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## SQUAMISH RIVERS

# Are You Me?

Grades: K-2

Subject, Science,

Time required: 30 minutes

*Key Concepts:*

*Fish and wildlife need a healthy habitat*

*Objectives:*

*Students will be able to recognize various young stages of aquatic animals and match them with adult stages and their required habitat needs .*

SQUAMISH RIVERS

**Key Words:**

**Aquatic animals, grow, change, adult, young, habitat**

**Skills:**

**Analysis, discussion, classification, interpreting, communication, small group work, matching**



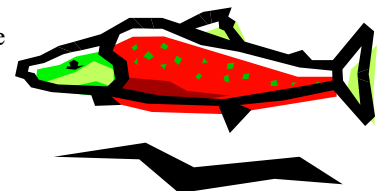
### Background:

Many animals look significantly different in their earliest stages of development, compared to adulthood. This is obviously true for some aquatic insects. Many aquatic insects undergo metamorphosis. Metamorphosis means change during growth. Some insects experience simple metamorphosis, while others undergo complete metamorphosis. In simple metamorphosis, the insect egg hatches to produce a nymph. Insect nymphs have all the features of adults. As they grow, they are visibly similar at each stage.

Insects that experience complete metamorphosis are characterized by eggs that hatch into larvae. The larva grows through several stages and then changes into a pupa. Pupae are usually encased in a protective cover for their next stage of growth. From the pupae emerge the soft-bodied, often pale coloured insects. They differ remarkably in appearance from their earlier forms, but are not yet completely formed. Gradually the soft pale body develops firmness and colour. In

### Materials

- Cardboard for making picture cards
- Graphics supplied—photocopied
- Glue
- Markers or crayons
- Photos from home (optional)



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## **Background continued:**

complete metamorphosis, there is little resemblance between the adult and earlier forms.

There are also remarkable similarities and differences between other aquatic animals in different life stages. The eggs of many animals hide their eventual form (alligators, turtles, birds). Pelican hatchlings, for example, may be the closest image to miniature dinosaurs to be found on the planet. Aquatic mammals often are easy to recognize. They frequently do not change as dramatically as some other animals in overall appearance as they grow from young to adult stages.

The major purpose of this activity is for students to recognize that there are differences in the life stages of aquatic animals as they grow. The students will increase their appreciation of the diversity of wildlife, their understanding of growth and change in animals, and the variety of habitat each life stage requires.

## **Procedure:**

1. Photocopy the aquatic animal cards and cut out each animal picture (use the graphic without the label).
2. Ask students to glue the animal card onto cardboard.
3. Outside of class-time, pair up the cards into adult and young aquatic animals. Use the graphic master as a guide.

**Optional:** Ask the students to bring two pictures from home. One should be of an adult, the other should be a picture of the same person as a child.

- In class, using the photos brought from home, divide the students into small

groups of three or four students. Have them hold their own set of photos in their hands at a designated station.

- Have the students at each station place their pairs of photos on the table and mix them randomly. Once the adult-child photos are mixed at each table, have the entire group shift to another table, so there will not be anyone at the tables where their own photos are placed.

- At the new table, have the group attempt to match pairs of adult-child photos.

- When the students have completed their efforts to match the pairs, ask all of the groups to return to their original tables. Are the matches correct? Ask the students to change any pairs that are not correct.

-Talk about how difficult or easy it was to correctly match pairs. Introduce the idea that many animals look remarkably different as adults than they appear in younger forms.

4. Tell the students they are about to learn how to match young and adult forms of many different kinds of aquatic animals.
5. Introduce the aquatic animal cards and divide the class in two. Designate one half of the class “adults” and the other half “young animals.”
6. Give each student in the adult group and adult animal image. Give each student in the young animal group a young animal image. Make sure there is a corresponding match for each card given. You can attach

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each animal card to a string loop so the pictures can be hung around students' necks as they try to match the picture. It also works well to place the pictures in plastic name holders and keep the strings tucked into the plastic holder when not in use. This keeps the string from tangling!

7. Ask students to try and find their match pairing adults with the juvenile forms.
8. When all the students have made their choices and think they have a match, let everyone help to see if the matches are correct. Some are more difficult than others so you may refer to the matched images on the master graphic.
9. Look at similarities and differences in how different kinds of animals grow and change. What kind of adaptations did you use to help match the animal pairs? How are these adaptations useful for the animal in the habitat in which it lives?

