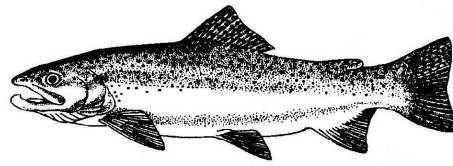
Salmon and trout lay their eggs in nests of rocks. The nests are called redds.

The fish hatch with yolk sacs. They are called alevins.







Salmon and trout may swim to the ocean to grow up.

They return to the river to lay eggs.

# Folded Fish Book



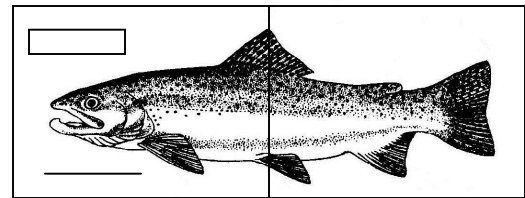
## Materials Needed:

-  copies of the cover fish located in the appendix; one for each student
-  double-sided copies of the 11"x14" pages of the book that are located in the appendix
-  glue sticks
-  pencils
-  markers, crayons, or colored pencils
-  scissors

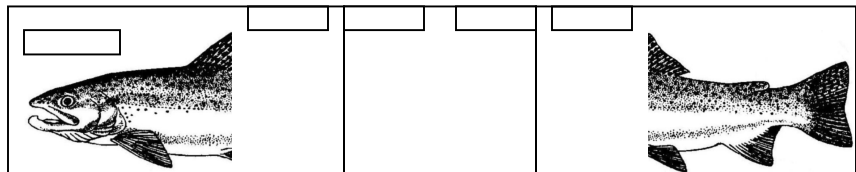
## Procedure:

This activity gives the students a chance to make a book of their own. Depending on your students' skill levels and the time you have available, you may want to do some of the folding or cut beforehand.

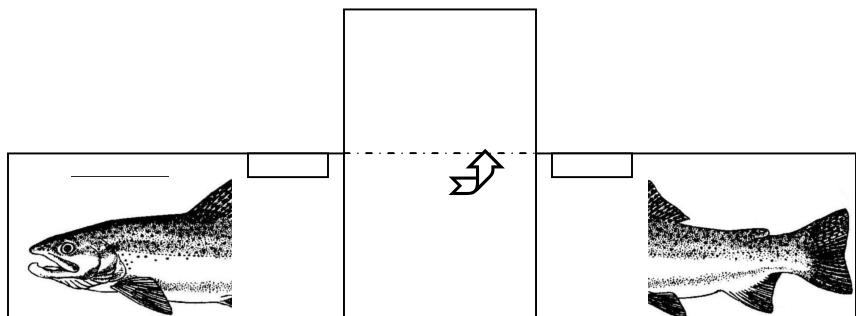
When the book is closed it will look like this:



When the head cover and tail cover are pulled apart the book will open.



Then the middle of the book flips up to reveal a larger page.



To Assemble:

① Keeping the four boxes of text on the outside, fold the 11"x14" copy in half lengthwise along the dotted line.

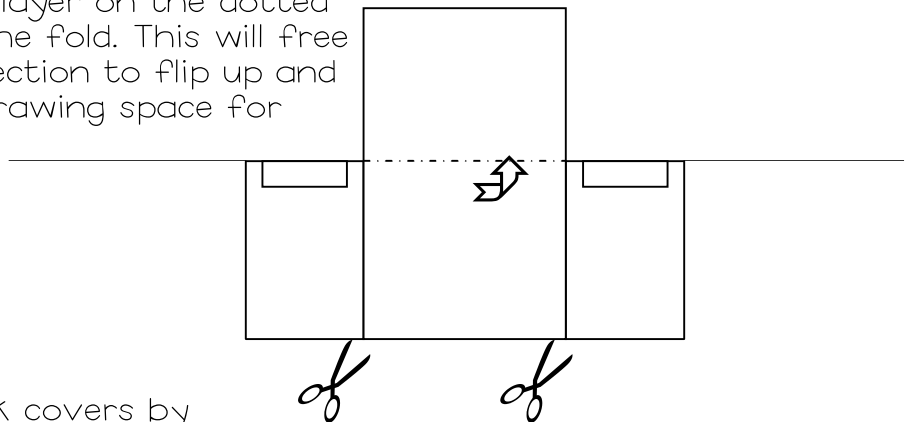
② Fold the paper on the two edges on the vertical lines so that the text is inside.



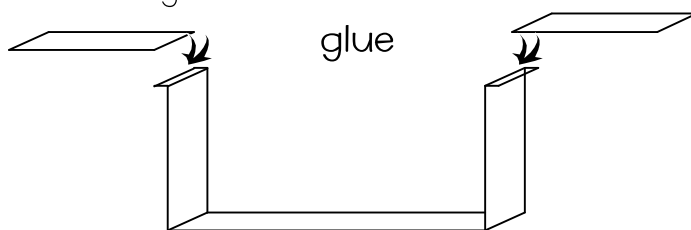
③ Fold the two edges on the vertical lines so that the edges turn outward.



④ Cut the top layer on the dotted lines up to the fold. This will free the middle section to flip up and reveal the drawing space for habitat.

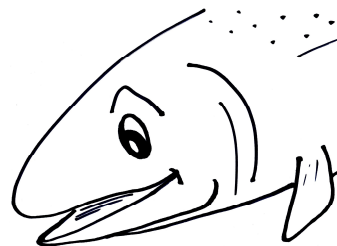


⑤ Trim the book covers by cutting along the dotted lines. Glue the covers on the edges of the book.



⑥ Now it's time to draw in the book!

Name \_\_\_\_\_



# WHAT A STORY!

What do you think just happened? Write a story.

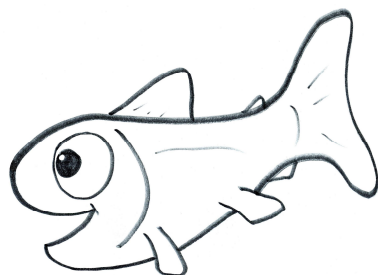
The image displays four identical sets of horizontal lines for handwriting practice. Each set is composed of three lines: a solid top line, a dashed midline, and a solid bottom line. These sets are arranged vertically, providing a template for practicing letter formation and alignment.

Name \_\_\_\_\_

# RHYMING WITH TROUT

Use the letters in the box to make words that rhyme with trout.

sh	st	p	ab
----	----	---	----



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

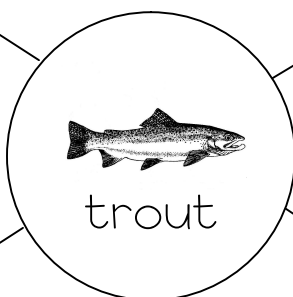
\_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



trout

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Extra Challenge!

Write a word that means the opposite of "with" and rhymes with "trout".

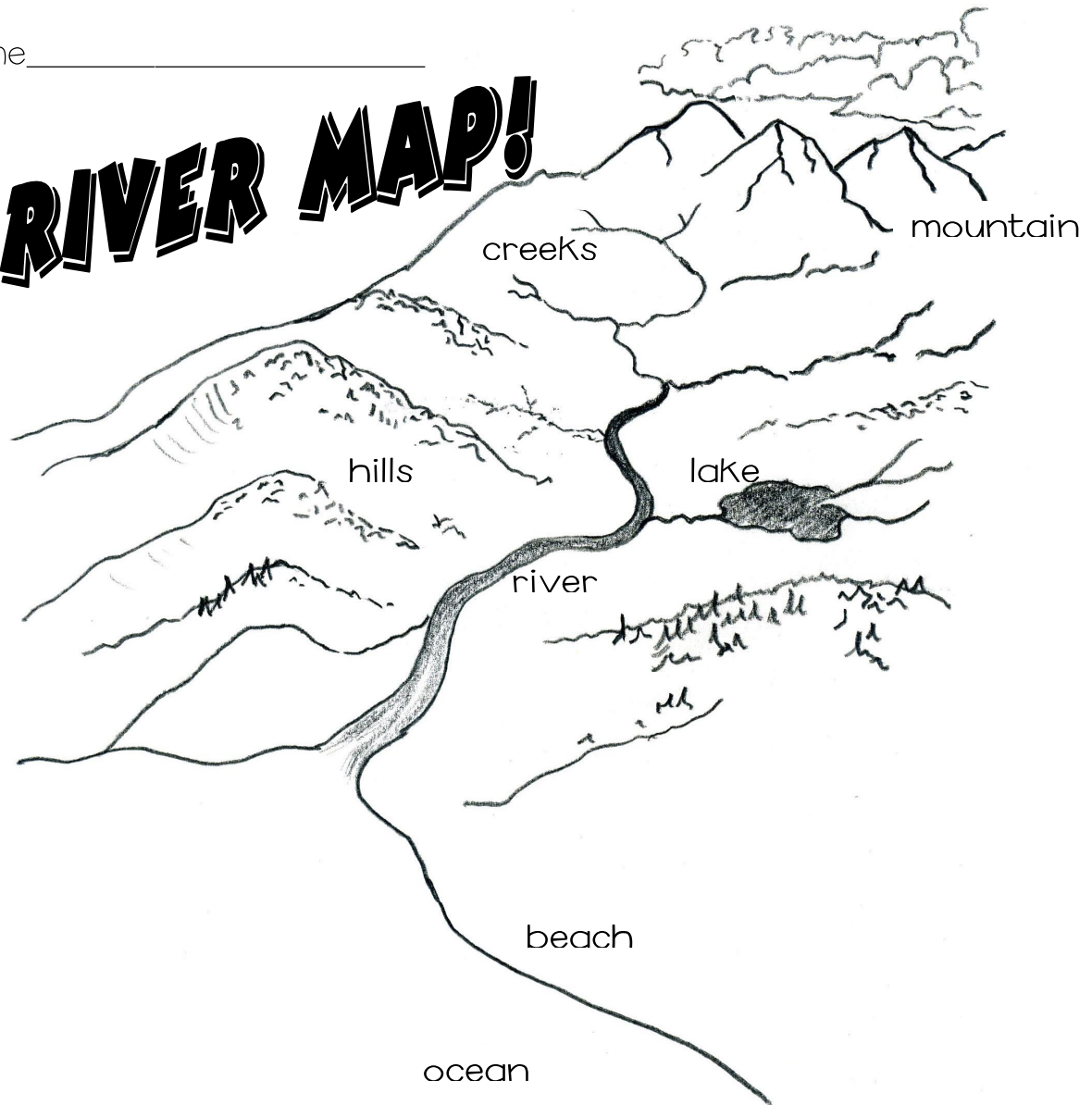
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_

# A RIVER MAP!



Water flows down the **mountains** and **hills** into small creeks. Creeks join together to make a bigger river. Creeks may flow into a **lake**. Rivers flow into the **ocean**. The **beach** is the land next to the **ocean**. Salmon and trout migrate down the rivers into the ocean. They migrate back up the river when it is time to spawn.





