

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Water Works: Whose eyes are these?



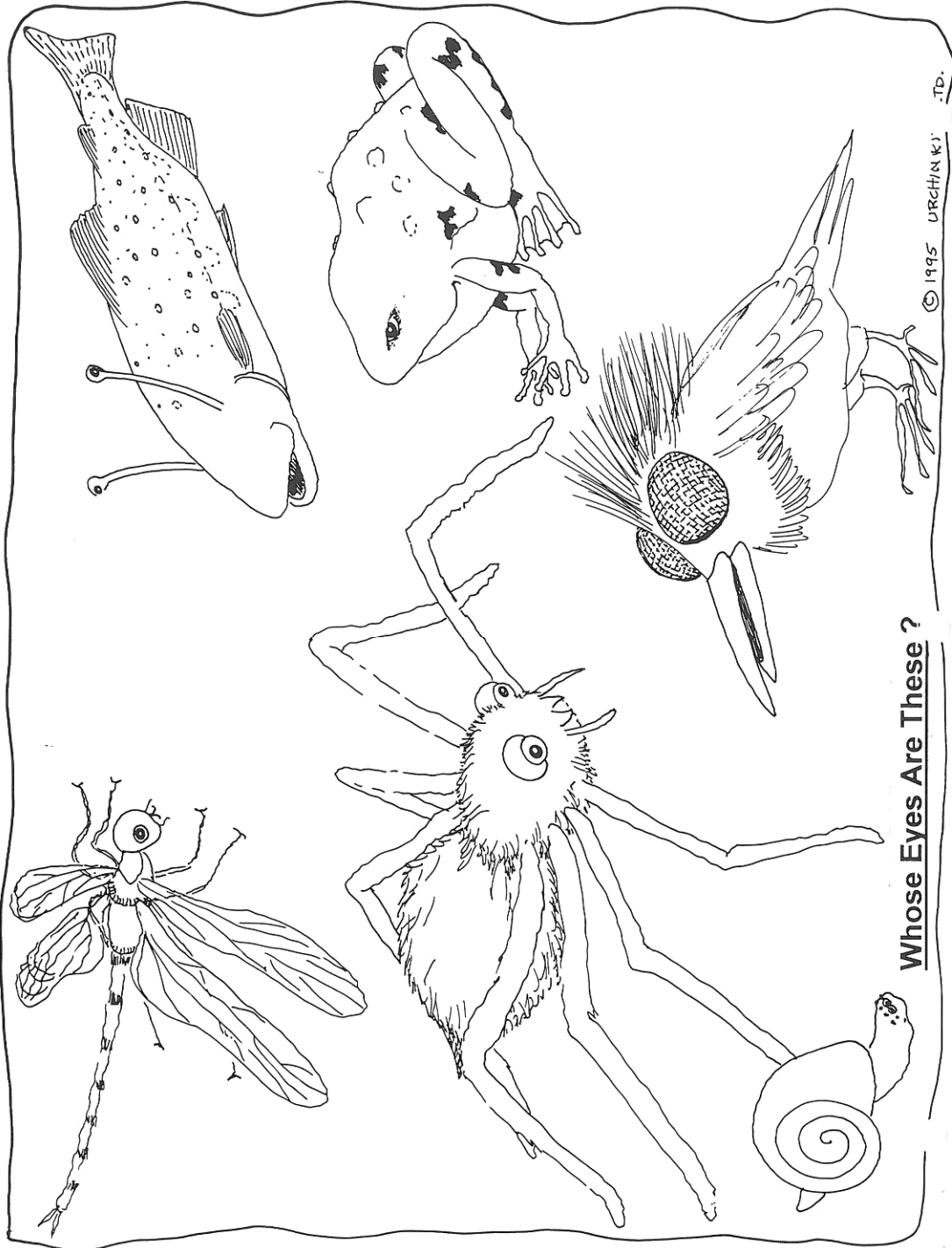
In this activity there are two sheets you'll need. The first sheet shows a drawing of some pretty peculiar looking animals. There are six altogether. They all have the wrong eyes. They each have the eyes of one of the other animals in the picture. The second sheet has two columns for you to fill in with the correct name of each animal that has made a comment and the name of the animal whose eyes it has by mistake. Use the information cards, books and brochures if you need help. Your teacher will provide you with the answers when you have finished.

These worksheets are from the pre-visit activity kit "Water Works". Designed and produced for The Suncor Energy Fluvarium by Urchin Kits Ltd.



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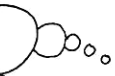


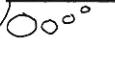
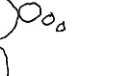



The Suncor Energy Fluvarium:  
Water Vision and Movement: Whose eyes are these?  
<http://www.fluvarium.ca>

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## Whose Eyes Are These?