## **Extensions:**

1. Find out as much as possible about some of the habitats in which these animals live.
2. Pick a pair of images and find out more about the life cycle of the animals shown.
3. Have students play animal charades with some of the animals – see cards provided – encourage students to include their understanding of their animal's habitat and life cycle in their charade.

## **Evaluation:**

1. Pick two aquatic animals. Draw a picture of each animal as an adult and another picture of when it was young
2. Show your pictures with the class, telling about where that animal lives.

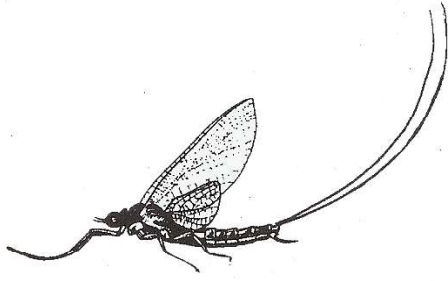
## **Community Connections:**

1. Visit or look at photos of habitats of the animals from the cards that live nearby the school.

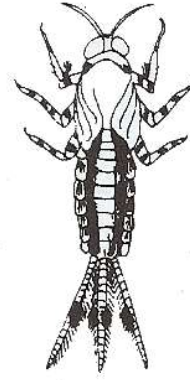
## **Resource:**

This activity has been adapted from "Are You Me?" from Project WILD (1997).

