

For Creative Minds

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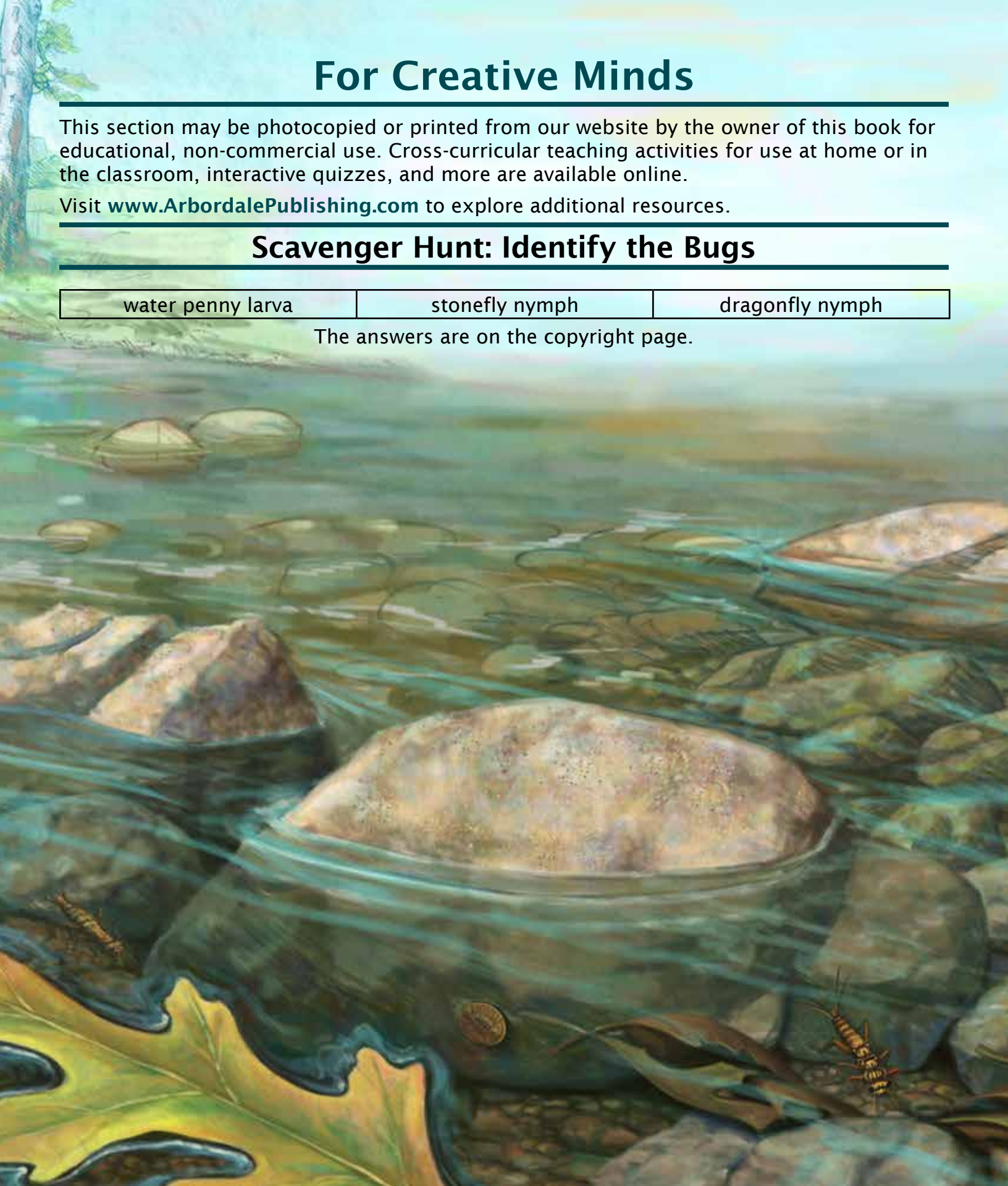
Scavenger Hunt: Identify the Bugs

water penny larva

stonefly nymph

dragonfly nymph

The answers are on the copyright page.



Matching Young to Adults

Mayfly nymph



Caddisfly larva



Stonefly nymph



Dragonfly nymph



Can you match the young water bugs, called larvae or nymphs, to their adults?

Aquatic macroinvertebrates are “bugs” that spend some or all of their lives underwater, are big enough to see with the naked eye, and don’t have backbones.

These four kinds of macroinvertebrates are all insects that begin their lives underwater. After the larvae or nymphs change through metamorphosis, the adults fly around and live near the water.