Name \_\_\_\_\_

# A RIVER MAP!



Write the label that belongs to each number.  
Use the word box to help you.

- ① \_\_\_\_\_
- ② \_\_\_\_\_
- ③ \_\_\_\_\_
- ④ \_\_\_\_\_
- ⑤ \_\_\_\_\_
- ⑥ \_\_\_\_\_
- ⑦ \_\_\_\_\_

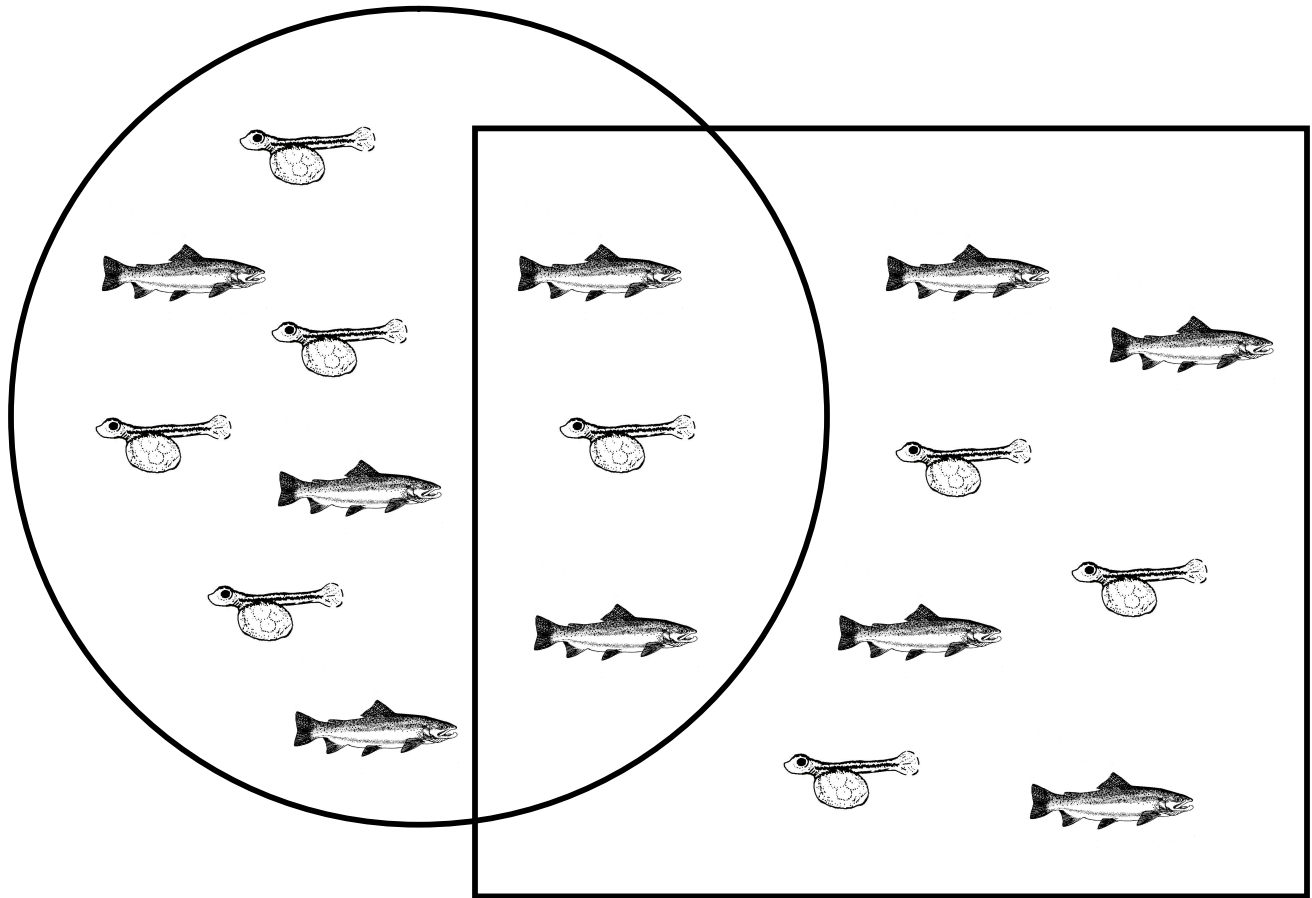
## WORD BOX

river  
ocean  
lake  
hills  
beach  
creeks  
mountain



# ALEVINS AND ADULTS

Name \_\_\_\_\_



1. How many  are in the  ? \_\_\_\_\_

2. How many  are in the  ? \_\_\_\_\_

3. How many  are in both the  and the  ? \_\_\_\_\_

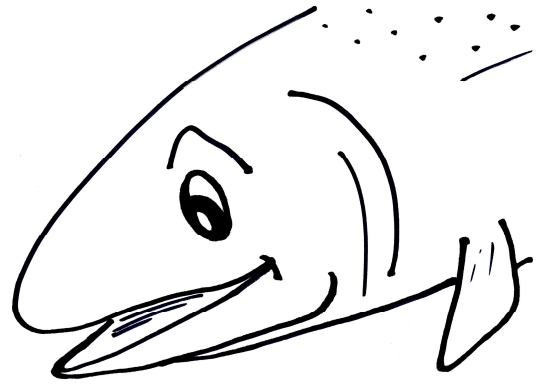
4. How many  are in both the  and the  ? \_\_\_\_\_

5. How many  are in the  but not in the  ? \_\_\_\_\_

Name \_\_\_\_\_

# FISH SCRAMBLE

Unscramble the letters to make words.  
Draw a picture for each word.



g e g s

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r t u t o

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d r d e

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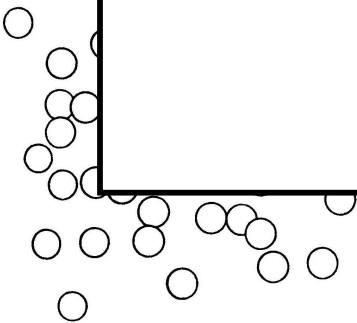
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v r i r e

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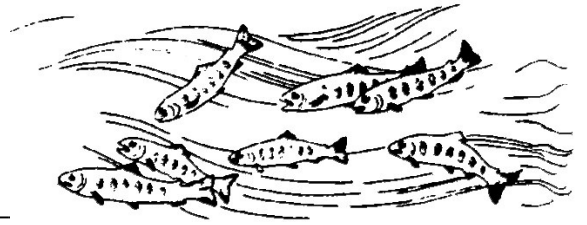
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Name \_\_\_\_\_

# FISH JUMBLES

Unscramble the letters to find the fishy words.



1. geg \_\_\_\_\_

2. yfr \_\_\_\_\_

3. lk yo \_\_\_\_\_

4. derd \_\_\_\_\_

5. venlai \_\_\_\_\_

6. wansp \_\_\_\_\_

7. grmtaie \_\_\_\_\_

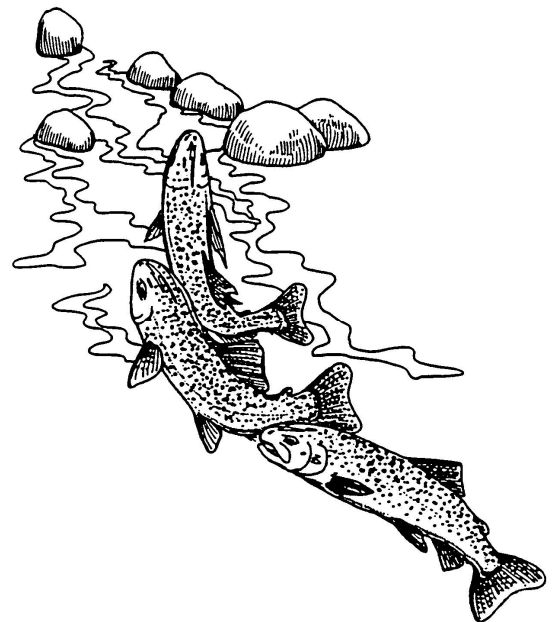
8. tbtiaha \_\_\_\_\_

9. tismo \_\_\_\_\_

10. rtuot \_\_\_\_\_

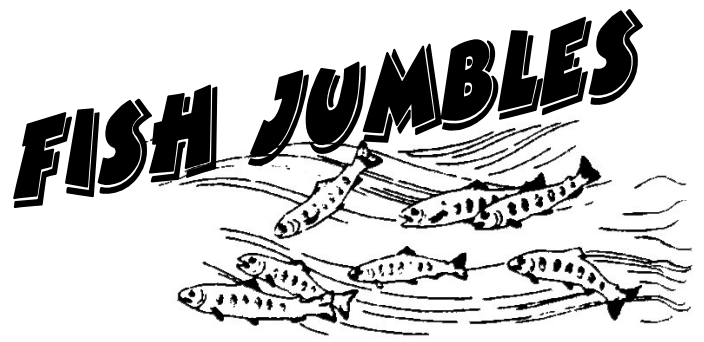
11. lasnmo \_\_\_\_\_

12. chtha \_\_\_\_\_



# Answers

Unscramble the letters to find the fishy words.