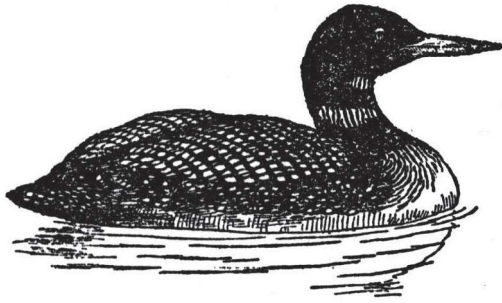
**Mayfly**



**Mayfly Nymph**



**Loon**



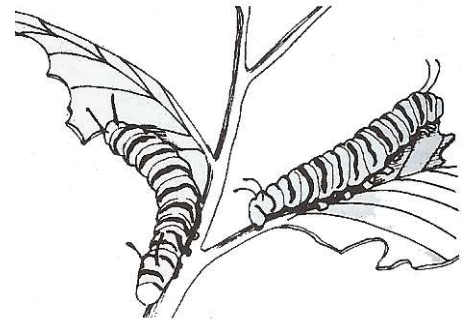
**Chick**



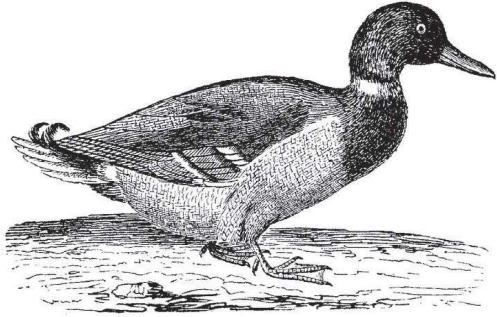
**Butterfly**



**Butterfly Larvae**



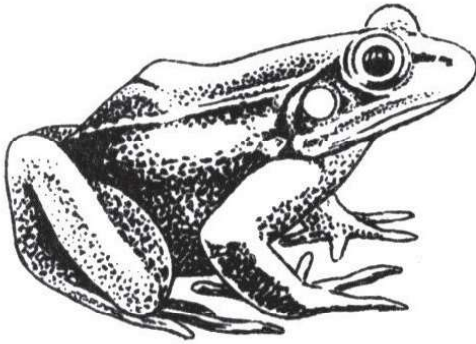
**Duck**



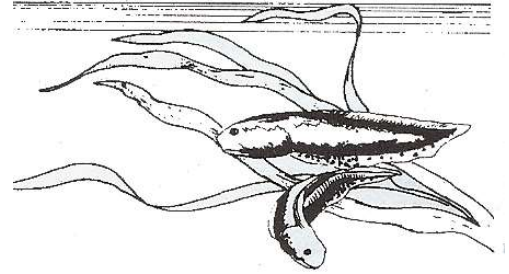
**Ducklings**



**Frog**



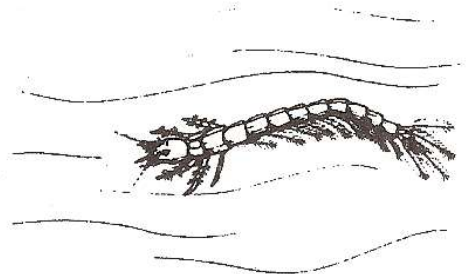
**Tadpoles**



**Whirligig Beetle**



**Whirligig Larva**

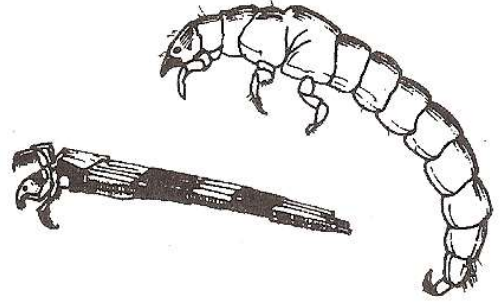




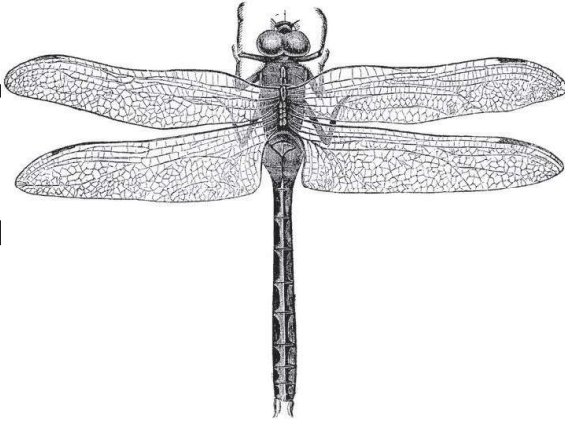
