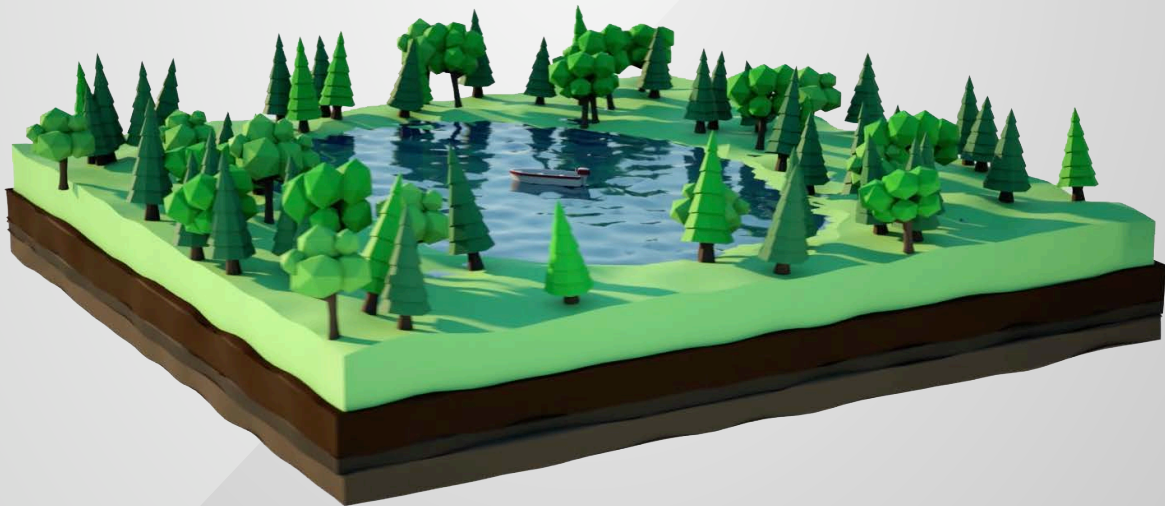


LESSON PLAN:

 **Ojibwe Translation of
Researching Mercury**



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IISD Experimental Lakes Area

IISD Experimental Lakes Area (IISD-ELA) is the world's freshwater laboratory. A series of 58 lakes and their watersheds situated on the traditional territory of Treaty #3 in Northwestern Ontario, Canada, IISD-ELA is the only place in the world where scientists can research on and manipulate real lakes to build a more accurate and complete picture of what human activity is doing to freshwater lakes. The findings from over 50 years of ground-breaking research have rewritten environmental policy around the world—from mitigating algal blooms to reducing how much mercury gets into our waterways—and aim to keep fresh water clean around the world for generations to come.

Lesson Plan: Ojibwe Translation of Researching Mercury

June 2021

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Acknowledgements

We are grateful for the following individuals who have been part of this translation project, the ones whom we now proudly call friends. We thank Elder Nancy Jones for her infinite wisdom, Elder Don Jones for his generous teachings, Jason Jones for his endless dedication toward the revitalization of Anishinaabemowin, and Bruce Townsend for his profound understanding of science. We thank Emma Bruyere, a high school student who shares our passion for the Ojibwe language and is the voice of the video. We thank Joel Gendron for his amazing skills in audio/video editing. Last but not least, we thank all the Elders and youth who were part of the many meetings and evaluation processes. In and of itself, this work is a story of all these individuals creating, sharing, learning, and connecting.

We also thank our generous funders for making this project possible.

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Introduction

This Ojibwe lesson plan is compiled based on IISD-ELA's video on researching mercury contamination in fish. The video explains where mercury occurs, how it makes its way to a lake, the methylation process that transforms mercury from its inorganic form to the organic form called methylmercury, and most importantly, the key findings of the research and its implementation in a real-world scenario. You can find both English and Ojibwe versions of the video [here](#).

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The Translation Process

The translation of this video took three full-day sessions. We began each meeting with a blessing from the Elders as well as food and tobacco offerings. We presented the video and its transcript in English at the first meeting, with an in-depth explanation of the research. The language experts translated and interpreted the video content by going through the English transcript sentence by sentence. After the transcript was fully translated, a full-day roundhouse meeting was held, including Elders and youth, to evaluate the final work. Many teachings were shared during these meetings in terms of both traditional knowledge and scientific concepts.

How to Use This Lesson Plan

This lesson plan consists of a full transcript, sentence breakdown, grammar indicators, new words created, and suggested learning activities. We recommend that you include the video in your learning experience to practice listening and speaking skills while at the same time learning about scientific research on mercury. Learning never ends, so have fun with it!

Video Transcript

Ojibwe

Biiwaabikowaabo gaa-waawaakeshkaag

Ji-gikendamang ge-izhi-gikendamang aaniin ge-izhi-biinitooyang nibi? Ando-naanaagajigaadeg gidakiiminaang gaa-wanichigewaad omaa gidakiiminaang. Gaawiin biindig danakiiziiwag agwajiiing babaa-**naanaagajichige**, onaanaagadawaabandaan, nanandotam omaa gidakiiminaang. Ezhi-baatayiinakin zaaga'iganiin naanimidana ashinishwaaswi gii-bakigidinaawaa ji-naanaangajitoowaad enigokwaag manidoo **inaakonigewaki** (Treaty #3) gii-miinaawag awi'igoowiziwin ji-naanaandawaabiwaad. Mii eta go omaa bebaa-inaabiwaad gichi-inendaagwad gakina awiya odapenimon i nibi wenji-bimaadiziyang, ezhi-oko-**naanaagajichige** yang. Gegoo noongom ezhi-**mookinaagwak** ezhi-**mookinaagwakin** **gegooyan**, **wegimaawaadizi** waad ge-onji-wiiji'inangwaa **gegooyan**. Naa onowe aanind gaa-**naanaagajichigewaad**—**biiwaabikowaabo gaa-waawaageshkaag**.

Biiwaabikowaabo gaa-waawaageshkaag

aazha omaa **ayaamagad** gaye dash omaa bebangii miziwekamig. Gaye **oshkwaakoziginan** **akakazhe'ondaabasigewin**, gaye gaa-**moon'aabikwewaad**, **bashkineyaabowade**, endazhi-ozhitoowaad boozaabikinigan, gegoo asinikewining. Gichi-baatayiinad, **biiwaabikowaabo gaa-waawaakeshkaag** gidaa-aakoziishkaagon odisigooyan. Aaniin dash wenji-biindigeshkaag **gibiiminaan**?

English

Mercury

Want to know how we help keep our water clean? IISD Experimental Lakes Area, or IISD-ELA, studies the impacts of human activity on our environment, only we don't conduct our experiments in a lab—we conduct them on entire lakes and ecosystems. IISD-ELA is a collection of 58 lakes in Northwestern Ontario, Canada, set aside for scientific research. It's the only lab of its kind in the world. Because all life depends on water, we study the impacts of contaminants. Evidence from real-world ecosystem experiments help governments make better decisions and help protect our water and planet. Here are some of the things we research—mercury.

Mercury is a naturally occurring element found in low concentrations in soil. It's also a waste by-product of coal burning, mining, smelting, oil refining, and cement production. In high concentrations, mercury can be poisonous to the nervous system. How Does It Get in Our Water?

Green words are new words created during the translation process.