1. geg \_\_\_\_\_ egg \_\_\_\_\_

2. yfr \_\_\_\_\_ fry \_\_\_\_\_

3. lkyo \_\_\_\_\_ yolk \_\_\_\_\_

4. derd \_\_\_\_\_ redd \_\_\_\_\_

5. venlai \_\_\_\_\_ alevin \_\_\_\_\_

6. wansp \_\_\_\_\_ spawn \_\_\_\_\_

7. grmtaie \_\_\_\_\_ migrate \_\_\_\_\_

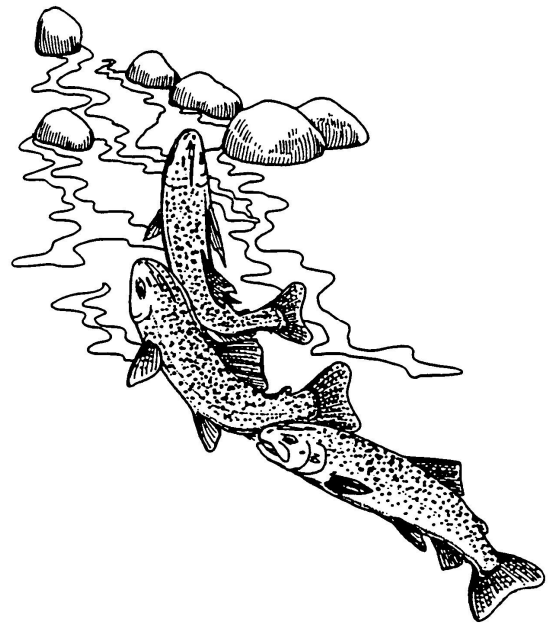
8. tbtiaha \_\_\_\_\_ habitat \_\_\_\_\_

9. tlsmo \_\_\_\_\_ smolt \_\_\_\_\_

10. rtuot \_\_\_\_\_ trout \_\_\_\_\_

11. lasnmo \_\_\_\_\_ salmon \_\_\_\_\_

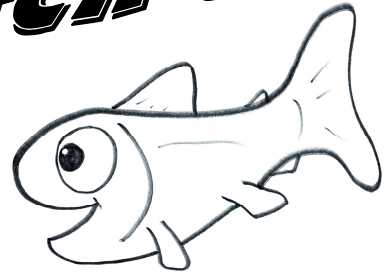
12. chtha \_\_\_\_\_ hatch \_\_\_\_\_



Name \_\_\_\_\_

Read the words in the box.  
Write each word next to  
its definition.

# **FISHY MATCH UP**



fry	alevin	smolt
habitat	redd	biologist

a trout or salmon  
that just hatched

---

---

---

a salmon or trout nest

---

---

---

a small trout or salmon  
that has used all of  
its yolk sac

---

---

---

the place where a fish  
or animal lives

---

---

---

a young salmon or trout  
that is ready to migrate  
to the ocean

---

---

---

a person who studies plant  
and animal life

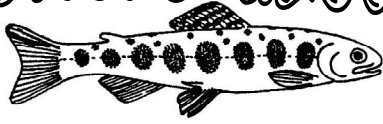
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Name \_\_\_\_\_

# Questions about salmon and trout!



Write an answer to each question.

1. Why does an alevin have a yolk sac?

---

---

---

---

---

2. Why do fish have gills?

---

---

---

---

---

3. What do trout and salmon fry eat?

---

---

---

---

---

4. Where do adult salmon and trout go to lay their eggs?

---

---

---

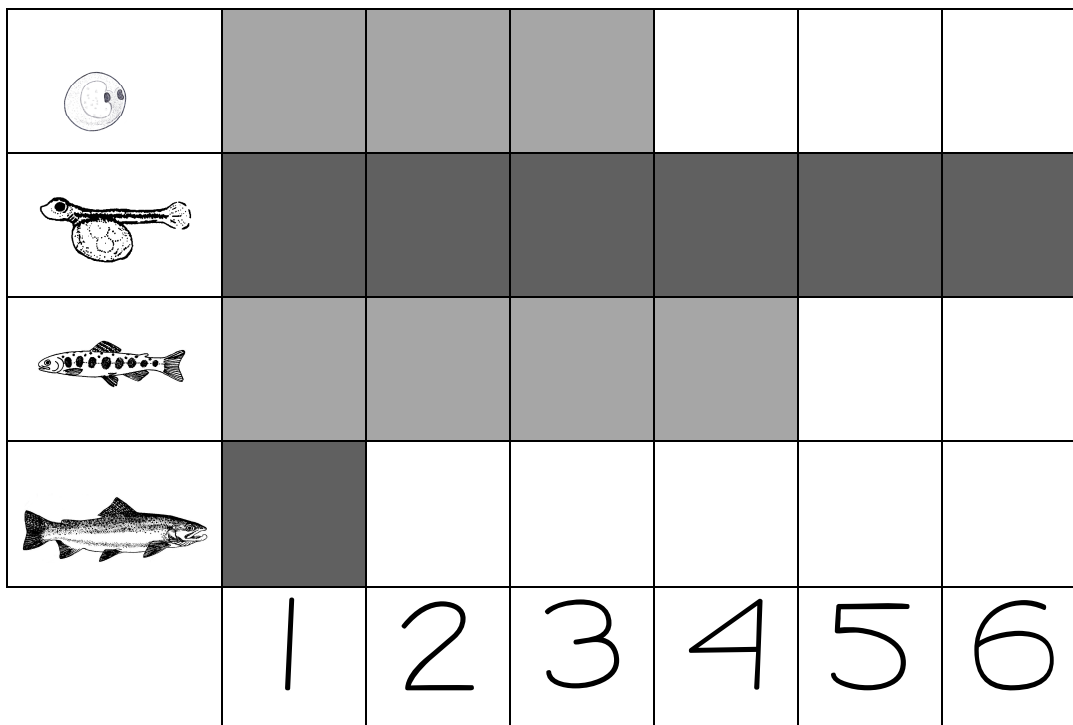
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Name \_\_\_\_\_

# GRAPHING SALMON

Read the graph.



1. How many  ? \_\_\_\_\_

2. How many  ? \_\_\_\_\_

3. How many more  than  ? \_\_\_\_\_

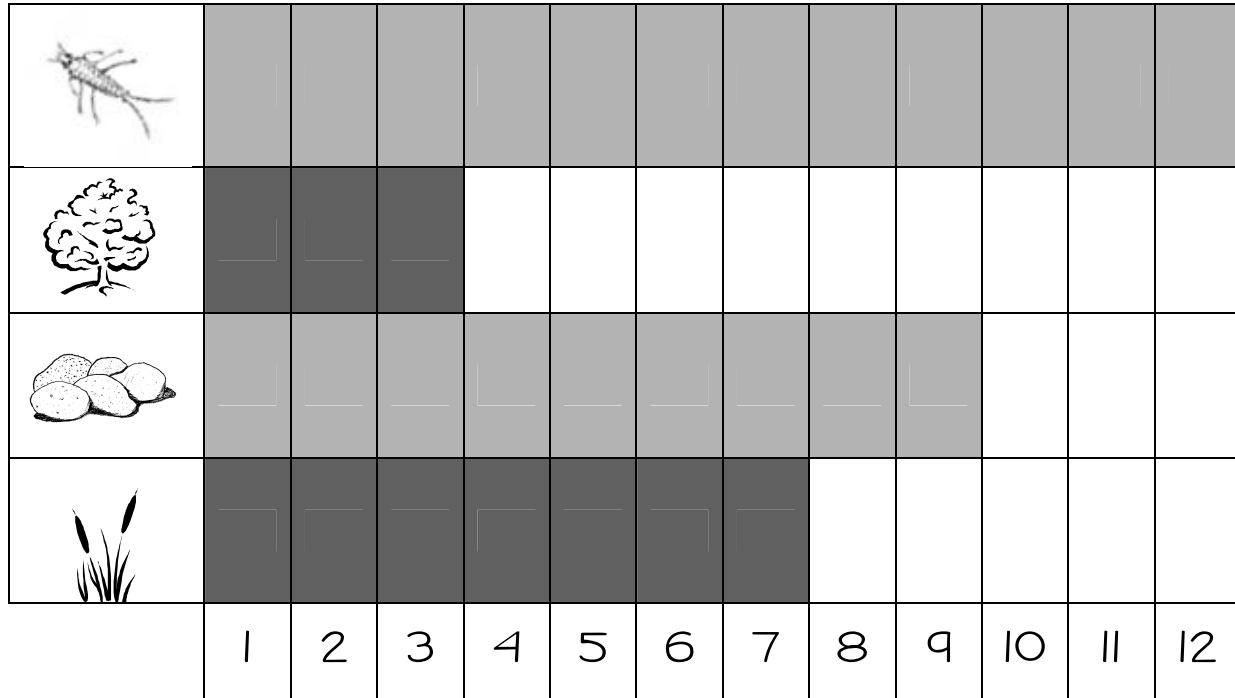
4. How many more  than  ? \_\_\_\_\_

5. How many more  than  ? \_\_\_\_\_

Name \_\_\_\_\_

# HABITAT GRAPH

Use the information from the graph to answer the questions about the salmon habitat.



1. Fry need insects to eat. How many insects are in this part of the stream?



\_\_\_\_\_

2. Salmon and trout streams need shade. How many trees are on the banks of the stream?



\_\_\_\_\_

3. Salmon need rocks to make their nests and to protect their alevin. How many rocks are in this part of the stream?



\_\_\_\_\_

4. Insects need plants to eat. Fry need to hide in plants to stay safe from predators. How many plants are on the edge of the stream?



