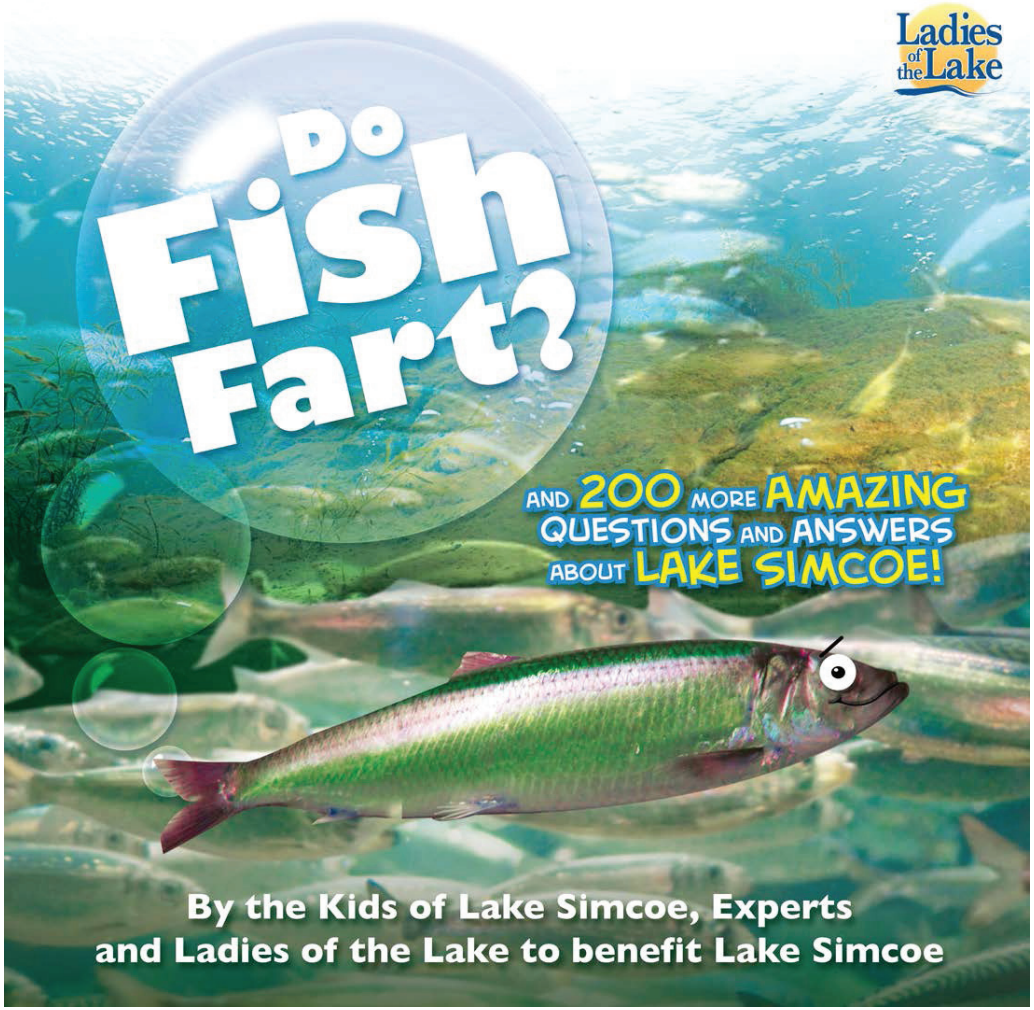
TEACHERS GUIDE



created fall 2015, with many thanks to Susan Sheard

Some Ways to Use *Do Fish Fart?* with Your Class

Do Fish Fart? is a book full of kids' questions about Lake Simcoe. As a way to kick off a Science or Geography unit, why not provide your students with an authentic, outdoor experience that will get them asking some questions of their own?:

ACTIVITY 1: INQUIRY-BASED FIELD TRIP TO LAKE SIMCOE, OR A RIVER OR POND ON THE LAKE SIMCOE WATERSHED

Curriculum Connections

SCIENCE:
Grade 2: Air and Water in the Environment
Grade 4: Habitats and Communities
Grade 6: Biodiversity
Grade 7: Interactions in the Environment

GEOGRAPHY:
Grade 7: Physical Patterns in a Changing World
Grade 7: Natural Resources Around the World: Uses and Sustainability

Before you go:

- Students brainstorm all of the ways they have ever used water and use collage, mural, wordles, etc. to share and display their responses.
- With your class, locate your school and the water body you will be visiting on the Lake Simcoe watershed http://www.lsrca.on.ca/images/maps/our_watershed_map-lg.png and on Google Maps
- Make a watershed model with your class in school sandpit (for ideas, search Watershed models on Youtube)

At the lake, river or pond:

- Provide your students with a mission: Working in small groups with the guidance of field trip volunteers, the students investigate and record all of their questions about what they observe in, near, on, around the water. Alternatively, you can tailor their investigation to specific curriculum expectations. When recording their questions, students should leave space to fill in the answers later.

Do Fish Fart?