Biiwaabikowaabo gaa-waawaakeshkaag miziwe **ayaamagad** biinesh igo ani-ombaabate bebakaan bi-onjise gaa-**jaagizigemagad** gii-baashkineyaabideg. **Biiwaabikowaabo gaa-waawaakeshkaag** bi-izhi-bangisin gii-gimiwang gidakiiminaang, gaye nibiikaang, ani-**mashkawishkaag** ani-**aayaanjibichibowinan**. **Mashkawisewan** bichibowinan ani-mashkawiziimagad ani-ozhi'omagad bemaadiziwaad gaye awesiinyag. Aaniish wiin wenji-izhiwebak?

Manidooshensag gaye **anzanziin** ani-**aayaanjibichibowinan** bichibowag obichiboshkogaanaawaa **nibiikaamanidooshensag** omiiijinaawaa **anzanziin** gaye manidooshensag gaa-babiiskijiibani'owaad manidooshensag gaye, giigoonyensa' odamwaawaa'. Ani-**aayaanjibichibowinan** ani-mashkawaziimagad gaa-**moozhigama**awaad mii iye gaa-ani-maajjiing aazhawi-bichibonindiwig. Nawaj ani-**mashkawise** gaa-ani-gichi-niibiwa aanind giinawind awiya gaye gaa-ani-**mamaandado**waad, bineshiinyag gaa-amwaawaad. Bemaadiziwaad ingoding **maanikaagoyang biiwaabikowaabo gaa-waawaakeshkaag** gaa-aakoziishkaagoyang biminzhikaagon bichibowin amwad bichibo giigoonyag. Gaawiin gidaa-ishkwaa-amwaasiwaanaanig giigoonyag ishpendaagwad gaa-**minoshkaagemagak** amwind giigoonh. Imaa gii-**ayaamagak biiwaabikowaabo gaa-waawaakeshkaag** ezhi-onzaamiinad nawaj ishpendaagwad, gaawiin ji-amaasiwangwaa gichi-giigoonyag. Aaniin wenji-gikendaagwak?

Mercury exists in many forms but is often released into the atmosphere as inorganic mercury by industrial emissions. Mercury falls in rain onto land, lakes, and rivers, where it may be converted by bacteria to methylmercury, a highly toxic form that can build up in humans and animals. Why Is It an Issue?

Methylmercury is taken up by bacteria and algae which are then eaten by zooplankton and other invertebrates and, in turn, small fish which are eaten by larger predator fish. Methylmercury concentrations increase with each step up the food web in a process called biomagnification. The highest concentrations occur in large fish, birds, and mammals like us. Humans are mostly exposed to mercury from eating contaminated fish. This shouldn't prevent people from eating fish, as it's one of the healthiest sources of protein. In areas where mercury contamination may be high, it's best to avoid eating larger and older fish. How Do We Know?

Mii zhi-gwa niizhwaaso-biboon dazhi-naanaagajitoowaad iwedi IISD-ELA bangiins eta go **biiwaabikowaabo gaa-waawaakeshkaag** adooyan zaaga'iganiing omaa gaye akiing, daabishkoo minik gaa-gimiwang. Ezhi-bakaanag minik gaa-babaa-izhi-bapangising zaaga'iganiing noopimiing gaye ish-piming gaa-bimibideg ogii-aabajitoonaawaa gaa-**naanaagajichigewaad**. Ezhi-bakaanak ge-izhi-gikendamowaad gaa-**anokiitamowaad** naanaagajitoowaad gegoo aazha owe **biiwaabikowaabo gaa-waawaakeshkaag** gaye nawaj geyaabi ji-gikendamang gakina miziwe gaye gakina awiya.

Biiwaabikowaabo gaa-waawaakeshkaag gii-babaa-**bangigaawinigaadeg** zaaga'iganiing nawaj idash gizhiikaamagad ani-**aayaanjibichibowinan** nawaj niibiwa igiwe giigoonyag gaye igiwe gakina nibiikaang gaa-taawaad. **Biiwaabikowaabo gaa-waawaakeshkaag** bemisemagak miziwe noopiming **zesiswanjigemagak** noomag igo gii-tazhitaamagad jibwaa-niminaaweshkaag **bakobiijiwan** biinish igo ji-ani-akiiwang. Gii-**ishkwaajigaadeg** gaawiin geyaabi achigaadesinon **biiwaabikowaabo gaa-waawaakeshkaag** zaaga'iganiing, ani-**aayaanjibichibowinan** gakina giigoonyensag gaye nawaj bangii angonaagwad eko-niiyo-biboonigak. Noongom ani-naagwad ani-agaasiinad **biiwaabikowaabo gaa-waawaageshkaag** ani-angonaagwad. Aaniin dash waa-ani-izhichigemagak?

Each year for seven years researchers at IISD-ELA added one sixth of a teaspoon of inorganic mercury to a lake and the surrounding landscape to mimic mercury in rain. Unique forms of mercury that could be detected with specialized equipment were added directly to the lake by boat and to the nearby forest and wetland by plane. This allowed scientists to distinguish the new mercury from the naturally occurring mercury and allowed researchers to determine which kind affected which parts of the ecosystem.

Mercury added directly to the lake resulted in rapid increases of methylmercury concentrations in fish and other aquatic life. Mercury added by the crop-duster plane to the surrounding area took longer to accumulate in the lake. This suggests that mercury falling in rain directly on a lake will have an immediate impact, but mercury entering it from runoff may remain for years to come. When mercury was no longer directly added to the lake, methylmercury levels in small fish declined by 80% within four years. These results provide strong evidence for limiting mercury emissions. What was done?

Canada and the United States have both proposed new laws to reduce mercury emissions from coal-fired power plants, with a goal of reducing methylmercury in fish. By reducing mercury emissions, we reduce methylmercury concentrations in our lakes and in our food.

Research at IISD Experimental Lakes Area helps us understand the effects humans have on the environment, enabling us to take meaningful action and make better decisions, keeping our water and ecosystems clean and healthy. To find out more, visit www.iisd.org/ela.

Sentence Breakdown

▶ Mercury

Biiwaabikowaabo gaa-waawaakeshkaag ni mercury

| | |
|--------------------|--------------------------|
| biiwaabiko | (a piece of) metal; iron |
| waabo | liquid |
| gaa | the thing that is being |
| waawaakeshk | very shiny; bright |
| aa | in a state or condition |

▶ Want to know how we help keep our water clean?