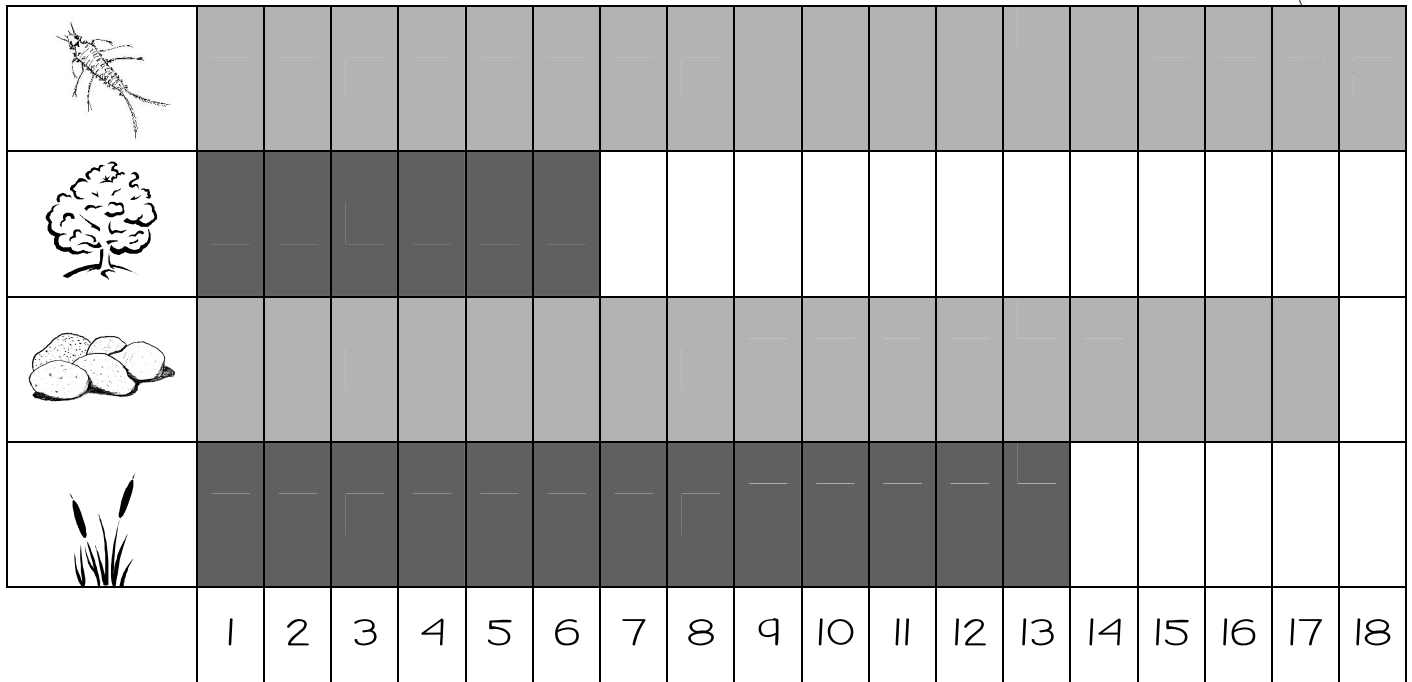
\_\_\_\_\_



# How's THE HABITAT ?

Name \_\_\_\_\_

You are a biologist checking on this trout stream. Use the information from the graph to learn if the habitat is healthy.



1. Are there insects for the fry to eat? yes no 

How many insects are in this part of the stream?

\_\_\_\_\_

2. Are there trees to keep the water cool? yes no



How many trees are shading the stream?

\_\_\_\_\_

3. Are there rocks for the trout to make their redds and protect their alevins? yes no



How many rocks are in this part of the stream?

\_\_\_\_\_

4. Are there plants for insects to eat and the fry to hide in?

yes no



How many plants are on the edge of the stream?

\_\_\_\_\_

Name \_\_\_\_\_



# FISHY NUMBERS

Circle the numeral that is the same as each set.

10    15    12	13    14    15	13    14    12	10    12    14
12    11    9	9    11    13	16    14    15	10    11    12
15    14    13	15    12    13	12    14    15	10    11    12



# ANSWERS

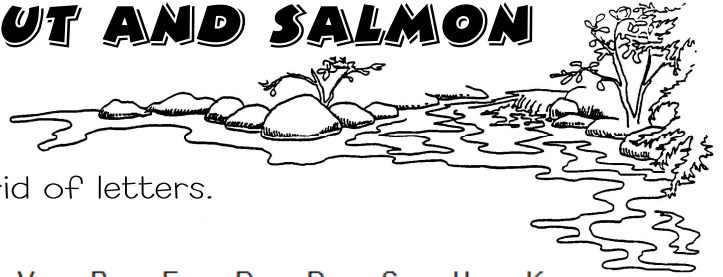
## FISHY NUMBERS

Circle the numeral that is the same as each set.

10    15    (12)	13    14    (15)	13    (14)    12	(10)    12    14
12    11    (9)	9    (11)    13	(16)    14    15	10    (11)    12
15    14    (13)	(15)    12    13	12    (14)    15	10    11    (12)

Name \_\_\_\_\_

# THE WORLD OF TROUT AND SALMON

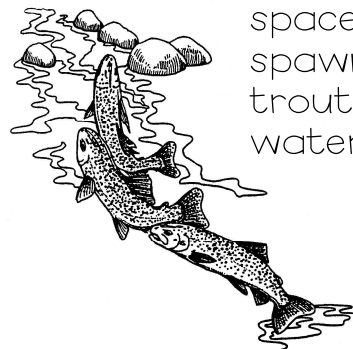


Find the hidden words in the grid of letters.

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

adult  
alevin  
egg  
food  
fry  
gravel

migrate  
redd  
river  
salmon  
shelter  
smolt



space  
spawn  
trout  
water

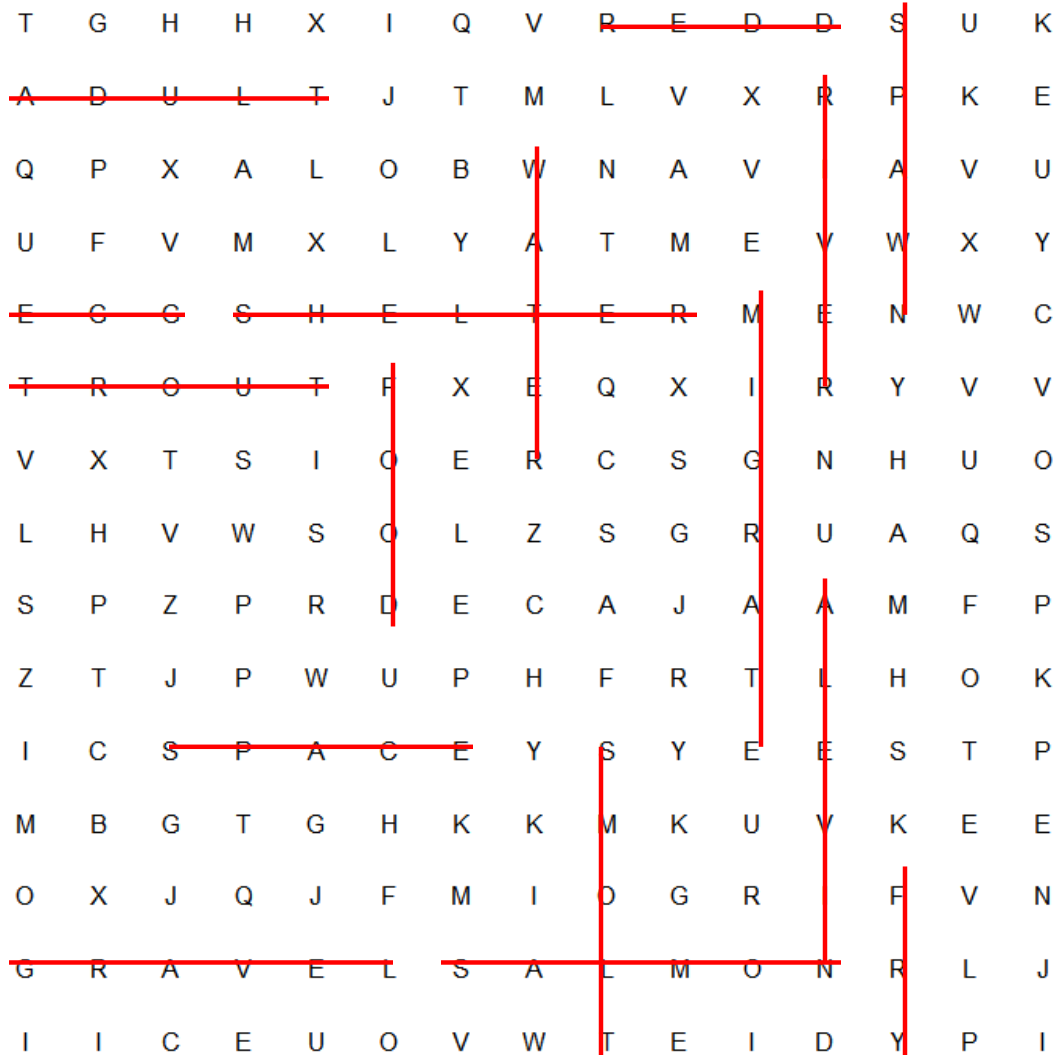


# ANSWERS



## THE WORLD OF TROUT AND SALMON

Find the hidden words in the grid of letters.



adult  
alevin  
egg  
food  
fry  
gravel

migrate  
redd  
river  
salmon  
shelter  
smolt



space  
spawn  
trout  
water





# **SUPER SALMON SENTENCES**

Sentences need to include:



a noun (who or what)



a verb (did what)



where

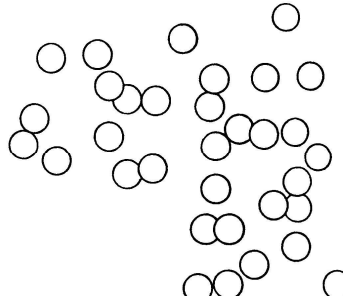


when



Adjectives (words that describe) can be added too.

Use the words below or think of your own words to write a Super Salmon Sentence (or Terrific Trout Sentence) about the Traveling Fish picture on the next page.

<b>adjectives</b> (describing words):  1. smart 2. funny 3. slimy 4. happy	<b>noun</b> (who or what?)  1. my trout 2. my salmon 3. Sam Salmon 4. Trudie Trout	<b>verb</b> (did what?)  1. migrated 2. went to lunch 3. swam 4. took a trip
<b>where?</b> 1. up the river 2. in the lake 3. around California 4. in the bay	<b>when?</b> 1. after school 2. in the fall 3. on Saturday 4. during the flood	

Name \_\_\_\_\_

# TRAVELING FISH



Write one sentence about super salmon or terrific trout.  
Describe who did what, when, and where.

Handwriting practice lines consisting of solid top and bottom lines with a dashed midline. There are four sets of these lines provided for writing.

# FANTASTIC FISH SENTENCES

Sentences need to include:



a noun (who or what)



a verb (did what)



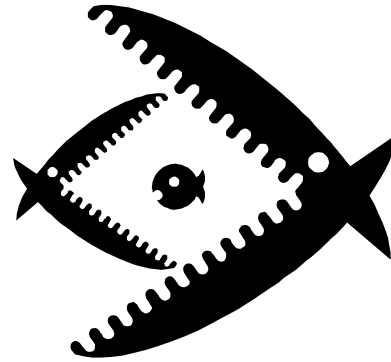
where



when



Adjectives (words that describe) can be added too.