**Caddisfly**



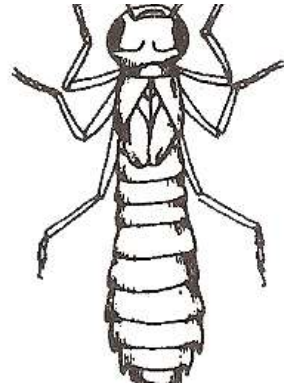
**Caddisfly Larvae**



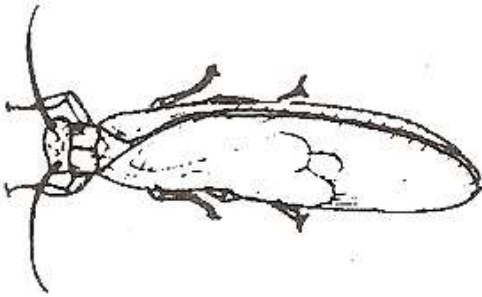
**Dragonfly**



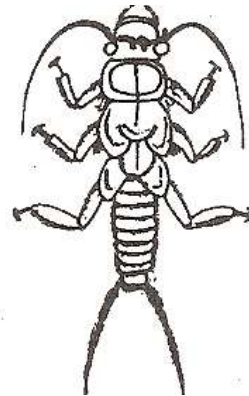
**Dragonfly Nymph**



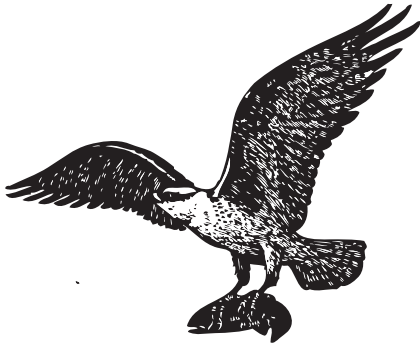
**Stonefly**



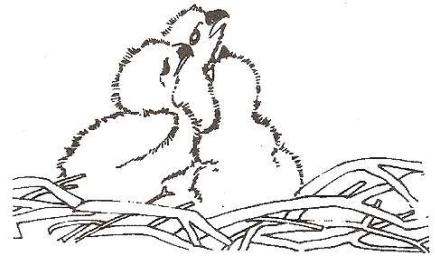
**Stonefly Nymph**



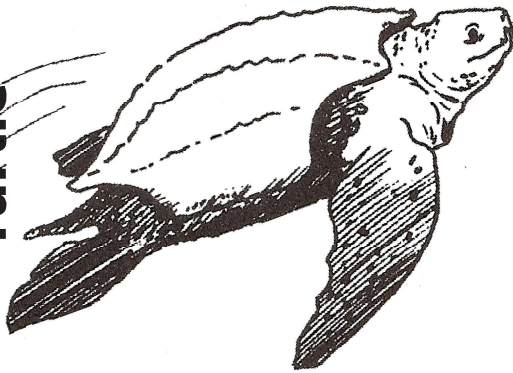
**Osprey**



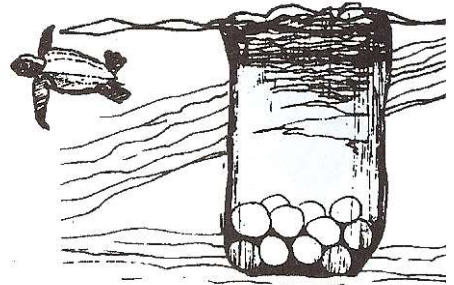
**Osprey  
Hatchlings**



**Leatherback  
Turtle**



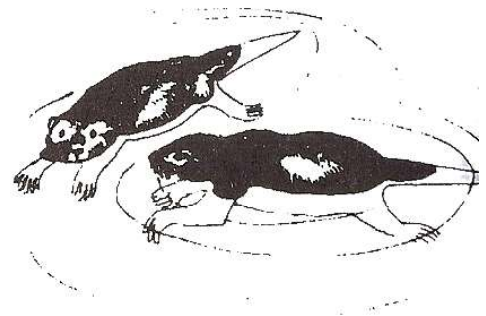
**Young Leather-  
back Turtle and  
Turtle Eggs**