Ji-gikendamang ge-izhi-gikendamang aaniin ge-izhi-biinitooyang nibi?

| | |
|------------------|------------------------------------------------------------------------|
| ji- | <i>pv1 (tns)</i> in order to; that; so that |
| gikendan | <i>vti</i> know it; know about it; find it out; realize it |
| ge- | <i>pv1 (tns)</i> [future tense prefix under initial change] |
| izhi- | <i>pv3 (rel)</i> in a certain way; so; there; thus; to a certain place |
| gikendan | <i>vti</i> know it; know about it; find it out; realize it |
| aaniin | <i>adv (inter)</i> how; in what way; why |
| ge- | <i>pv1 (tns)</i> [future tense prefix under initial change] |
| izhi- | <i>pv3 (rel)</i> in a certain way; so; there; thus; to a certain place |
| biinitoon | <i>vti</i> know it; know about it; find it out; realize it |

Note: during the translation process, we came up with alternative words for “mercury,” but we went with “biiwaabikowaabo gaa-waawaakeshkaag” in the end. The alternatives are as follows:

gaawiin wiinichigemagak

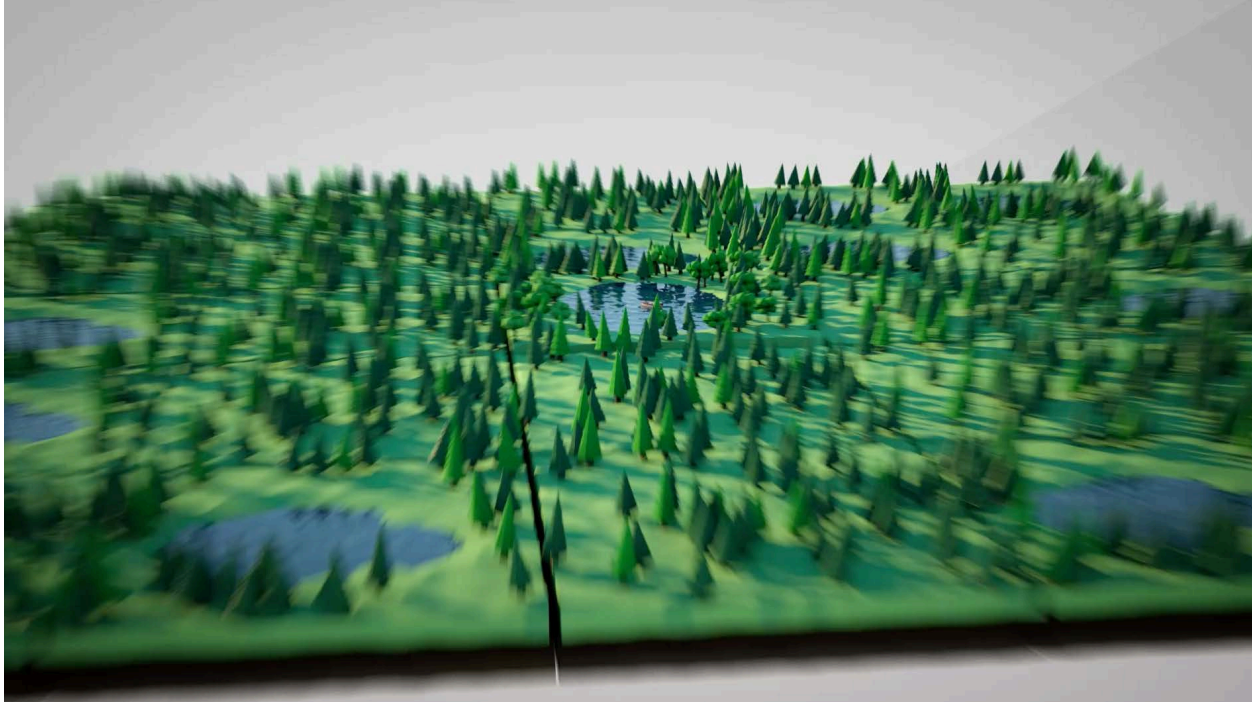
gaawiin no; not
wiinichigemagak it makes things dirty

gaa-nishiwanaachigemagak

gaa- the thing that is being
nishiwanaachigemagak it destroys something

bichiboowinaabo

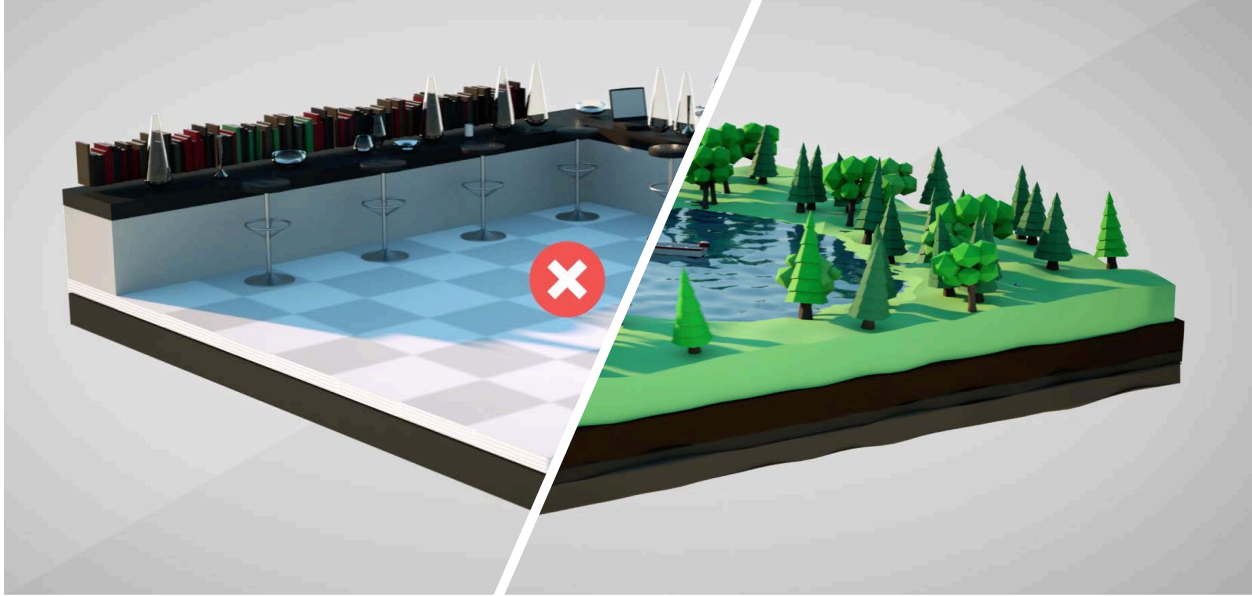
bichibowin poison
aabo liquid



▶ IISD Experimental Lakes Area, or IISD-ELA, studies the impacts of human activity on our environment,

Ando-naanaagajigaadeg gidakiiminaan gaa-wanichigewaad omaa gidakiiminaang.

| | |
|------------------------|--------------------------------------------------------------------------------------|
| ando- | <i>pv4 (lex)</i> look for; seek |
| naanaagajigaade | <i>vii</i> is being preserved; respected; studied; analyzed |
| aki | <i>ni</i> 1 earth; land; ground 2 a country; a territory 3 moss |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| wanichige | <i>vai</i> s/he makes a mistake; makes things wrong |
| omaa | <i>adv (loc)</i> here |
| aki | <i>ni</i> 1 earth; land; ground 2 a country; a territory 3 moss |



▶ only we don't conduct our experiments in a lab—we conduct them on entire ecosystems.

Gaawiin biindig danakiiziwag agwajiing babaa-**naanaagajichige**,
onaanaagadawaabandaan, **nanandotam** omaa gidakiiminaang.

| | |
|----------------------------|------------------------------------------------------------------------------------------------------------|
| gaawiin | <i>adv (neg)</i> no; not |
| biindig | <i>adv (loc)</i> inside; indoors |
| danakii | <i>vai</i> s/he lives; dwells in a certain place |
| agwajiing | <i>adv (loc)</i> outside; outdoors |
| babaa- | <i>pv2 (dir)</i> going about; going around |
| naanaagajichige | <i>vai</i> s/he pays careful attention; guards; s/he takes care of; preserves; respects; studies; analyzes |
| naanaagadawaabandan | <i>vti</i> s/he watches carefully; observes |
| nanandotam | <i>vai2</i> s/he seeks |
| omaa | <i>adv (loc)</i> here |
| aki | <i>ni</i> 1 earth; land; ground 2 a country; a territory 3 moss |

- ▶ IISD-ELA is a collection of 58 lakes in Northwestern Ontario Canada set aside for scientific research.