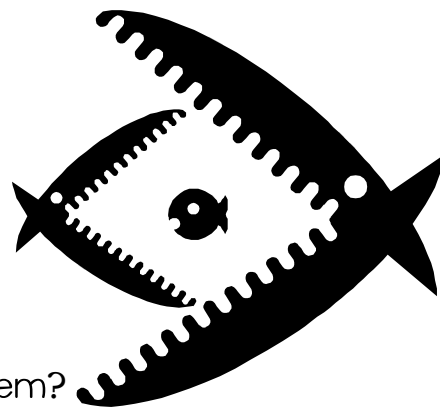
Use the words below or think of your own words to write a Super Salmon Sentence or a Terrific Trout Sentence about the Traveling Fish picture on the next page.

adjectives (describing words):	noun (who or what?)	verb (did what?)
<ol style="list-style-type: none"> <li>fast</li> <li>sleek</li> <li>slimy</li> <li>wet</li> <li>patient</li> </ol>	<ol style="list-style-type: none"> <li>trout</li> <li>salmon</li> <li>smolt</li> <li>steelhead</li> <li>fry</li> </ol>	<ol style="list-style-type: none"> <li>foraged for insects</li> <li>took the bait</li> <li>ate a small fish</li> <li>looked for food</li> <li>hid</li> </ol>
where?	when?	
<ol style="list-style-type: none"> <li>by the riverbank</li> <li>in the stream</li> <li>in the estuary</li> <li>in the ocean</li> <li>under the tree roots</li> </ol>	<ol style="list-style-type: none"> <li>when he was hungry</li> <li>in the springtime</li> <li>when she was migrating</li> <li>in the morning</li> <li>after school</li> </ol>	



Name \_\_\_\_\_

# FISH CAN HUNT



Trout and salmon hunt for their food.

They eat insects and small fish.

How many sentences can you write about them?

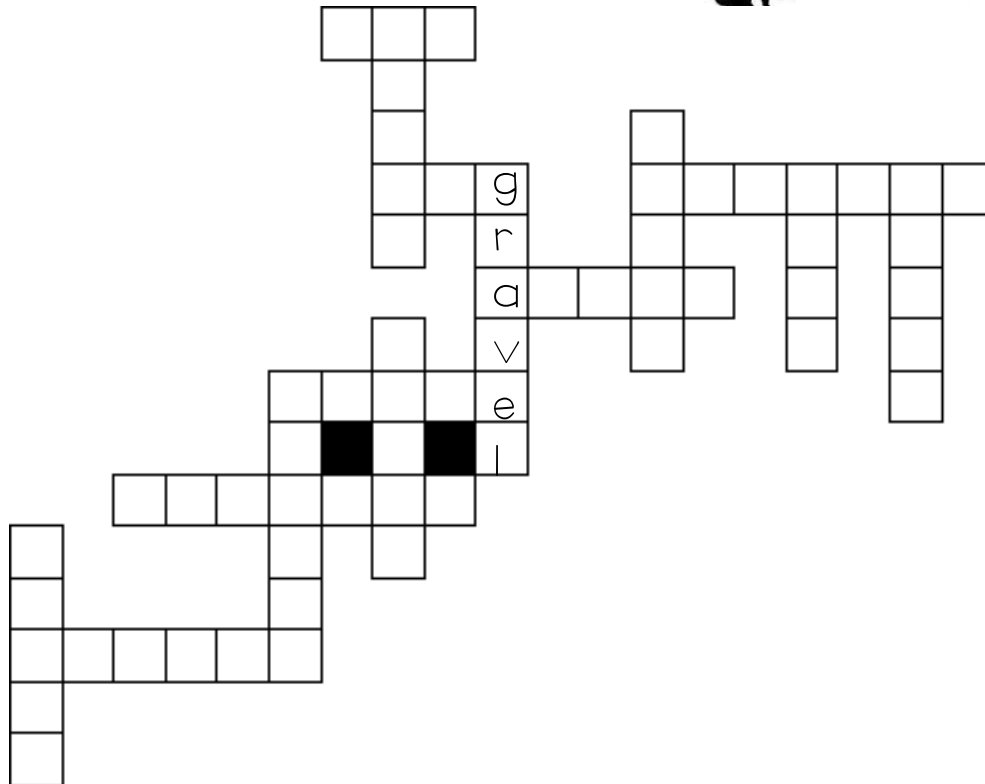
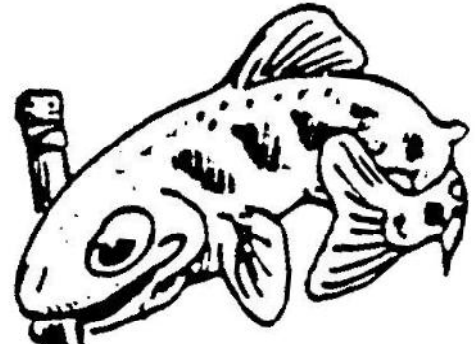
Describe who did what, when, and where.

[illegible]

Name \_\_\_\_\_

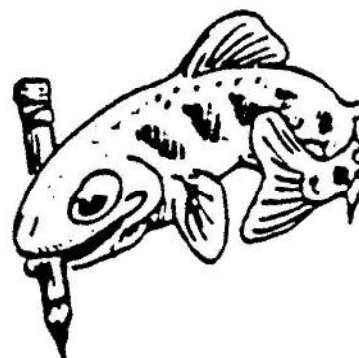
# TROUT AND SALMON

Can you fill in the words?



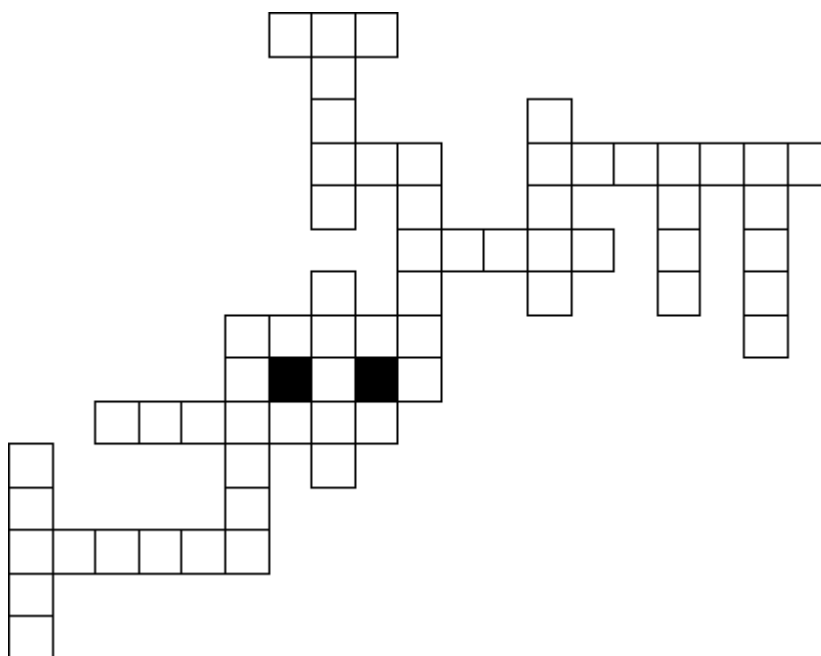
3 Letters  fry egg	4 Letters  redd	5 Letters  river adult space smolt trout water spawn	6 Letters  ✓ gravel salmon alevin	7 Letters  migrate shelter
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Name \_\_\_\_\_



## ***TROUT AND SALMON***

Can you fill in the words?

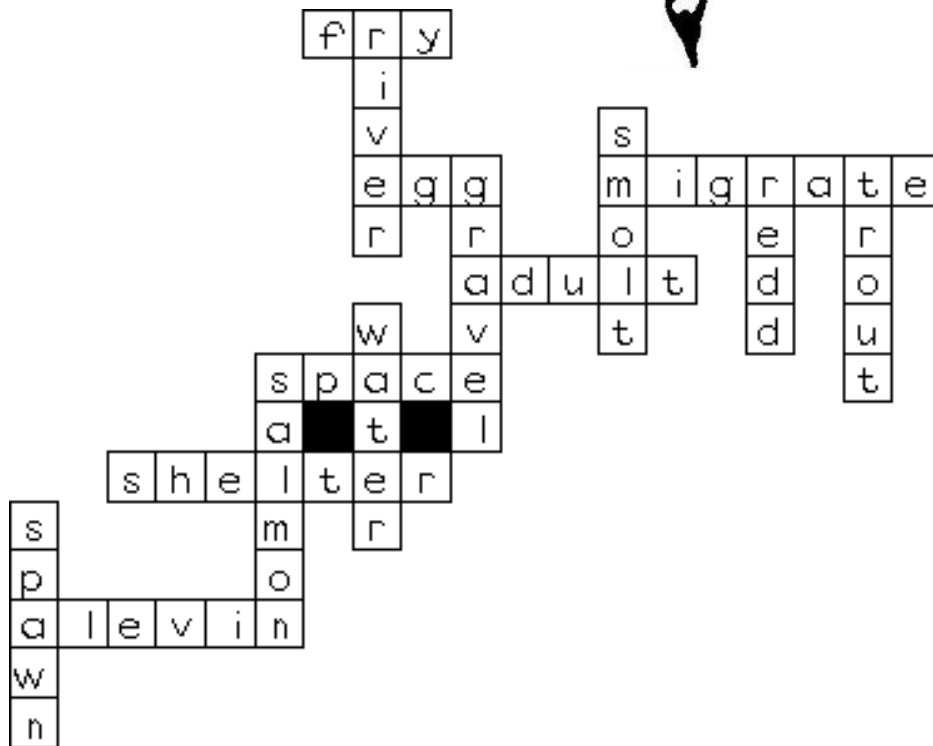
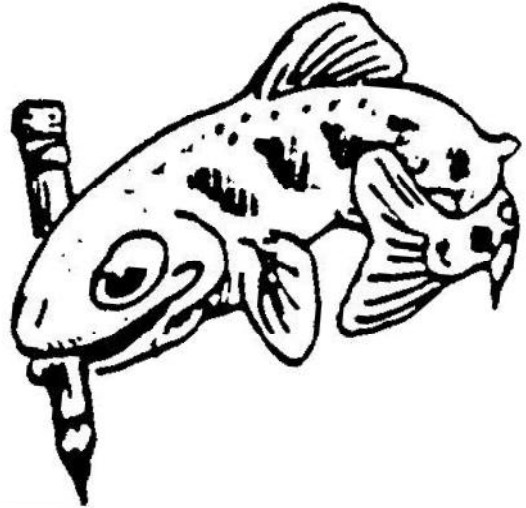


3 Letters	4 Letters	5 Letters	6 Letters	7 Letters
fry egg	redd	river adult space smolt trout water spawn	gravel salmon alevin	migrate shelter

# Answers

## TROUT AND SALMON

Can you fill in the words?



