

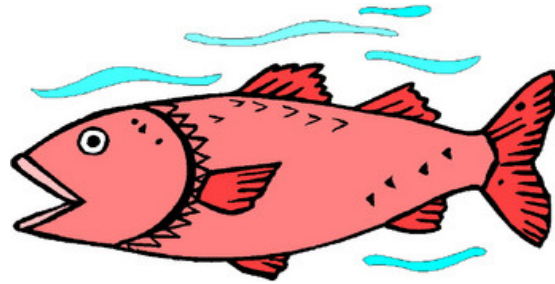


## Passports A Focus on Salmon Resource Guide grades K-2

### Summary

The life cycle of a salmon includes:

1. egg
2. fry
3. smolt
4. parr; juvenile
5. adult
6. spawning adult stage



Dangers for the salmon population:

- habitat loss
- humans changing the rivers (dams)
- climate changes
- over fishing

What other dangers do think salmon may face?

### Vocabulary

**Gill** - an organ (as of a fish) for obtaining oxygen from water

**Scales** - a small rigid plate that grows out of an animal's skin to provide protection

**Fin** - the limbs of a fish used to steer through water

**Dorsal fin** - A fin located on the backs of fishes, whales, dolphins, and porpoises, as well as. Its main purpose is to stabilize the animal against rolling and to assist in sudden turns.

**Habitat** - the place where a particular species lives and grows

**Swim bladder** – internal organ that helps fish stay buoyant, or float, as well as ascend or descend without wasting energy swimming.

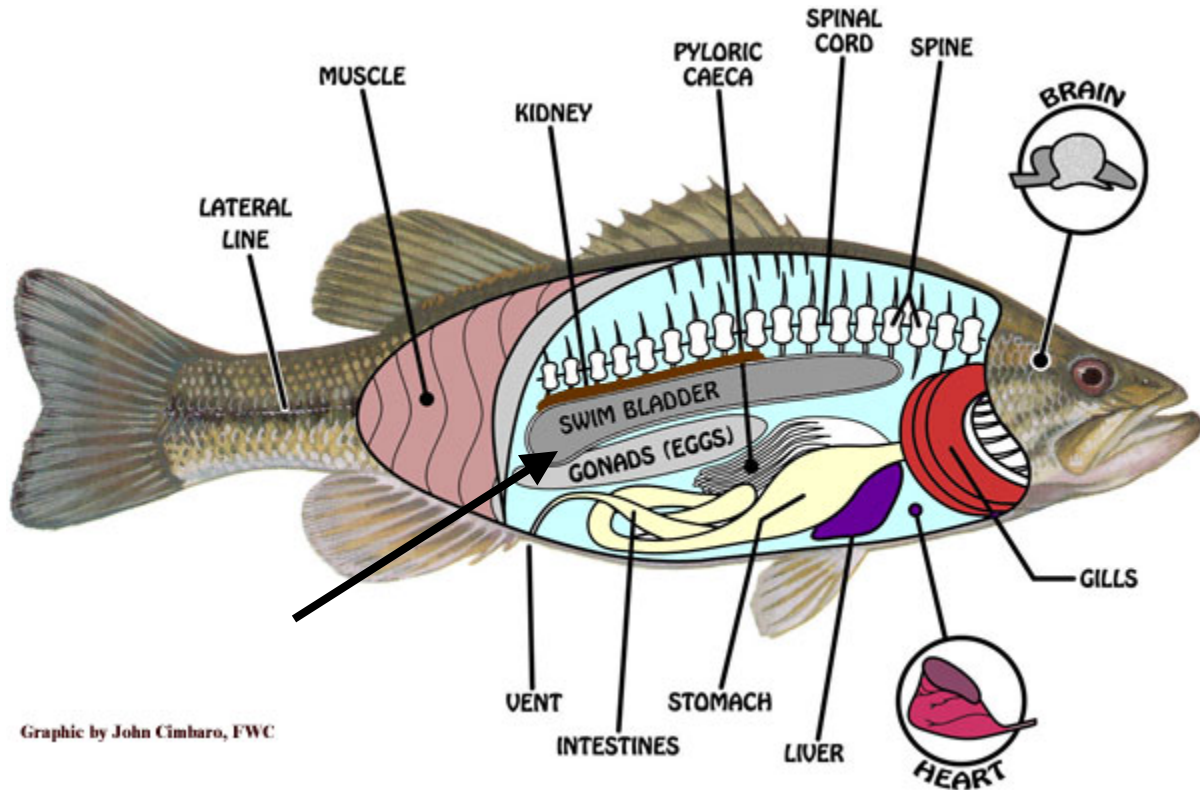
**Camouflage** – coloring or other physical characteristic that allows an animal to blend in with its surroundings; helps defend against predators

