



# *Underwater Viewer*

Bathyscope

Presenter:  
Jessie Hobba  
6th & 8th Grade Science  
Sonny Brae Middle School

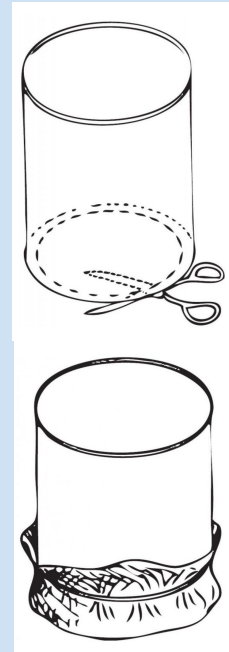
## Materials

- Sturdy plastic water bottle or container
- Heavy duty rubber band, to fit plastic container
- Duct tape (optional)
- Plastic wrap/Cling wrap
- Scissors or exacto knife
- Water quality insect card



# Steps




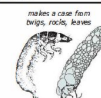

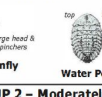
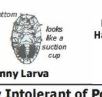
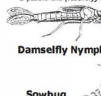

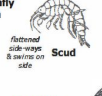

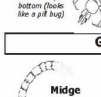

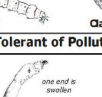
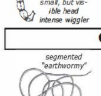

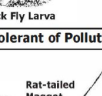

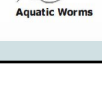

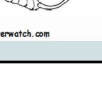

1. Cut one or both ends of your chosen container to make the main body of the bathyscope.
2. Stretch the clear plastic over the end of the bathyscope and secure in place with the rubber band.
  - Optional- Fix the plastic in place with duct tape.
3. Go looking for underwater wildlife by lowering the end with the plastic into the water, and viewing from the top.



# Explore

- Macroinvertebrate = animals that have no backbone and can be seen with the naked eye.
- Live in the water for all or part of their lives; survival is related to the water quality.
- Larger animals such as fish and birds rely on them as a food source.
- Macroinvertebrates are sensitive to different chemical and physical conditions.

## Macroinvertebrate Identification Key

GROUP 1 – Very Intolerant of Pollution			
 Stonefly Nymph 2 tails long antennae	 Mayfly Nymph 3 tails fluttering gills	 Riffle Beetle Adult & Larva very small & hard shell	 Caddisfly Larva makes a case from twigs, rocks, leaves
 Dobsonfly Larva large head & 2 pinchers	 Water Penny Larva top looks like a suction cup	 Right-Handed Snail must be alive to count	
GROUP 2 – Moderately Intolerant of Pollution			
 Damselfly Nymph 3 paddle-like (feathery) tails	 Dragonfly Nymph flattened side wings & swims on side	 Scud no tails large eyes	 Crayfish looks like a mini-lobster
 Sowbug flattened top to bottom (looks like a pill bug)	 Crane fly caterpillar shaped, merged	 Clam/Mussel must be alive to count	
GROUP 3 – Fairly Tolerant of Pollution			
 Midge Larva small, but visible head source wiggler	 Planaria 2 eye spots & very small	 Black Fly Larva one end is swollen	 Leech flattened & segmented
GROUP 4 – Very Tolerant of Pollution			
 Aquatic Worms segmented "earthwormy" must be alive to count	 Left-Handed Snail must be alive to count	 Rat-tailed Maggot	 Blood Midge Larva bright red

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## Stay safe!

- These underwater viewers are best used in small ponds or shallow streams.
- Make sure that you can lean over safely on solid ground.
- Keep a tight grip on your bathyscope and don't fall in!