3 Letters	4 Letters	5 Letters	6 Letters	7 Letters
fry egg	redd	river adult space smolt trout water spawn	gravel salmon alevin	migrate shelter

# The Trout Fish Song

Sung to the tune of "Mary Had a Little Lamb"  
Words by Susan King

Trout fish always

lay their eggs,

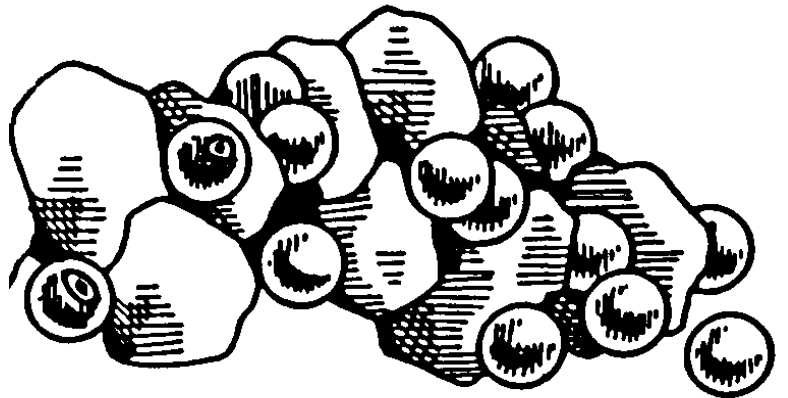
lay their eggs,

lay their eggs.

Trout fish always

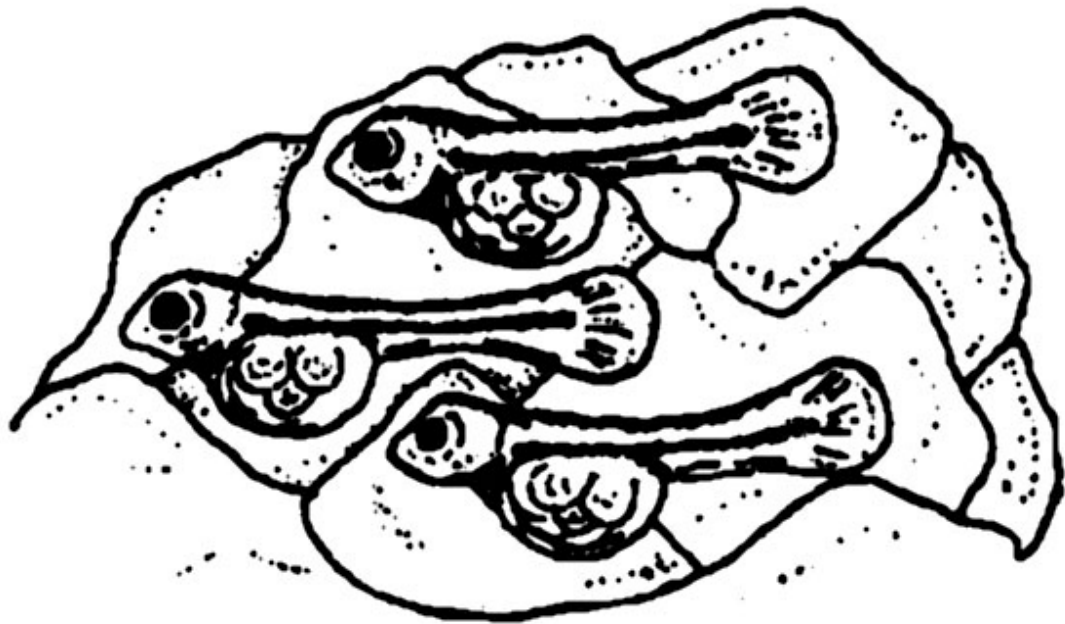
lay their eggs and

they are very small.



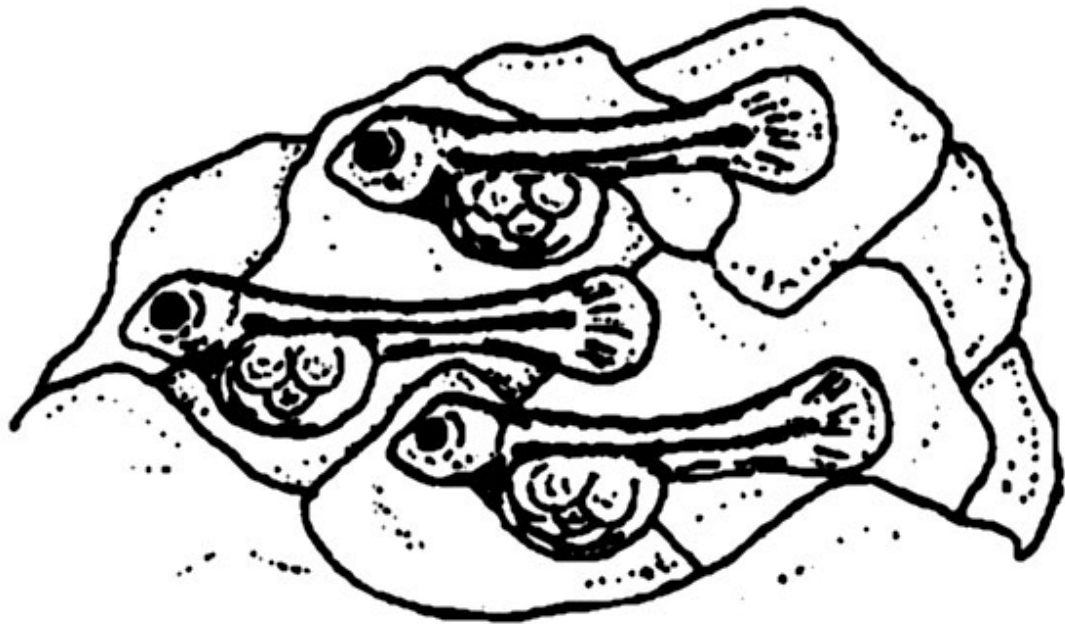
Then they swim with  
their yolk sacs,  
their yolk sacs,  
their yolk sacs.

Then they swim with  
their yolk sacs and  
they are called alevins.



Then they need to  
button up,  
button up,  
button up.

Then they need to  
button up and then they  
swim so fast.



Then we take them  
to the lake,  
to the lake,  
to the lake.

Then we take them  
to the lake and then  
they grow so big.



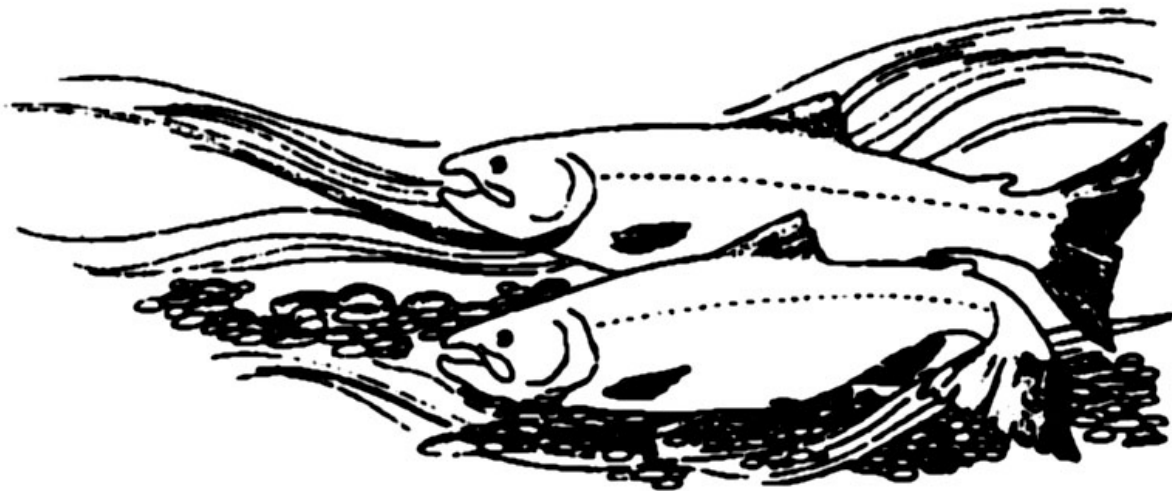


Then we take them  
to the river,  
to the river,  
to the river.

Then we take them  
to the river and then  
they grow so big.



Then it starts all  
over again,  
over again,  
over again  
Then it starts  
all over again  
just like it did before.





# The Trout Fish Song

Sung to the tune of "Mary Had a Little Lamb"  
Words by Susan King

Trout fish always  
lay their eggs,  
lay their eggs,  
lay their eggs.  
Trout fish always  
lay their eggs and  
they are very small.

Then they swim with  
their yolk sacs,  
their yolk sacs,  
their yolk sacs.  
Then they swim with their yolk sacs and  
they are called alevins.

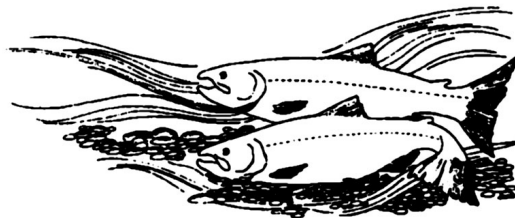
Then they need to  
button up,  
button up,  
button up.  
Then they need to button up and  
then they swim so fast.

Then we take them  
to the river,  
to the river,  
to the river.  
Then we take them  
to the river and then  
they grow so big.

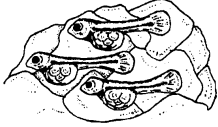
or

Then we take them  
to the lake,  
to the lake,  
to the lake.  
Then we take them  
to the lake and then  
they grow so big.

Then it starts all  
over again,  
over again,  
over again,  
Then it starts  
all over again  
just like it did before.



# GLOSSARY



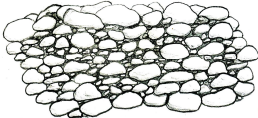
**alevin**

A new baby salmon or trout. It has a yolk sac for food. The alevin lives in the rocks in the stream.



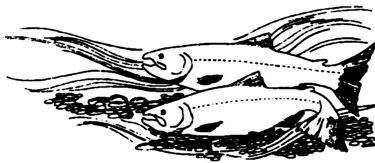
**fry**

A small young fish that have recently hatched.



**redd**

A salmon or trout nest. It is made in the rocks in the stream.