## What is a fish?

1. Pretend you must describe a fish to someone who has never seen one. Using your own words, define or describe a fish. Brainstorm adjectives and descriptive phrases with your teacher and classmates.

## Fish Anatomy

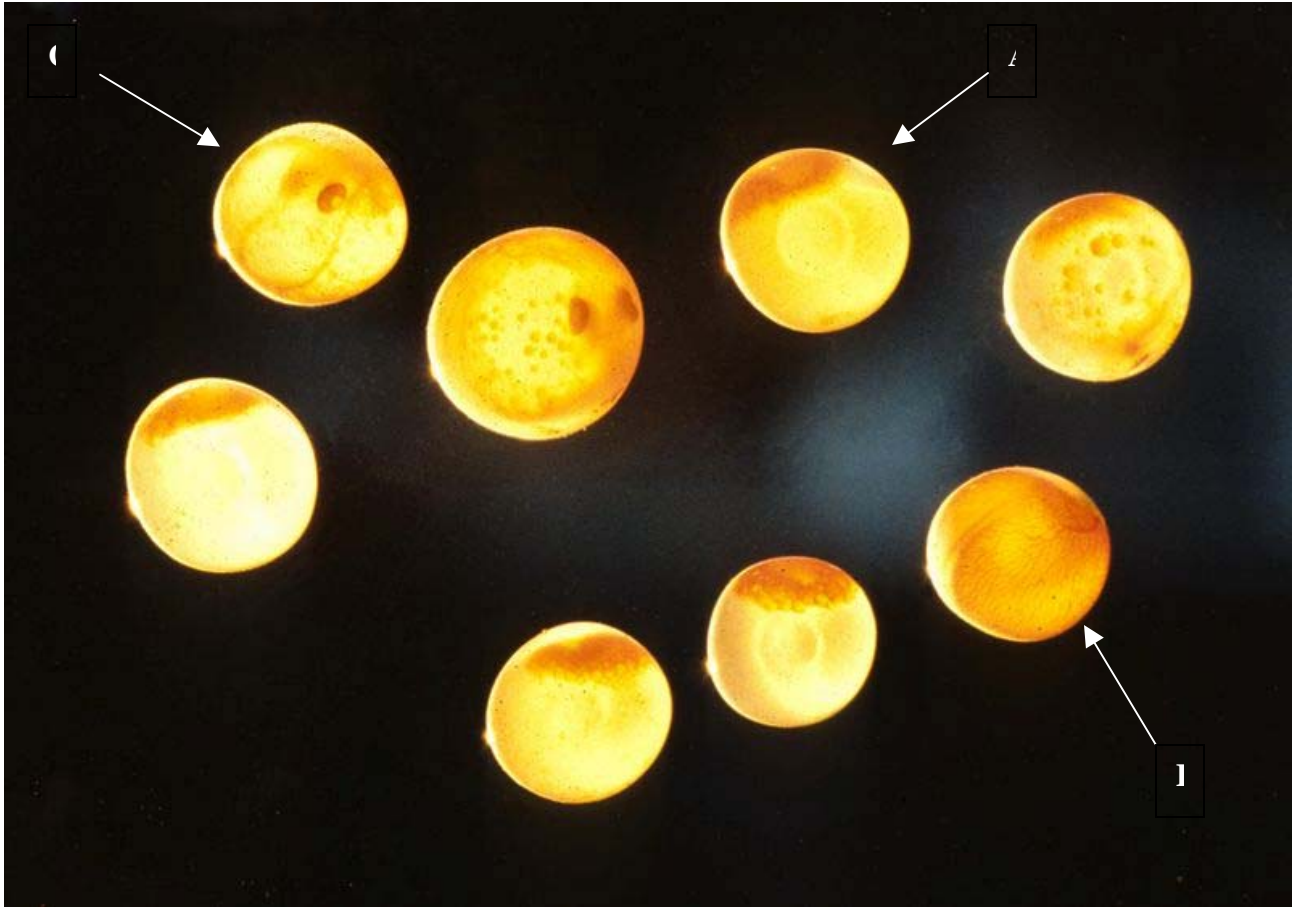
This illustration shows some of the common internal features of fish.