Answers: mayfly-4, caddisfly-1, stonefly-2, dragonfly-3





Scientist's Field Notebook


Explore a small section of your stream to see if it is a good place for creek critters to live! For each section below, check off the boxes of what you observe and find. Have fun!

Don't forget to bring: copy or download (www.arbordalepublishing.com) this page to take with you, pencil, clear plastic cup (or mason jar) to take a sample of stream water, shoes for getting in the stream and exploring the nearby forest, and a buddy!

Your Name: _____ Date: _____

Stream/River Name: _____ Time: _____

Current Weather	
<input type="checkbox"/> Sunny	
<input type="checkbox"/> Cloudy	
<input type="checkbox"/> Partly Cloudy	
<input type="checkbox"/> Rain	
<input type="checkbox"/> No Rain	

Check the Stream Water Part 1		
Water Color	Smell	Clarity
<input type="checkbox"/> Clear	<input type="checkbox"/> Dead fish	<input type="checkbox"/> Clear
<input type="checkbox"/> Brown	<input type="checkbox"/> Rotten Eggs	<input type="checkbox"/> Cloudy
<input type="checkbox"/> Green	<input type="checkbox"/> Chlorine	Fill up a clear cup with stream water for these tests!
<input type="checkbox"/> Orange	<input type="checkbox"/> Gas/Oil	
<input type="checkbox"/> Blue	<input type="checkbox"/> Nothing	
<input type="checkbox"/> Other: _____	<input type="checkbox"/> Other: _____	
		

I Also See:	
<input type="checkbox"/> Fish	<input type="checkbox"/> Buildings
<input type="checkbox"/> Plastic	<input type="checkbox"/> Birds
<input type="checkbox"/> Bridge	<input type="checkbox"/> Road
<input type="checkbox"/> Farm Animals	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Tires	_____

Check the Stream Water Part 2	
Water Surface	Water Level
<input type="checkbox"/> Nothing	<input type="checkbox"/> Flood
<input type="checkbox"/> Algae	<input type="checkbox"/> High
<input type="checkbox"/> Oil	<input type="checkbox"/> Normal
<input type="checkbox"/> Foam	<input type="checkbox"/> Low
<input type="checkbox"/> Other: _____	<input type="checkbox"/> Dry

Site Notes:

Is Your Creek Healthy? Ask the Critters!

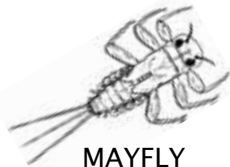
Aquatic macroinvertebrates (macros) can be grouped by how sensitive they are to pollution or dirty water. A healthy creek should support many sensitive macros. Macros in every group have special jobs in the creek. Scientists want to find many different kinds of macros and lots of each kind!

Group 1: Sensitive — These aquatic macroinvertebrates need clean water to survive.

case-building

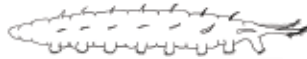


CADDISFLY LARVAE



MAYFLY NYMPHS

WATER SNIPE FLY LARVAE



WATER PENNY BEETLE LARVAE



RIFFLE BEETLE LARVAE & ADULTS



free-living

"RIGHT-HANDED" GILLED SNAILS



STONEFLY NYMPHS



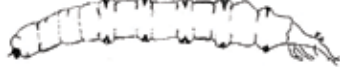
DOBSONFLY, FISHFLY, & ALDERFLY LARVAE

Group 2: Somewhat Sensitive — These aquatic macroinvertebrates can live in somewhat polluted water.

CRAYFISH



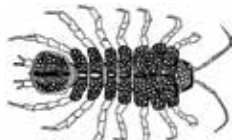
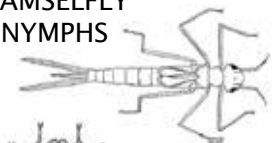
CRANE FLY LARVAE



CLAMS / MUSSELS



DAMSELFLY NYMPHS



SOWBUGS



SCUDS

NET-SPINNING CADDISFLY LARVAE



DRAGONFLY NYMPHS

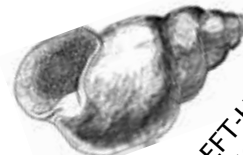
Group 3: Tolerant — These aquatic macroinvertebrates can live in very clean, somewhat clean, OR polluted water!



RAT-TAILED MAGGOTS



MIDGE FLY LARVA



"LEFT-HANDED" LUNGED SNAILS



LEECHES



BLACK FLY LARVAE



PLANARIANS/ FLATWORMS



AQUATIC WORMS

Animals are not drawn to scale.