**spawn**

Making new life. A female fish lays eggs and a male fish fertilizes them.



**yolk sac**

A "bag" of food that is connected to the stomach of a very young salmon.



# Content Standards covered by this thematic unit

## Language Arts

### **Reading**

#### **1.0 Word Analysis, Fluency, and Systematic Vocabulary Development**

##### *Concepts About Print*

- 1.1 Match oral words to printed words.
- 1.2 Identify the title and author of a reading selection.
- 1.3 Identify letters, words, and sentences.

##### *Phonemic Awareness*

- 1.4 Distinguish initial, medial, and final sounds in single-syllable words.
- 1.6 Create and state a series of rhyming words, including consonant blends.
- 1.7 Add, delete, or change target sounds to change words [e.g., change *cow* to *how*; *pan* to *an*].
- 1.8 Blend two to four phonemes into recognizable words [e.g., /c/ a/ t/ = cat; /f/ l/ a/ t/ = flat].
- 1.9 Segment single-syllable words into their components [e.g., /c/ a/ t/ = cat; /s/ p/ l/ a/ t/ = splat; /r/ i/ ch/ = rich].

##### *Decoding and Word Recognition*

- 1.10 Generate the sounds from all the letters and letter patterns, including consonant blends and long- and short-vowel patterns (i.e., phonograms), and blend those sounds into recognizable words.
- 1.11 Read common, irregular sight words [e.g., *the, have, said, come, give, of*].
- 1.12 Use knowledge of vowel digraphs and *r*-controlled letter-sound associations to read words.
- 1.13 Read compound words and contractions.
- 1.14 Read inflectional forms [e.g., *-s, -ed, -ing*] and root words [e.g., *look, looked, looking*].
- 1.15 Read common word families [e.g., *-ite, -ate*].
- 1.16 Read aloud with fluency in a manner that sounds like natural speech.

#### **2.0 Reading Comprehension**

##### *Structural Features of Informational Materials*

- 2.1 Identify text that uses sequence or other logical order.

##### *Comprehension and Analysis of Grade-Level-Appropriate Text*

- 2.2 Respond to *who, what, when, where, and how* questions.
- 2.3 Follow one-step written instructions.
- 2.4 Use context to resolve ambiguities about word and sentence meanings.
- 2.6 Relate prior knowledge to textual information.

### **Writing**

#### **1.0 Writing Strategies**

##### *Organization and Focus*

- 1.1 Select a focus when writing.
- 1.2 Use descriptive words when writing.

##### *Penmanship*

- 1.3 Print legibly and space letters, words, and sentences appropriately.

#### **2.0 Writing Applications (Genres and Their Characteristics)**

- 2.2 Write brief expository descriptions of a real object, person, place, or event, using sensory details.

### **Written and Oral English Language Conventions**

#### **1.0 Written and Oral English Language Conventions**

##### *Sentence Structure*

- 1.1 Write and speak in complete, coherent sentences.

### *Grammar*

- 1.2 Identify and correctly use singular and plural nouns.
- 1.3 Identify and correctly use contractions (e.g., *isn't*, *aren't*, *can't*, *won't*) and singular possessive pronouns (e.g., *my/mine*, *his/her*, *hers*, *your/s*) in writing and speaking.

### *Punctuation*

- 1.5 Use a period, exclamation point, or question mark at the end of sentences.
- 1.6 Use knowledge of the basic rules of punctuation and capitalization when writing.

### *Capitalization*

- 1.7 Capitalize the first word of a sentence, names of people, and the pronoun *I*.

### *Spelling*

- 1.8 Spell three-and four-letter short-vowel words and grade-level-appropriate sight words correctly.



## Mathematics

### **Number Sense**

#### **1.0 Students understand and use numbers up to 100:**

- 1.1 Count, read, and write whole numbers to 100.

#### **2.0 Students demonstrate the meaning of addition and subtraction and use these operations to solve problems:**

- 2.1 Know the addition facts (sums to 20) and the corresponding subtraction facts and commit them to memory.
- 2.5 Show the meaning of addition (putting together, increasing) and subtraction (taking away, comparing, finding the difference).

### **Statistics, Data Analysis, and Probability**

#### **1.0 Students organize, represent, and compare data by category on simple graphs and charts:**

- 1.1 Sort objects and data by common attributes and describe the categories.
- 1.2 Represent and compare data (e.g., largest, smallest, most often, least often) by using pictures, bar graphs, tally charts, and picture graphs.



## Science

### **Life Sciences**

- 2. Plants and animals meet their needs in different ways. As a basis for understanding this concept:
  - a. Students know different plants and animals inhabit different kinds of environments and have external features that help them thrive in different kinds of places.
  - b. Students know both plants and animals need water, animals need food, and plants need light.
  - c. Students know animals eat plants or other animals for food and may also use plants or even other animals for shelter and nesting.

### **Earth Sciences**

- 3. Weather can be observed, measured, and described. As a basis for understanding this concept:
  - a. Students know the sun warms the land, air, and water.

### **Investigation and Experimentation**

- 4. Students will:
  - a. Draw pictures that portray some features of the thing being described.
  - b. Record observations and data with pictures, numbers, or written statements.



## History-Social Science

### **Section 1.01 A Child's Place in Time and Space**

- 1.2 Students compare and contrast the absolute and relative locations of places and people and describe the physical and/ or human characteristics of places.

1. Locate on maps and globes their local community, California, the United States, the seven continents, and the four oceans.
2. Compare the information that can be derived from a three-dimensional model to the information that can be derived from a picture of the same location.



## Visual Arts

### **1.0 Artistic Perception**

#### **Processing, Analyzing, and Responding to Sensory Information Through the Language and Skills Unique to the Visual Arts**

- 1.1 Describe and replicate repeated patterns in nature, in the environment, and in works of art.
- 1.3 Identify the elements of art in objects in nature, in the environment, and in works of art, emphasizing line, color, shape/form, and texture.

### **2.0 Creative Expression**

#### **Creating, Performing, and Participating in the Visual Arts**

##### *Skills, Processes, Materials, and Tools*

- 2.4 Plan and use variations in line, shape/form, color, and texture to communicate ideas or feelings in works of art.
- 2.8 Create artwork based on observations of actual objects and everyday scenes.



## Music

### **2.0 Creative Expression**

#### **Creating, Performing, and Participating in Music**

- 2.1 Sing with accuracy in a developmentally appropriate range.
- 2.2 Sing age-appropriate songs from memory.

# Content Standards by activity

## **A River Map:**

**History-Social Science** -- 1.2.1, 1.2.2,  
**Language Arts** -- Reading: 1.1, 1.14, 2.3,

## **Fishy Numbers:**

**Language Arts** -- Reading: 2.3  
**Math** -- Number Sense: 1.1

## **Alevins and Adults Venn Diagram:**

**Math** -- Number Sense: 1.1, 2.5; Statistics, Data Analysis, and Probability: 1.1, 1.2

## **Definition Matchup:**

**Language Arts** -- Reading: 1.1, 1.10, 1.11, 2.3, 2.6; Writing: 1.3  
**Science** -- Life Sciences: 2a, 2b, 2c

## **My Salmon/Trout Book:**

**Language Arts** -- Reading: 1.1, 1.10, 1.11, 1.12, 1.14, 1.16, 2.1, 2.6;  
**Science** -- Life Sciences: 2a, 2b;

## **My Salmon/Trout Observations:**

**Language Arts** -- Writing: 1.1, 1.2, 1.3, 2.2;  
Written & Oral English Language Conventions: 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.8  
**Science** -- Life Sciences: 2a; Investigation & Experimentation: 4a, 4b  
**Visual Arts** -- Artistic Perception: 1.1; Creative Expression: 2.4, 2.8

## **Habitat Graph:**

**Language Arts** -- Reading: 1.1, 1.10, 1.11, 1.12, 1.14, 2.1, 2.2, 2.3, 2.4, 2.6;  
**Science** -- Life Sciences: 2a, 2.b, 2c; Earth Sciences: 3c  
**Math** -- Number Sense: 1.1; Statistics, Data Analysis and Probability: 1.1, 1.2;

## **How's the Habitat? graph:**

**Language Arts** -- Reading: 1.1, 1.10, 1.11, 1.12, 1.14, 2.1, 2.2, 2.3, 2.4, 2.6;  
**Science** -- Life Sciences: 2a, 2.b, 2c; Earth Sciences: 3c  
**Math** -- Number Sense: 1.1; Statistics, Data Analysis and Probability: 1.1, 1.2;

## **Graphing Salmon:**

**Language Arts** -- Reading: 1.1, 1.10, 1.11, 2.1, 2.2, 2.3, 2.4, 2.6;  
**Math** -- Number Sense: 1.1, 2.5; Statistics, Data Analysis and Probability: 1.1, 1.2;

## **Trout Song:**

**Language Arts** -- Reading: 1.10, 1.11, 1.12, 1.14;  
**Science** -- Life Sciences: 2a;  
**Music** -- Creative Expression: 2.1, 2.2;

## **Questions about salmon and trout:**

**Language Arts** -- Reading: 1.10, 1.11, 1.12, 2.2, 2.3, 2.4; Writing: 1.2, 1.3, 2.2; Written & Oral English Language Conventions: 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.8  
**Science** -- Life Sciences: 2a, 2b, 2c;

## **What I know:**

**Language Arts** -- Writing: 1.1, 1.2, 2.2; Written & Oral English Language Conventions: 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.8  
**Science** -- Investigation & Experimentation: 4a, 4b,  
**Visual Arts** -- Creative Expression: 2.4, 2.8;