**A swim bladder is a sac that fills with air to help the fish float without having to constantly swim.**

1. How do you think the swim bladder helps the fish?
2. What might humans use that would be like a swim bladder?
3. Which features of the fish are also parts of a human body? Which features are different? Discuss why fish would need some of these features that are different.

## Salmon Eggs



**This photo shows salmon eggs in different stages of development.**

- A. In some, only a few cells grow on top of the yolk,
- B. in the lower right the blood vessels surround the yolk and
- C. in the upper left the black eyes are visible, even the little lens

1. What other details or features do you notice in the eggs?

**The female salmon digs a shallow depression called a redd to lay her eggs. She may lay 5000 eggs in one redd. She may create 7 different redds to lay all of her eggs.**

1. How many eggs might a female salmon lay in two redds?
2. What math operation did you use to determine the answer? Is there more than one operation that could be used to get the answer?

## Fry stage



The eggs (shown above) will hatch into *sac fry* (left).

This picture illustrates a yolk that sticks out from the bottom of the fry. This "sac" contains protein, sugar, minerals, and vitamins. As the fry grows the sac disappears.

1. What do you think is the purpose of this sac?
2. Why do you think the sac disappears?
3. Salmon face dangers throughout their lives, but what are some reasons the salmon might be in danger in this stage?

The fry develops into a *parr* (right) with *camouflaging* vertical stripes. The parr stay for one to three years in the stream in which they were born before becoming *smolts* which are silvery in color. It is estimated that only 10% of all salmon eggs survive long enough to reach this stage.

1. How do you think the stripes on this parr help camouflage it among the plants?



## Adult Salmon



**The Chinook or King Salmon is the largest salmon in North America and can grow to 1.5 m (58 inches) in length and to 57 kg (125 pounds) in weight.**

1. By looking at the picture, approximately what is the length of this fish in feet?
2. What information can you use to estimate without using measurement tools?
3. Working together with your teacher and classmates, use the information above to determine exactly how long this salmon is in feet and inches.
4. What math operation(s) did you use?

## Critical Thinking Questions

1. How do humans increase the dangers that salmon face?
2. Do you think developing the aquaculture species of salmon is good or bad? Why?
3. Complete the following sentence: I did not know that \_\_\_\_\_.

## Further Resources

[www.fishbase.org](http://www.fishbase.org)

<http://www.wildsalmoncenter.org/>

<http://www.psmfc.org/habitat/fishfacts.html>

<http://www.enchantedlearning.com/subjects/fish/label/labelfish.shtml>

<http://www.amonline.net.au/fishes/what/what.htm>

<http://www.drhelm.com/aquarium/internalfish.html>

# FISH

Color me, and tell a short story about my life.