Ezhi-baatayiinakin zaaga'iganiin naanimidana ashinishwaaswi gii-bakigidinaawaa ji-naanaagajitoowaad enigokwaag manidoo **inaakonigewaki** (Treaty #3) gii-miinaawag awi'igoowiziwin ji-naanaandawaabiwaad.

| | |
|------------------------------------|--------------------------------------------------------------------------------------------------|
| ezhi- | <i>pv3 (rel)</i> in a certain place; in a certain way; so; there; thus (under initial change) |
| baatayiinaad | <i>vii</i> 1 there is much of it 2 they are many; there are many of them |
| zaaga'igan | <i>ni</i> a lake |
| naanimidana ashi-nishwaaswi | <i>adv (num)</i> fifty-eight |
| gii- | <i>pv1 (tns)</i> [past tense prefix] |
| bagidin | <i>vta</i> 1 set h/ down; offer; release h/ 2 allow h/ |
| ji- | <i>pv1 (tns)</i> in order to; that, so that |
| naanaagajitoon | <i>vti2</i> pay close attention to it; guard; take care of; preserve; respect; study; analyze it |
| inigokwaa | <i>vii</i> it is a certain size; is so big |
| manidoo | <i>na</i> a manitou; a spirit; god |
| inaakonigewaki | <i>ni</i> Treaty #3 territory |
| gii- | <i>pv1 (tns)</i> [past tense prefix] |
| miizh/miiN | <i>vta</i> give (it) to h/ |
| awi'igoowiziwin | <i>ni</i> that which being lent to by someone |
| ji- | <i>pv1 (tns)</i> in order to; that; so that |
| naanaagadawaabi | <i>vai</i> s/he watches carefully; observes |

- ▶ It's the only lab of its kind in the world. Because all life depends on water, we study the impact of contaminants.

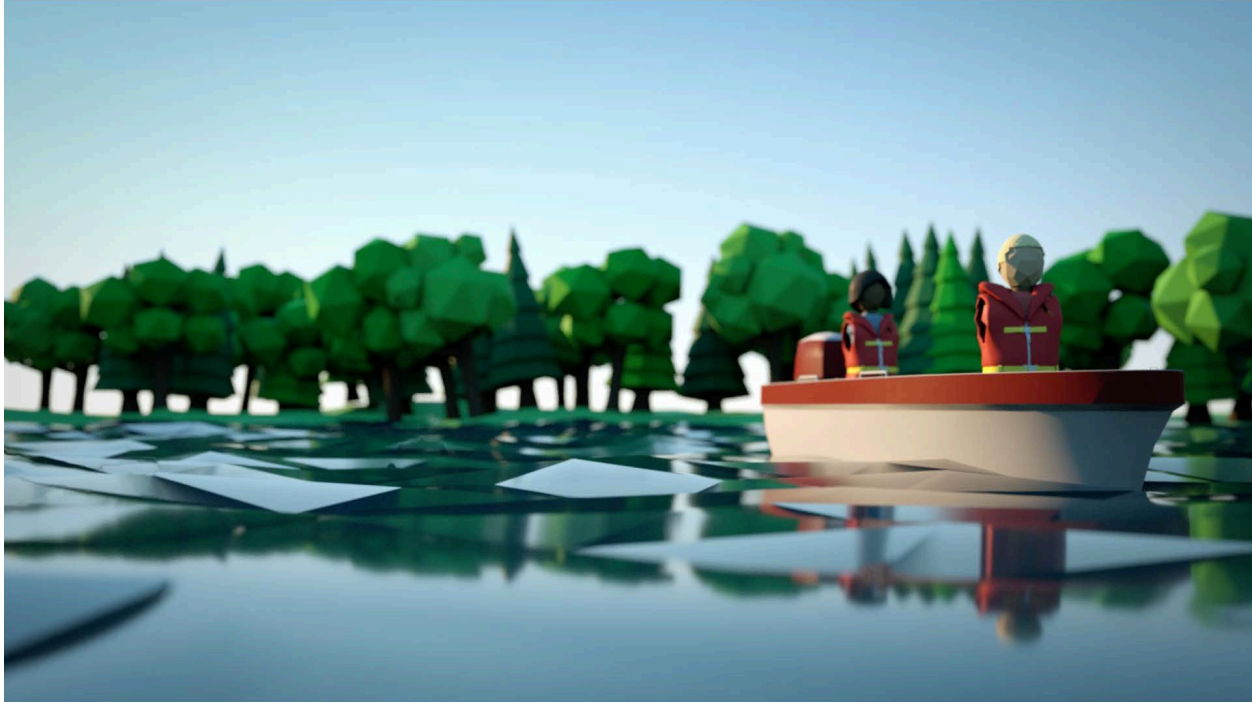
Mii eta go omaa bebaa-inaabiwaad gichi-inendaagwad gakina awiya odapenimon i nibi wenji-bimaadiziyang, ezhi-oko-naanaagajichigeyang.

| | |
|------------------------|------------------------------------------------------------------------------------------------------------|
| mii | <i>adv (pred)</i> it is thus that...; it is that... |
| eta | <i>adv (deg)</i> only |
| go | <i>pc (disc)</i> [emphatic word] |
| omaa | <i>adv (loc)</i> here |
| bebaa- | <i>pv2 (dir)</i> going about, going around (under initial change) |
| inaabi | <i>vai</i> s/he looks to a certain place; peeks |
| gichi- | <i>pv4 (lex)</i> very; quite; big; great |
| inendaagwad | <i>vii</i> it is thought of a certain way; seems to be a certain way |
| gakina | <i>adv (qnt)</i> all; every |
| awiya | <i>pron (indf)</i> somebody; someone; anybody; anyone |
| odapenimon | <i>vai + o</i> s/he depends on (it); s/he relies on (it) |
| i | <i>pron (dem)</i> that (inanimate singular) |
| nibi | <i>ni</i> water |
| wenji- | <i>pv3 (rel)</i> because; for a certain reason; from a certain place (under initial change) |
| bimaadizi | <i>vai</i> s/he lives, is alive |
| ezhi- | <i>pv3 (rel)</i> in a certain place; in a certain way; so; there; thus (under initial change) |
| oko- | <i>pv4 (lex)</i> bunched together; in a group |
| naanaagajichige | <i>vai</i> s/he pays careful attention; guards; s/he takes care of; preserves; respects; studies; analyzes |

- ▶ Evidence from real-world ecosystem experiments help governments make better decisions and help protect our water and planet.