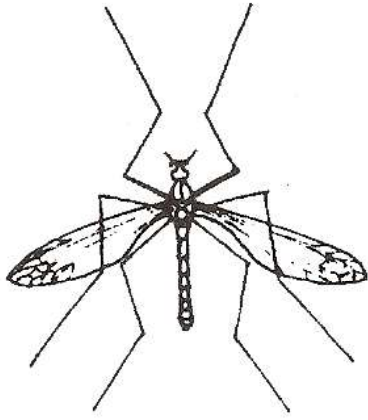
**Sea Otter**



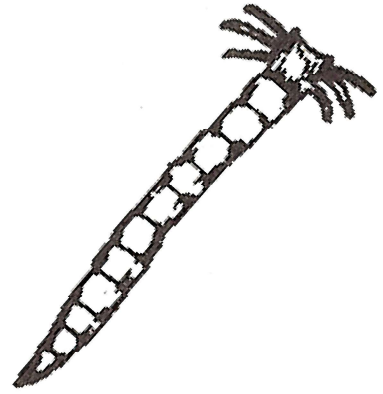
**Young Sea Otters**



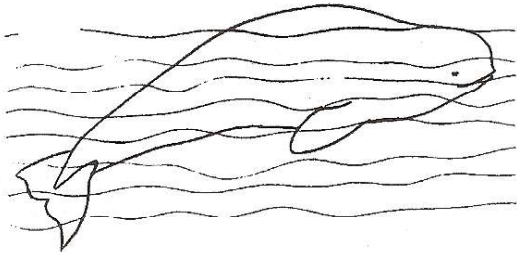
**Cranefly**



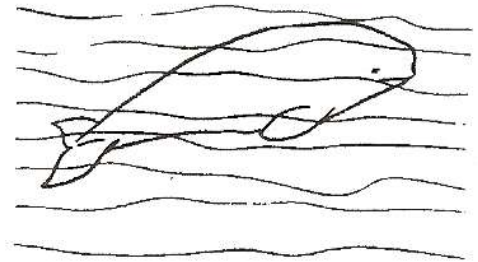
**Cranefly Larva**



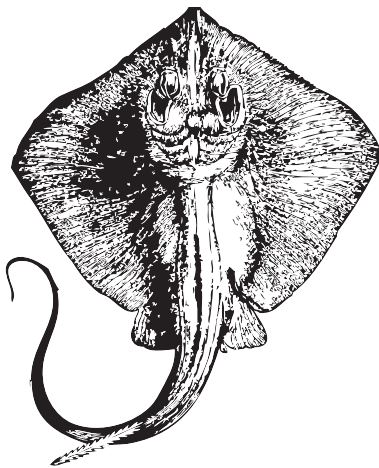
**Beluga**



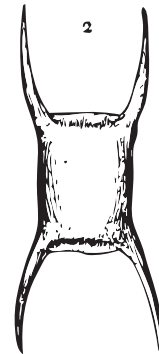
**Young Beluga**



**Skate**

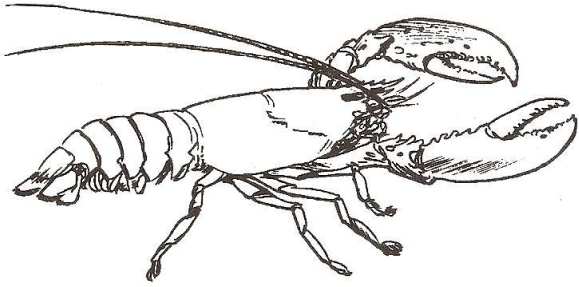


**Skate Egg Cases**

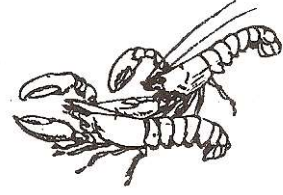




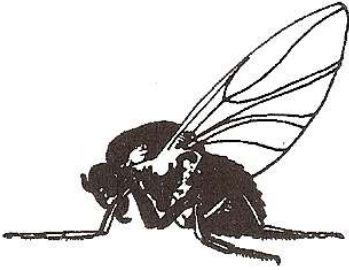
**Lobster**



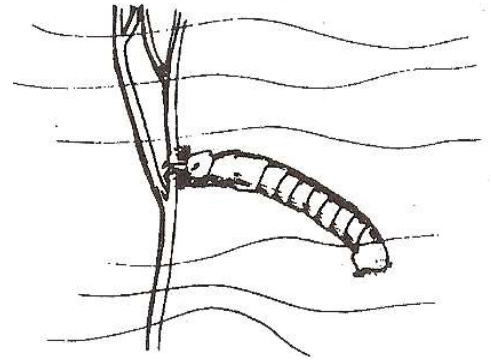
**Young Lobsters**



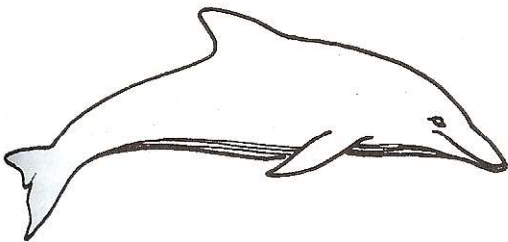
**Blackfly**



**Blackfly Larva**



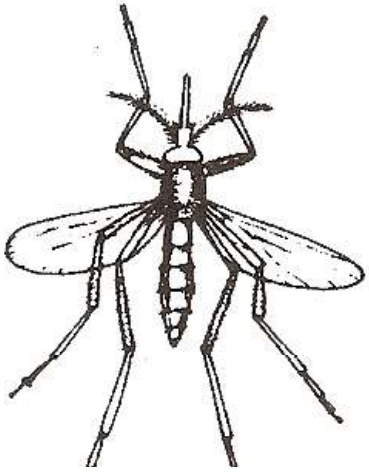
**Porpoise**



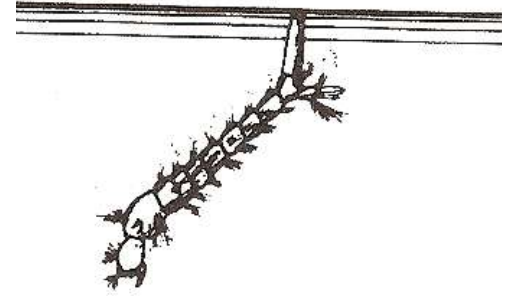
**Young Porpoise**



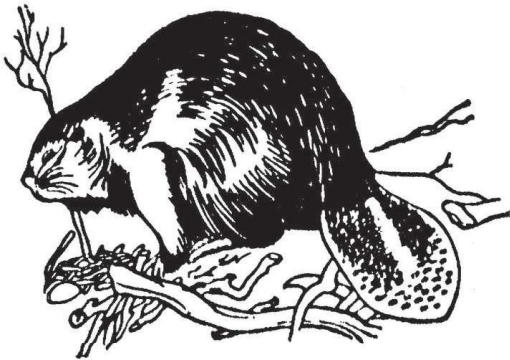
**Mosquito**



**Mosquito Larva**



**Beaver**



**Young Beavers**