## **Fish Jumbles:**

**Language Arts** -- Reading: 1.4, 1.8, 1.10, 2.3

## **Fish Scrambles:**



**Language Arts** -- Reading: 1.4, 1.8, 1.10, 2.3

**Visual Arts** -- Artistic Perception: 1.1; Creative Expression: 2.4, 2.8;

**Word Searches:**

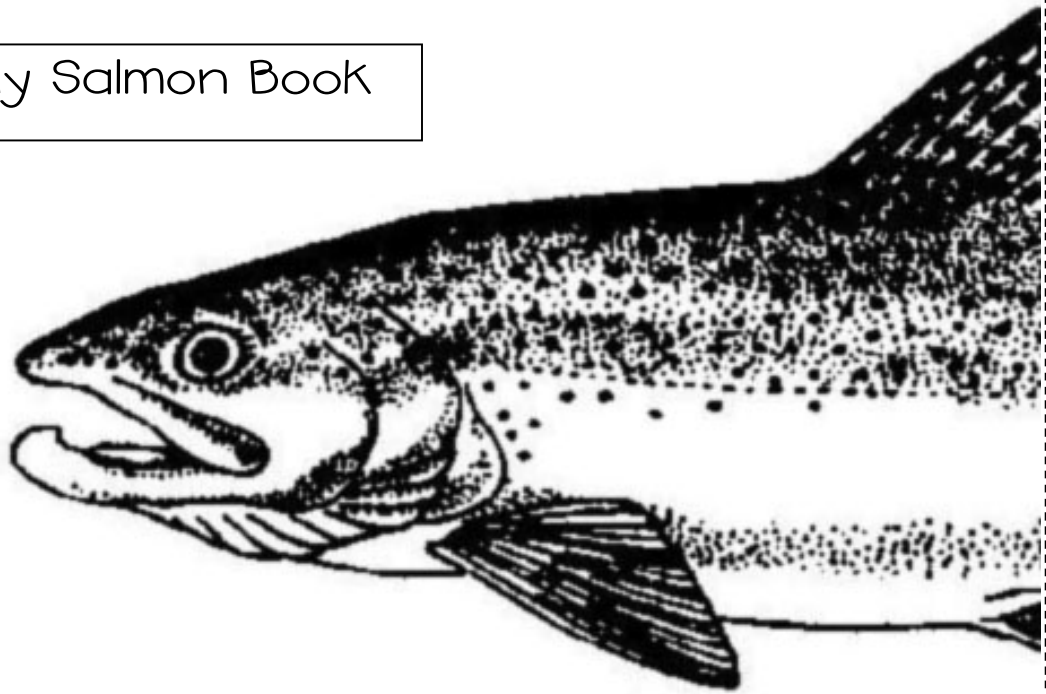
**Language Arts** -- Reading: 1.3, 1.8, 2.3; Writing: 1.3

**Word Fill-ins:**

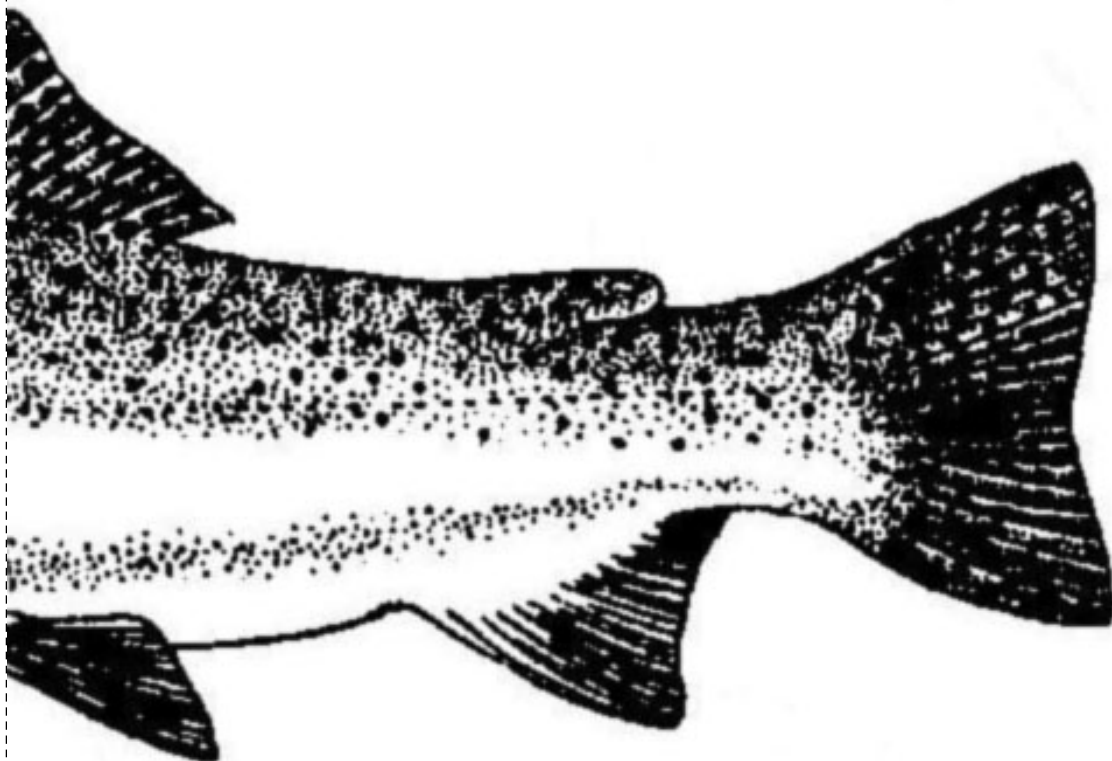
**Language Arts** -- Reading: 1.3, 1.8, 2.3; Writing: 1.3

## APPENDIX

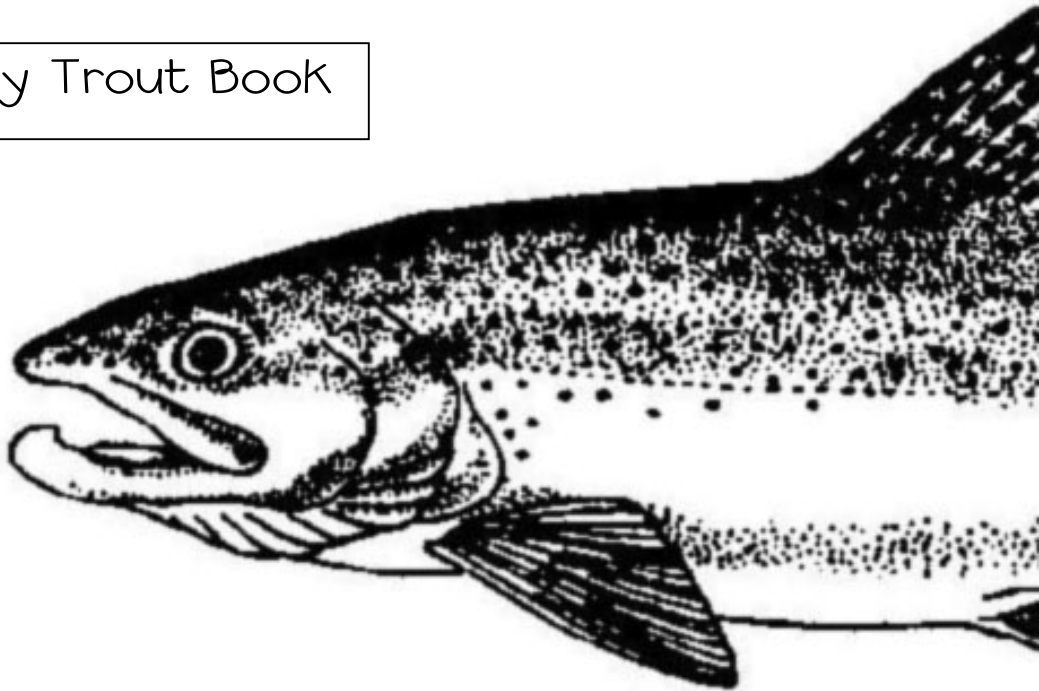
My Salmon Book



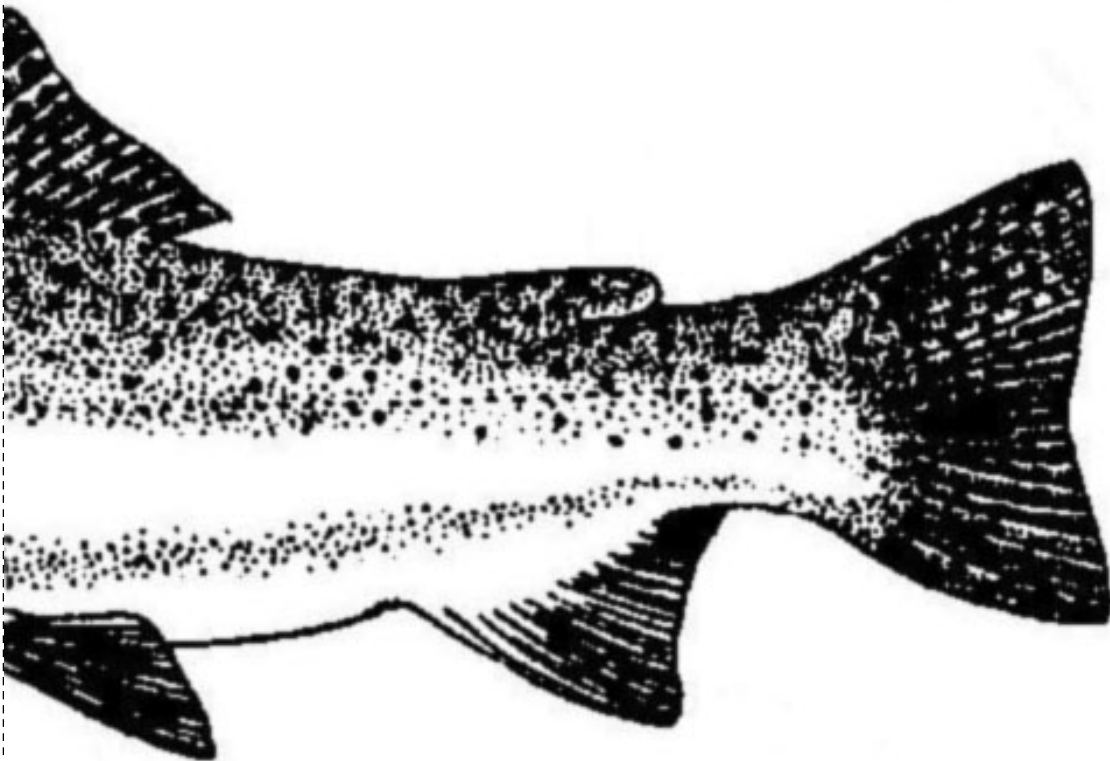
Name \_\_\_\_\_



# My Trout Book



Name \_\_\_\_\_



Draw healthy trout habitat. Don't forget  
to draw food and shelter for the trout.

Trout lay eggs in rivers and streams. Their nests are made of gravel and are called redds.

Alevins hatch from the eggs and become fry. They will grow fast if they have good habitat.

When they get older and become smolts they may swim to the ocean.

When they are adults, they will return to the stream where they hatched to lay their eggs.