Gegoo noongom ezhi-**mookinaagwak** ezhi-**mookinaagwakin** **gegooyan**, **wegimaawaadizi**waad ge-onji-wiji'inangwaa **gegooyan**.

| | |
|-----------------------|-----------------------------------------------------------------------------------------------|
| gegoo | <i>pron (indf)</i> something; anything |
| noongom | <i>adv (tmp)</i> now; today; nowadays |
| ezhi- | <i>pv3 (rel)</i> in a certain place; in a certain way; so; there; thus (under initial change) |
| mookinaagwad | <i>vii</i> it is appearing |
| ezhi- | <i>pv3 (rel)</i> in a certain place; in a certain way; so; there; thus (under initial change) |
| mookinaagwad | <i>vii</i> it is appearing |
| gegooyan | <i>pron (indf)</i> all things |
| wegimaawaadizi | <i>vai</i> s/he is being a leader (under initial change) |
| ge- | <i>pv1 (tns)</i> [future tense prefix under initial change] |
| onji- | <i>pv3 (rel)</i> because; for a certain reason; from a certain place |
| wiji' | <i>vta</i> 1 help h/ 2 play with h/ |
| gegooyan | <i>pron (indf)</i> all things |



▶ Here are some of the things we research—mercury.

Naa onowe aanind gaa-**naanaagajichigewaad**—**biiwaabikowaabo gaa-waawaageshkaag**.

| | |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------|
| naa | <i>pc (emph)</i> well! |
| onowe | <i>pron (dem)</i> these (inanimate plural) |
| aanind | <i>adv (qnt)</i> some |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| naanaagajichige | <i>vai</i> s/he pays careful attention; guards; s/he takes care of; preserves; respects; studies; analyzes |
| biiwaabikowaabo gaa-waawaageshkaag | <i>ni-v</i> mercury |



▶ Mercury is a naturally occurring element found in low concentrations in soil.

Biiwaabikowaabo gaa-waawaageshkaag aazha omaa **ayaamagad** gaye dash omaa bebangii miziwekamig.

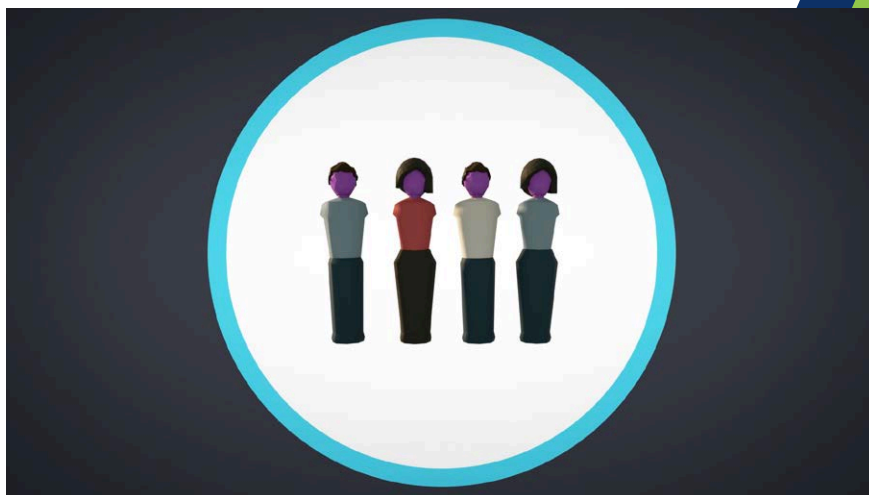
biiwaabikowaabo gaa-waawaageshkaag *ni-v mercury*

| | |
|--------------------|------------------------------------------------------------|
| aazha | <i>adv (tmp)</i> already; now |
| omaa | <i>adv (loc)</i> here |
| ayaamagad | <i>vii</i> it is being |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| dash | <i>adv (conj)</i> but; and; and then; then |
| omaa | <i>adv (loc)</i> here |
| bebangii | <i>adv (qnt)</i> a little bit each; a little bit at a time |
| miziwekamig | <i>adv (loc)</i> all over the world |

- ▶ It's also a waste by-product of coal burning, mining, smelting, oil refining, and cement production.

Gaye **oshkwaakoziginan akakazhe'ondaabasigewin**, gaye gaa-**moon'aabikwewaad**, **bashkineyaabowade**, endazhi-ozhitoowaad boozaabikinigan, gegoo asinikewining.

| | |
|--------------------------------|-----------------------------------------------------------|
| gaye | <i>adv (conj)</i> as for; also; too; and |
| oshkwaakozigin | <i>ni</i> matter released from burning; refining |
| akakazhe'ondaabasigewin | <i>ni</i> waste from coal, mining, etc. |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| moon'aabikwe | <i>vai</i> s/he digs up metal |
| bashkineyaabowade | <i>vai</i> s/he is mining |
| endazhi- | <i>pv3 (rel)</i> in a certain place |
| ozhitoon | <i>vti2</i> make; build; form it |
| boozaabikinigan | <i>ni</i> gun oil; lubricant for a machine or vehicle |
| gegoo | <i>pron (indf)</i> something; anything |
| asinikewin | <i>ni</i> cement |



- ▶ In high concentrations, mercury can be poisonous to the nervous system. How does it get in our water?

Gichi-baatayiinat, **biwaabikowaabo gaa-waawaakeshkaag** gidaa-aakoziishkaagon odisigooyan. Aaniin dash wenji-biindigeshkaag **gibiiminaan**?

| | |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| gichi- | <i>pv4 (lex)</i> very; quite; big; great |
| baatayiinat | <i>vii</i> 1 there is much of it 2 they are many; there are many of them |
| biwaabikowaabo gaa-waawaakeshkaag | <i>ni-v</i> mercury |
| daa- | <i>pv1 (tns)</i> modal preverb of possibility; necessity; or obligation: can; could; should; would; might; must |
| aakoziishkaw | <i>vta</i> make h/ sick (something consumed) |
| odish/odiS | <i>vta</i> come up to; reach; visit h/; get to where h/ is |
| aaniin dash | <i>adv (inter)</i> why |
| wenji- | <i>pv3 (rel)</i> because; for a certain reason; from a certain place (under initial change) |
| biindigeshkaa | <i>vai</i> s/he moves inside; enters slowly |
| biim | <i>ni</i> certain type of water |

- ▶ Mercury exists in many forms but is often released into the atmosphere as inorganic mercury by industrial emissions.

Biiwaabikowaabo gaa-waawaakeshkaag miziwe **ayaamagad** biinesh igo ani-ombaabate bebakaan bi-onjise gaa-**jaagizimagad** gii-baashkineyaabideg.

biiwaabikowaabo gaa-waawaageshkaag *ni-v* mercury

| | |
|-------------------------|----------------------------------------------------------------------------|
| miziwe | <i>adv (loc)</i> all over; everywhere |
| ayaamagad | <i>vii</i> it is being |
| biinesh | <i>adv (gram)</i> until; up to; (also “biinish”) |
| igo | <i>pc (disc)</i> [emphatic word] |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| ombaabate | <i>vii</i> it goes upwards as smoke |
| bebakaan | <i>adv (man)</i> all different |
| bi- | <i>pv2 (dir)</i> here; hither; this way; toward the speaker |
| onjise | <i>vii</i> it flies from a certain place |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| jaagizimagad | <i>vii</i> it is burned |
| gii- | <i>pv1 (tns)</i> [past tense prefix] |
| baashkineyaabide | <i>vii</i> it is hazy |



- ▶ Mercury falls in rain onto lands, lakes, and rivers where it may be converted by bacteria to methylmercury,

Biiwaabikowaabo gaa-waawaakeshkaag bi-izhi-bangisin gii-gimiwan gidakiiminaang, gaye nibiikaang, ani-**mashkawishkaag** ani-**aayaanjibichibowin**an.

biiwaabikowaabo gaa-waawaageshkaag *ni-v* mercury

| | |
|---------------------------|---------------------------------------------------------------------------------------------------------------|
| bi- | <i>pv2 (dir)</i> here; hither; this way; toward the speaker |
| izhi- | <i>pv3 (rel)</i> in a certain way; so; there; thus; to a certain place |
| bangisin | <i>vii</i> it falls |
| gii- | <i>pv1 (tns)</i> [past tense prefix] |
| gimiwan | <i>vii</i> it rains |
| aki | <i>ni</i> 1 earth; land; ground 2 a country; a territory 3 moss |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| nibiikaa | <i>vii</i> there is (a lot of) water |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| mashkawishkaa | <i>vii</i> it is different now; transforms; (also “meshkojishkaa” <i>vii</i> it is different now; transforms) |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| aayaanjibichibowin | <i>ni</i> changed type of poison; methylmercury |

▶ a highly toxic form that can build up in humans and animals. Why is it an issue?