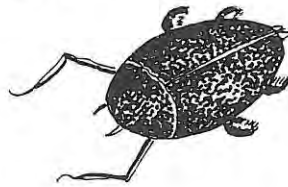
	<u>WHO AM I ?</u>	<u>WHOSE EYES DO I HAVE?</u>
<p>"Wow , with eyes on stalks like these, I don't even have to turn my body about to see anymore. What a view!"</p>		
<p>"With these eyes I'll never again be able to hide in the water and look across the surface at the same time."</p>		
<p>"Even with all these little eyes, I'm so nearsighted I can't see as well as with the two eyes I had before."</p>		
<p>"Jumping catfish! What a crazy mixed-up view I have now. Whoever owned these eyes must have needed to see a thousand different ways at once!"</p>		
<p>"I'd trade these ugly, bulging eyes for my own nearsighted ones any day."</p>		
<p>"What's the use of being able to fly backwards, if I can't see where I'm going? These eyes are for the birds <u>or are they?</u>"</p>		

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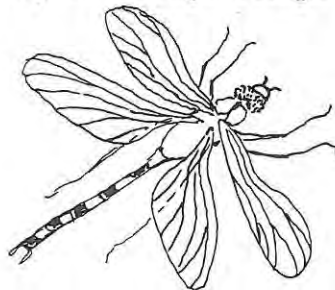
## Information Card #1

**Whirligig Beetles** look like bumper cars as they twist and turn with great speed on water surfaces. They use their middle and back legs for swimming; these flattened legs are fringed with hairs and act like paddles. Their eyes are divided into two parts: the top is used for seeing above water and the bottom for seeing below water.



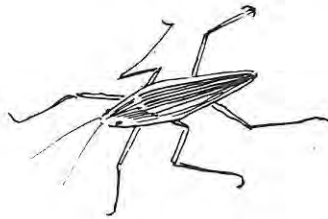
## Information Card #2

**Dragonflies** can fly as fast as thirty miles per hour. They have two pairs of wings which stroke alternately - the front pair goes up while the back pair goes down. This means dragonflies can dart upwards or downwards and hover in the air. They have huge compound eyes that can see in almost every direction.



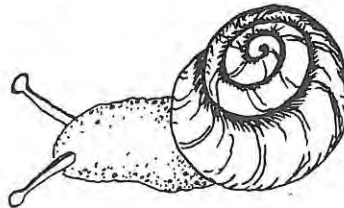
## Information Card #3

**Water striders** glide over the surface of the water with their four hind legs. They have glands that secrete oil at the tips of their feet. This enables them to move easily across the water surface without sinking in.



## Information Card #4

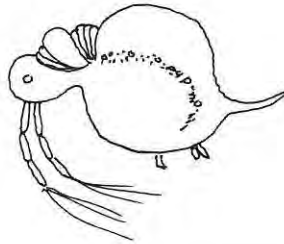
**Water snails** can actually move upside down on the ceiling of the water surface. They secrete gas bubbles which float them upwards. They then cling to the water ceiling with their large, fleshy foot. Their eyes are located at the tip of a pair of tentacles.





## Information Card #5

**Water fleas** are not really fleas, but tiny zooplankton related to crabs and shrimp. They move through water by using their antennae. Their five pairs of legs are located inside their shell - they use them like paddles to pull in food and water.



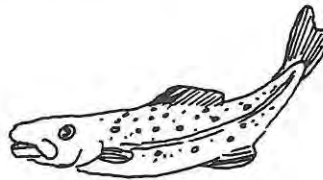
## Information Card #6

**Frogs** have protruding eyes on top of their heads. They appear to be snoozing on lily pads, but don't be fooled. They are waiting to snatch an insect as it flies by. Frogs' webbed feet make them good swimmers.



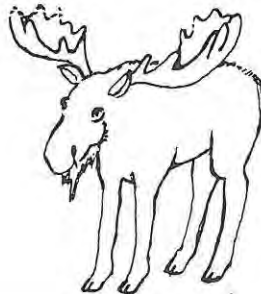
## Information Card #7

**Trout** (and most fishes) have eyes that bulge out. They see images clearly in front of them, but their side vision is less clear. They swim by moving their tails back and forth; they use their fins for balance and steering. Their lateral line helps them to sense objects that are beside them.



## Information Card #8

**Moose** have long, slim legs with spreading hooves. This enables them to walk on mushy terrain. Moose are excellent swimmers and divers - they have been known to dive 18 feet or more for plants to eat.



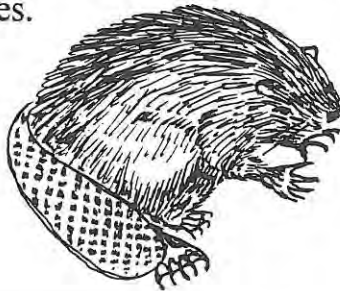
## Information Card #9

**Loons** are well-designed for swimming and diving. Their legs are placed far back on their bodies ; this makes them poor walkers, but superb swimmers. They have large, webbed feet and powerful leg muscles which also helps their swimming. Unlike other birds, loons have many solid bones; this increases their diving abilities.



## Information Card #10

**Beavers** are strong, adept swimmers. They use their hind, webbed feet to propel themselves around; they also use their muscular tail to steer. Beavers can see as well in the water as out of it. They have a transparent membrane which draws over the eyes while diving; it is almost like wearing diving goggles.





## Information Card # 11

Spiders have from two to four pairs of simple eyes. While tarantulas are quite nearsighted and must rely on the many body hairs for sensing what goes on around them, true spiders like the water spider can have very good eyesight. Each pair of eyes sees a different view and each pair sees in a different size.



## Information Card # 12

Did you know some aquatic insects are jet propelled?

The Dragonfly nymph can rocket itself through the water by shooting water out of a cavity at the rear of its body.