- At the field trip site, or back at school, each group receives a copy of *Do Fish Fart?* Referring to the list of questions they generated, each group searches through *Do Fish Fart?* to find answers to as many of their questions as possible. Perhaps with the help of field trip volunteers, or with students in higher grades who are studying related topics (see Curriculum Connections, above), students will: 1) read, paraphrase and record the answers and page numbers; 2) find and record a favourite *Do Fish Fart?* question that they hadn't thought of; 3) highlight questions they wrote that were not answered in the book; 4) create a list of new questions that come to mind as they read, think and discuss
- Use the students' new questions to zero in on specific curriculum expectations

ACTIVITY 2: CREATE A SLIDESHOW: PROBLEMS FACING LAKE SIMCOE AND HOW WE CAN ALL HELP

Curriculum Connections

All of the Science and Geography units listed on page 1 include curriculum expectations that require students to 1) assess the impact of human activities on the environment and 2) plan a course of action to reduce that impact:

- If possible, group older students with younger students who are studying complementary subjects (e.g. Grade 2 Water, Grade 4 Habitats, Grade 7 Interactions in Ecosystems). Each group will read about a particular topic in *Do Fish* Fart, and then use that information to create two slides for a Power Point presentation: one slide depicting a **problem** affecting Lake Simcoe, and another slide depicting a **solution**. Possible topics: Shampoo and Soap (p. 6 and p. 79); Tires and Other Garbage (p. 6 and p.42); Drugs Down the Drain (p. 42); Planting to Prevent Erosion and to Keep Pollution Out of Rivers and Lakes (p. 47); Zebra Mussels (p. 73); Pet Waste (p. 79); Phosphates and Nitrates (p. 81); What to do About More and More People Living on the Watershed (p.84-87)

- Combine the slides into a presentation which the students present to the school community

ACTIVITY 3: CREATE A COMIC STRIP OR SKIT SHOWING THE CONNECTION BETWEEN BIOTIC AND ABIOTIC FACTORS

Curriculum Connections

GRADE 7 SCIENCE: INTERACTIONS IN THE ENVIRONMENT:
A3.2 identify biotic and abiotic elements in an ecosystem, and describe the interactions between them

- Read pages 80-81 about how phosphates and nitrates **(abiotic)** get into Lake Simcoe and the effect they have on life **(biotic)** in Lake Simcoe.

- Create a comic strip or write and perform a series of dramatic vignettes depicting: 1) how phosphorous and nitrogen get into the lake; 2) how too much P and H can affect plant growth in the lake; 3) how excessive plant growth can affect oxygen levels in the lake; 4) how reduced oxygen levels can affect fish in the lake; 5) how people can reduce the amount of P and H going into the lake.

ACTIVITY 4: ANALYSE HIGH-DENSITY VS. LOW-DENSITY LIVING AND CREATE A MODEL SUSTAINABLE COMMUNITY

Curriculum Connections

GRADE 7 SCIENCE: INTERACTIONS IN THE ENVIRONMENT:
1.2 analyse the costs and benefits of selected strategies for protecting the environment
3.8 describe ways in which human activities and technologies alter balances and interactions in the environment

GRADE 8 GEOGRAPHY: GLOBAL SETTLEMENT PATTERNS AND SUSTAINABILITY
A1.3 describe possible features of a sustainable community in the future

- Read pages 84-87 in *Do Fish Fart?* and list Pros and Cons for high-density vs. low-density communities. Be sure to include the impacts each type of community has on the water quality and ecosystems on the watershed.
- Draw or create a model depicting a sustainable community of the future. Be prepared to explain ways in which your community is sustainable.

ACTIVITY 5: ANALYSE *DO FISH FART?* AS A MEDIA TEXT AND CREATE A POSTER USING SOME OF THE SAME TECHNIQUES

Curriculum Connection

GRADES 2-8: MEDIA LITERACY

- In a teacher-led discussion, or working in small groups, students look through *Do Fish Fart? and* record their observations under the following headings: **Topic**; **Purpose**; **Audience**; **Authors**; **Authors' Main Message**; Examples of **Vocabulary** that make the book appeal to the intended audience; **Conventions and Techniques** the book designers used to make the book appeal to that audience
- Working in small groups, students choose a favourite page or spread in the book, list everything they like about it, and defend their choice to the class
- Individually or in small groups, students decide on a message to depict in a poster. They then design their own poster using some of the techniques and conventions used in the book.

ACTIVITY 6: NATURAL RESOURCES AROUND THE WORLD: USES AND SUSTAINABILITY

Curriculum Connection

GRADES 7 : GEOGRAPHY

- Choose an organization such as LSRCA, the Ontario Water Centre and/or Ladies of the Lake or the Windfall Ecology Centre and use the website and an internet search to research one of their water-related campaigns.
- Create a timeline showing campaign events.
- Find media coverage of the events and look for evidence of the following: Who participated in the event? How many people participated? How did people respond? .
- Suggest ways in which the orgs could enhance their efforts to raise public awareness of water-related issues and inspire public action.