Mashkawisewan bichibowinan ani-mashkawiziimagad ani-ozhi'omagad bemaadiziwaad gaye awesiinyag. Aaniish wiin wenji-izhiwebak?

| | |
|-------------------------|---------------------------------------------------------------------------------------------|
| mashkawisewan | <i>vii</i> it is powerful |
| bichibowin | <i>ni</i> it is highly toxic |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| mashkawiziimagad | <i>vii</i> it is strong; hard; dense |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| ozhi'omagad | <i>vii</i> it is built; formed up |
| bemaadiziwaad | <i>ni-v</i> the ones who are alive (under initial change) |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| awesiinh | <i>na</i> a (wild) animal |
| aaniish wiin | <i>adv (inter)</i> how; in what way [interrogative]; well now; why; you see well why |
| wenji- | <i>pv3 (rel)</i> because; for a certain reason; from a certain place (under initial change) |
| izhiwebad | <i>vii</i> 1 it is a certain weather condition 2 it happens a certain way |

- ▶ Methylmercury is taken up by bacteria and algae which are then eaten by zooplankton and other invertebrates and, in turn, small fish which are eaten by large predator fish.

Manidooshensag gaye **anzanziin** ani-**aayaanjibichibowin**an bichibowag obichiboshkogaanaawaa **nibiikaamanidoosh**ensag omiijinaawaa **anzanziin** gaye manidooshensag gaa-babiiskijiibani'owaad manidooshensag gaye, giigoonyensa' odamwaawaa'.

| | |
|---------------------------|----------------------------------------------------------------------------|
| manidoosh | <i>na</i> a bug; an insect; a worm |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| anzanziin | <i>ni</i> seaweed; algae |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| aayaanjibichibowin | <i>ni</i> changed type of poison; methylmercury |
| bichibo | <i>vai</i> s/he is poisoned |
| biidigeshkaagon | <i>vti</i> s/he caught it |
| nibiikaamanidoosh | <i>ni</i> water insects |
| miijin | <i>vti3</i> eat it |
| anzanziin | <i>ni</i> seaweed; algae |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| manidoosh | <i>na</i> a bug; an insect; a worm |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| babiiskijiibani'o | <i>vai</i> crawls like an inch worm |
| manidoosh | <i>na</i> a bug; an insect; a worm |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| giigoonh | <i>na</i> a fish |
| amo/amW | <i>vta</i> eat h/ |

- ▶ Methylmercury concentration increases with each step up the food web in a process called biomagnification.

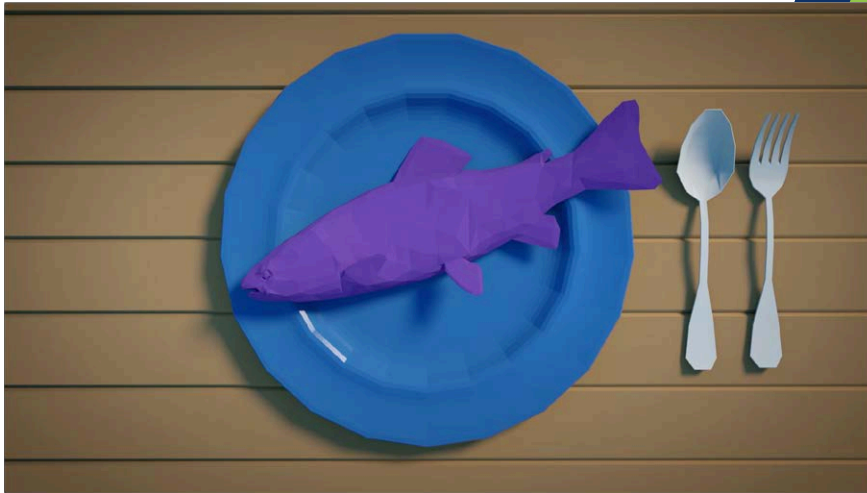
Ani-**aayaanjibichibowin**an ani-mashkawaziimagad gaa-**moozhigama**aawaad mii iye gaa-ani-maajiiging aazhawi-bichibonindiwag.

| | |
|---------------------------|----------------------------------------------------------------------------|
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| aayaanjibichibowin | <i>ni</i> other types of poison |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| mashkawaziimagad | <i>vii</i> it is strong; hard; dense |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| moozhigam | <i>vta</i> feel h/ in or on h/ body; sense h/ presence |
| mii | <i>adv (pred)</i> it is thus that...; it is that... |
| iye | <i>pron (dem)</i> this (inanimate singular) |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| maajiigin | <i>vii</i> it starts growing; grows up |
| aazhawi- | <i>adv (conj)</i> across |
| bichibonindiwag | <i>vai</i> they poison each other |

▶ The highest concentrations occur in large fish, birds, and mammals like us.

Nawaj ani-**mashkawise** gaa-ani-gichi-niibiwa aanind giinawind awiya gaye gaa-ani-**mamaandado**waad, bineshiinyag gaa-amwaawaad.

| | |
|-------------------|----------------------------------------------------------------------------|
| nawaj | <i>adv (deg)</i> more |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| maskawise | <i>vai</i> it is highly concentrated |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| gichi- | <i>pv4 (lex)</i> very; quite; big; great |
| niibiwa | <i>adv (qnt)</i> a lot; many; much |
| aanind | <i>adv (qnt)</i> some |
| giinawind | <i>pron (per)</i> we; us |
| awiya | <i>pron (indf)</i> somebody; someone; anybody; anyone |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| mamaandado | <i>vai</i> s/he is large; big |
| bineshiinh | <i>na</i> a bird |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| amo/amW | <i>vta</i> eat h/ |



▶ Humans are mostly exposed to mercury from eating contaminated fish.

Bemaadiziwaad ingoding **maanikaagoyang** **biiwaabikowaabo gaa-waawaakeshkaag** gaa-aakoziishkaagoyang biminzhikaagon bichibowin amwad bichibo giigoonyag.

| | |
|-------------------------------------------|-----------------------------------------------------------|
| bemaadiziwaad | <i>ni-v</i> the ones who are alive (under initial change) |
| ingoding | <i>adv (tmp)</i> at one time; sometime |
| maanikaw | <i>vta</i> s/he is exposed to something bad to h/ |
| biiwaabikowaabo gaa-waawaageshkaag | <i>ni-v</i> mercury |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| aakoziishkaw | <i>vta</i> make h/ sick (something consumed, invisible) |
| biminzhikaagon | <i>vti</i> follow it |
| bichibowin | <i>ni</i> poison |
| amo/amW | <i>vta</i> eat h/ |
| bichibo | <i>vai</i> s/he is poisoned |
| giigoonh | <i>na</i> a fish |



- ▶ This shouldn't prevent people from eating fish, as it's one of the healthiest sources of protein.

