

5 (Non-)Peak Experiences

The Ontario Curriculum Grades 1–8: Science and Technology, 2007 (Revised)

Code	Specific Expectations
Relating Science and Technology to Society and the Environment	
1.2	assess opportunities for reducing electricity consumption at home or at school that could affect the use of non-renewable resources in a positive way or reduce the impact of electricity generation on the environment

The Ontario Curriculum Grades 1–8: Language, 2006 (Revised) — Media Literacy

Code	Specific Expectations	Teacher Prompts
1.4	explain why different audiences might have different responses to media texts	This video presents the ‘top ten tips’ for energy conservation. Would all ten appeal to all viewers? Why or why not? Which tips appealed to you? Why?
1.6	identify who produces various media texts, the reason for their production, how they are produced, and how they are funded (<i>this video was produced for “Enersource Hydro Mississauga” by KPI Media Group to help homeowners who are participating in an energy saving program called “Smart Avenues”</i>).	Why did Enersource Hydro Mississauga produce this video? What are the different professions that would be involved in producing this video? How much would it cost to produce? How could we find out?
2.2	identify the conventions and techniques used in some familiar media forms and explain how they help convey meaning and influence or engage the audience (<i>using ‘real people’; supporting graphics; picture within a picture</i>).	What techniques were used in the video that made it appealing as well as useful to you the viewer?

Opening Scenario

Are you an energy saver? You probably try to conserve a bit of energy by turning off lights when you leave a room, for example.

We use electricity every day. Our modern world is filled with countless electrical devices and many of the things you own would be completely useless without electricity. Have you ever stopped to think about the electricity you use each day? Do you try to conserve electricity at home or at school?

Conserving electricity can be easy and obvious. Some behaviour, such as turning off the light when you leave a room, is not difficult to include in your daily life. This is just one of the Top Ten Tips we will learn about in the video.

Big Ideas

- Electrical energy plays a significant role in society, and its production has an impact on the environment.
- Society must find ways to minimize the impact of energy production on the environment.

In this Unit, the Big Ideas have been further developed to include the following:

- One can conserve energy and assess opportunities for reducing electricity consumption
- Use of electricity has an impact on both the way we live and the environment

Media Viewing Strategies

1. Before viewing the video, discuss the following with the students to help determine their prior knowledge about the subject content of the media text.
 - Name as many different things as you can that need electricity to run in your home. How many are plugged in at this moment? How many do you or your family unplug when they're not in use?
 - Are there some electrical appliances or devices that use more energy than others?
 - In pairs, discuss the different ways you can try to conserve energy, whether at home or at school. What else could you be doing?
2. Help students focus on the video as they view it by asking the following questions:
 - As you listen to the ten tips in this video, think about the ones that you practise now.
 - Watch for the numbers and statistics used to help you understand the concept of energy conservation. Which one was the most impressive?
 - Which of the tips discussed are under your power to control? Which might you wish to discuss with your family?
3. Show the video **Top 10 Tips from the Street** to the students.
4. Hand out a copy of the video scripts provided in the appendices to students who may require ESL/ELD help.

Thinking and Investigation

Note

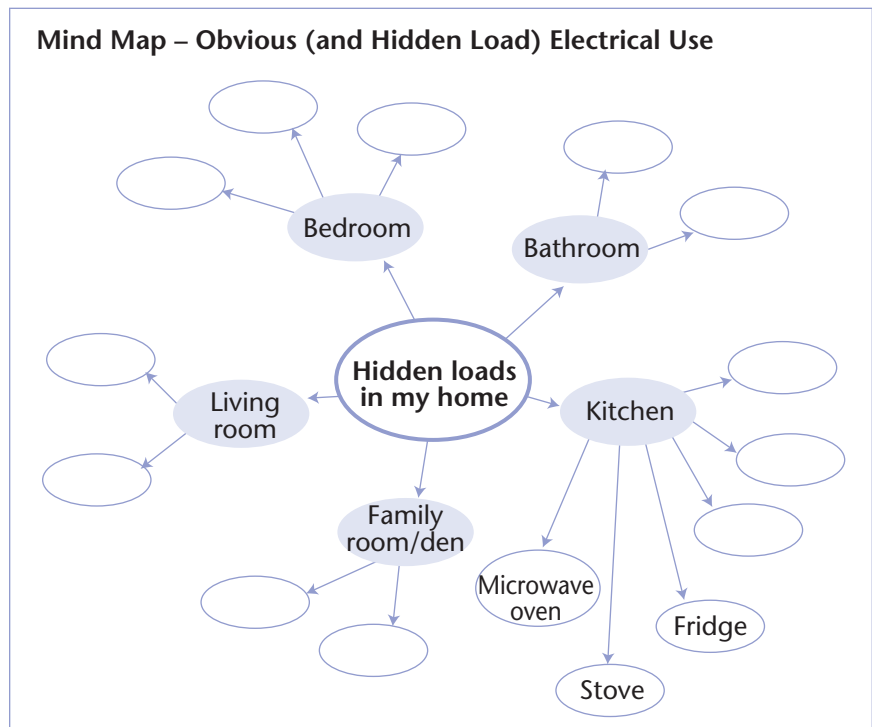
If you have this resource, the STAR program's Student Journal for Grade 6: *Electricity*, GTK Press, would enhance discussion of the following activities; in particular, Investigation 2 – Your Electrified Life, and Investigation 9 – Watts of Power.