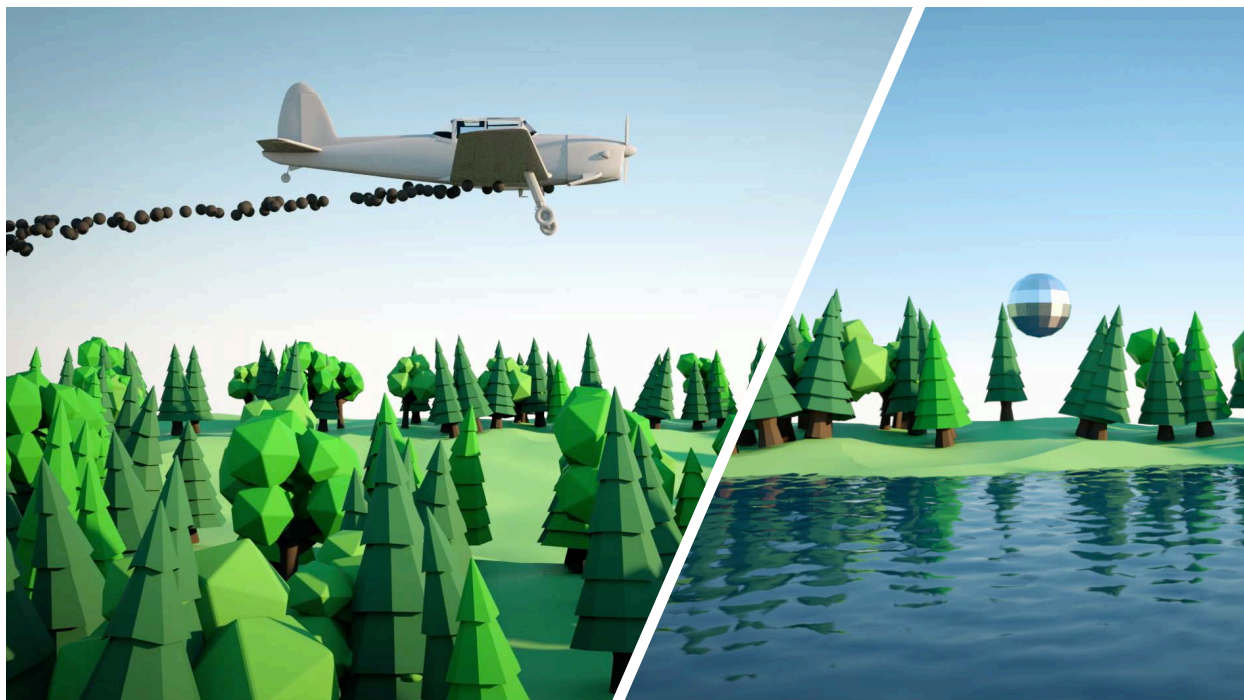
Gaawiin gidaa-ishkwaa-amwaasiwaanaanig giigoonyag ishpendaagwad gaa-
minoshkaagemagak amwind giigoonh.

| | |
|-------------------------|-----------------------------------------------------------------------------------------------------------------|
| gaawiin | <i>adv (neg)</i> no; not |
| daa- | <i>pv1 (tns)</i> modal preverb of possibility; necessity; or obligation: can; could; should; would; might; must |
| ishkwaa- | <i>pv4 (lex)</i> when something has stopped; is over; is done; after |
| amo/amW | <i>vta</i> eat h/ |
| giigoonh | <i>na</i> a fish |
| ishpendaagwad | <i>vii</i> it is highly regarded; is highly respected; is esteemed |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| minoshkaagemagak | <i>vii</i> it is healthy |
| amo/amW | <i>vta</i> eat h/ |
| giigoonh | <i>na</i> a fish |

- ▶ In areas where mercury contamination may be high, it's best to avoid eating larger and older fish. How do we know?

Imaa gii-**ayaamagak biiwaabikowaabo gaa-waawaakeshkaag** ezhi-onzaamiinad nawaj ishpendaagwad, gaawiin ji-amaasiwangwaa gichi-giigoonyag. Aaniin wenji-gikendaagwak?

| | |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| imaa | <i>adv (loc)</i> there |
| gii- | <i>pv1 (tns)</i> [past tense prefix] |
| ayaamagad | <i>vii</i> it is being |
| biiwaabikowaabo gaa-waawaageshkaag | <i>ni-v</i> mercury |
| ezhi- | <i>pv3 (rel)</i> in a certain place; in a certain way; so; there; thus (under initial change) |
| onzaamiinad | <i>vii [plural]</i> there are a large number of them; there are too many of them; there is a large amount of it; there is too much of it |
| nawaj | <i>adv (deg)</i> more |
| ishpendaagwad | <i>vii</i> it is highly regarded; is highly respected; is esteemed |
| gaawiin | <i>adv (neg)</i> no; not |
| ji- | <i>pv1 (tns)</i> in order to; that; so that |
| amo/amW | <i>vta</i> eat h/ |
| gichi- | <i>pv4 (lex)</i> very; quite; big; great |
| giigoonh | <i>na</i> a fish |
| aaniin | <i>adv (inter)</i> how; in what way; why |
| wenji- | <i>pv3 (rel)</i> because; for a certain reason; from a certain place (under initial change) |
| gikendaagwad | <i>vii</i> it is known (by someone); “they” know it |



- ▶ Each year for seven years researchers at IISD-ELA added one sixth of a teaspoon of inorganic mercury to a lake and surrounding landscape to mimic mercury in rain.

Mii zhigwa niizhwaaso-biboon dazhi-naanaagajitoowaad iwedi IISD-ELA bangiins eta go **biiwaabikowaabo gaa-waawaakeshkaag** adooyan zaaga'iganiing omaa gaye akiing, daabishkoo minik gaa-gimiwang.

| | |
|--------------------------|--------------------------------------------------------------------------------------------------|
| mii | <i>adv (pred)</i> it is thus that...; it is that... |
| zhigwa | <i>adv (tmp)</i> already; at this time; now; then |
| niizhwaaso-biboon | <i>adv (num)</i> seven years; seven winters |
| dazhi- | <i>pv3 (rel)</i> in a certain place; of a certain place; there |
| naanaagajitoon | <i>vti2</i> pay close attention to it; guard; take care of; preserve; respect; study; analyze it |
| iwedi | <i>pron (dem)</i> that over there (inanimate singular) |
| IISD-ELA | <i>ni</i> IISD-ELA (place name) |