Mapping Strategy This is a skill-building strategy adapted from *A Guide to Effective Literacy Instruction: Grades 4 to 6 (2006), Volume One*, p.136. It is a way for students to organize their thinking. A variety of mapping strategies are used in the activities throughout this Teacher's Guide.

In this Investigation, students look for opportunities to reduce electricity use at home and/or at school. Students assess these opportunities to determine how reducing electricity use affects the consumption of non-renewable resources in a positive way. They also assess how these opportunities could reduce the impacts of electricity generation on the environment. ■

Electricity use in homes can be both obvious and hidden at the same time. Hidden loads are electrical devices that draw power even though the devices may not be in use. Many common electronic items such as computers and televisions draw power even when they are turned off but still plugged in to an outlet. The presence of several of these devices in one home will consume a substantial amount of electricity over the course of a year. Students will research ways of reducing their use of electricity and produce a written report (see Appendix 4).

1. Have the students identify the issue being discussed in the opening scenario and media introduction to this Investigation.
2. Have the students use a Mapping Strategy by creating a "Mind Map" that shows obvious electrical use as well as hidden load electrical use that they might find in their homes. ■



3. Have the students review a variety of library and Internet resources to identify ways that they and their family can conserve electricity in their home. Try these topics and keywords:
 - Energy/electrical conservation
 - Save energy/electricity
 - Reduce consumption

4. Check these useful websites:
 - <http://oee.nrcan.gc.ca/english/>
 - <http://www.energystar.gov/>
 - <http://www.energy.gov.on.ca/index.cfm?fuseaction=conservation.tips>
 - <http://www.greenpeace.org/canada/en/campaigns/climate-and-energy/solutions/energy-efficiency/12-steps>
 - <http://www.cmhc-schl.gc.ca/en/co/renoho/reensa/index.cfm>
 - <http://www.energyalternatives.ca/conservation.asp>
5. In groups of 3-4 students, brainstorm ways that they can reduce electrical use at home. Complete the T-chart below:

Chart

Room	Energy Conservation Idea
Kitchen	Unplug coffee maker
Bathroom	
My Bedroom	Install compact fluorescent bulbs
Bedroom #2 (#3 etc.)	
Family Room	
Home office	Turn off lights when I leave the room
Laundry Room	Hang clothes to dry

6. In the same groups, students defend their point of view by way of a written report, designing an energy saving campaign to promote conversation at school. (See Appendix 4)

Differentiated Learning

ESL/ELD/Remedial

- When possible, partner students of the same first language so that they can compare notes about situations in their homes.
- Review and post in the classroom large versions of the two organizers.
- Conduct a walk-through of the school (include the office and staff room) to find all the uses of electricity, including those which have 'hidden loads'.

Enrichment/Extension

- Have the students monitor the use of computers throughout the school. What suggestions might they make to reduce the electricity consumption of those computers?
- Have the students present their findings to the school council and/or the administration.

Assessment and Evaluation

1. During the Investigation, students will learn one or more of the following:
 - That electricity use in homes can be both obvious and hidden at the same time
 - That there are many ways to reduce electricity use/consumption and therefore reduce the impact on the environment
2. Choose applicable Rubrics from Appendices 5 – 8 with the above to assess students' knowledge and skills.
3. Use Appendix 11 for the written report assessment.

Tell Me More – What You See and Don't See!!

**Literacy Strategy:
Anticipation Guides;**
adapted from *A Guide to
Effective Literacy
Instruction: Grades 4 to 6
(2006), Volume One,*
p.118-119.

Literacy Strategy: Anticipation Guides

Background information

Anticipation guides are graphic organizers that help students activate their prior knowledge on a topic or subject. The framing of statements in the guide, which are carefully written to support or challenge beliefs and experience, help stimulate interest and provide a purpose for reading. (See Sample Anticipation Guide in Appendix 15)

Before Reading

1. Tell students that they will be reading an article on electricity use and how to save energy. To start, they will complete an 'Anticipation Guide', in which they will read some statements about the topic and then decide whether they agree or disagree. Students will complete the chart individually and then share their thoughts in small groups.
2. Have each group share their response by completing this sentence: "Most of our group thought....."(By using this statement no one is singled out.)
3. Tally the responses for each question. If time allows, discuss the different points of view.

During Reading

Students will read "What You See and Don't See" individually. While reading, they will jot down sentences that relate to the issue beside each agree/disagree statement in the anticipation guide. They may need to read the text more than once.

After Reading

1. Students return to the statements and re-evaluate their opinions based on what they have discovered.
2. The class then discusses the reading, with the teacher going through each statement, posing questions such as : “Has your opinion changed after reading the text? Why or why not? Where did the text deepen your understanding of the topic? How did this anticipation guide help you comprehend the article?”

Differentiated Learning

ESL/ELD/Remedial

- When working in groups, pair struggling students with students who will be able to support them by making connections to the topic.
- Review key words before starting to read (non-renewable, fossil fuels, greenhouse gases, pollutants, etc.)
- Have the students go on a Word Hunt through the article, highlighting or recording those words with which they are unfamiliar. Add these words to the word wall.

Enrichment/Extension

- Encourage students to check out additional resources on the topic of energy conservation (see Appendix 20).
- Have the students compare our way of life in Canada with that of a less developed country. What are some similarities? Differences?
- Have the students monitor their use of electricity at home, before and after implementing conservation practices. Are there economic advantages?