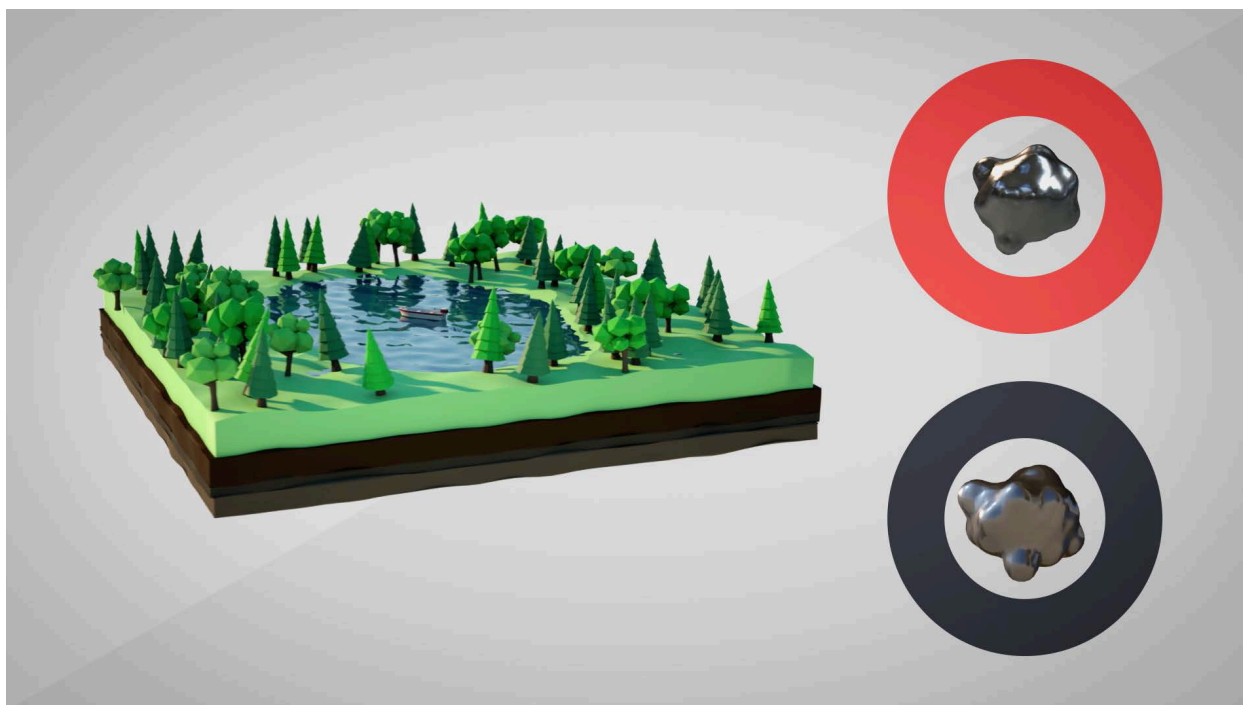
Mii zhiḡwa niizhwaaso-biboon dazhi-naanaagajitoowaad iwedi IISD-ELA bangiins eta go **biiwaabikowaabo gaa-waawaakeshkaag** adooyan zaaga'iganiing omaa gaye akiing, daabishkoo minik gaa-gimiwang.

| | |
|-------------------------------------------|--------------------------------------------------------------------------------------|
| bangiins | <i>adv (qnt)</i> a very little; very few |
| eta | <i>adv (deg)</i> only |
| go | <i>pc (disc)</i> [emphatic word] |
| biiwaabikowaabo gaa-waawaageshkaag | <i>ni-v</i> mercury |
| adoon | <i>vti2</i> put it in a certain place; (also “atooḡ”) |
| zaaga'igan | <i>ni</i> a lake |
| omaa | <i>adv (loc)</i> here |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| aki | <i>ni</i> 1 earth; land; ground 2 a country; a territory 3 moss |
| daabishkoo | <i>adv (gram)</i> for example; alike |
| minik | <i>adv (qnt)</i> a certain amount; a certain number; so much; so many |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| gimiwan | <i>vii</i> it rains |

- ▶ Unique forms of mercury that could be detected with specialized equipment were added directly by boat and nearby forest and wetland by plane.

Ezhi-bakaanag minik gaa-babaa-izhi-bapangising zaaga'iganiing noopimiing gaye ishpiming gaa-bimibideg ogii-aabajitoonaawaa gaa-**naanaagajichigewaad**.

| | |
|------------------------|-----------------------------------------------------------------------------------------------|
| ezhi- | <i>pv3 (rel)</i> in a certain place; in a certain way; so; there; thus (under initial change) |
| bakaanad | <i>vii</i> it is different |
| minik | <i>adv (qnt)</i> a certain amount; a certain number; so much; so many |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| babaa- | <i>pv2 (dir)</i> going about; going around |
| izhi- | <i>pv3 (rel)</i> in a certain place; in a certain way; so; there; thus |
| bapangising | <i>vii</i> falls here and there |
| zaaga'igan | <i>ni</i> a lake |
| noopiming | <i>adv (loc)</i> in the bush; in the woods; inland |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| ishpiming | <i>adv (loc)</i> in the sky; above; in heaven |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| bimibide | <i>vii</i> it speeds; drives; flies along |
| gii- | <i>pv1 (tns)</i> [past tense prefix] |
| aabajitoon | <i>vti2</i> use it |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| naanaagajichige | <i>vai</i> s/he analyzed; studied |



- ▶ This allowed scientists to distinguish the new mercury from the naturally occurring mercury and allowed researchers to determine which kind affected which parts of the ecosystem.

Ezhi-bakaanak ge-izhi-gikendamowaad gaa-**anokiitam**owaad naanaagajitoowaad gegoo aazha owe **biiwaabikowaabo gaa-waawaakeshkaag** gaye nawaj geyaabi ji-gikendamang gakina miziwe gaye gakina awiya.

| | |
|-----------------------|--------------------------------------------------------------------------------------------------|
| ezhi- | <i>pv3 (rel)</i> in a certain place; in a certain way; so; there; thus (under initial change) |
| bakaanad | <i>vii</i> it is different |
| ge- | <i>pv1 (tns)</i> [future tense prefix under initial change] |
| izhi- | <i>pv3 (rel)</i> in a certain place; in a certain way; so; there; thus |
| gikendan | <i>vti</i> know it; know about it; find it out; realize it |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| anokiitan | <i>vti</i> work it |
| naanaagajitoon | <i>vti2</i> pay close attention to it; guard; take care of; preserve; respect; study; analyze it |

Ezhi-bakaanak ge-izhi-gikendamowaad gaa-anokiitamowaad naanaagajitoowaad gegoo aazha owe **biiwaabikowaabo gaa-waawaakeshkaag** gaye nawaj geyaabi ji-gikendamang gakina miziwe gaye gakina awiya.

| | |
|-------------------------------------------|------------------------------------------------------------|
| gegoo | <i>pron (indf)</i> something; anything |
| aazha | <i>adv (tmp)</i> already; now |
| owe | <i>pron (dem)</i> this (inanimate singular) |
| biiwaabikowaabo gaa-waawaageshkaag | <i>ni-v</i> mercury |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| nawaj | <i>adv (deg)</i> more |
| geyaabi | <i>geyaabi adv (tmp)</i> still; yet |
| ji- | <i>pv1 (tns)</i> in order to; that; so that |
| gikendan | <i>vti</i> know it; know about it; find it out; realize it |
| gakina | <i>adv (qnt)</i> all; every |
| miziwe | <i>adv (loc)</i> all over; everywhere |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| gakina | <i>adv (qnt)</i> all; every |
| awiya | <i>pron (indf)</i> somebody; someone; anybody; anyone |



- ▶ Mercury added directly to the lake resulted in rapid increases of methylmercury concentrations in fish and other aquatic life.

Biiwaabikowaabo gaa-waawaakeshkaag gii-babaa-**bangigaawinigaade**g zaaga'iganiing nawaj idash gizhiikaamagad ani-**aayaanjibichibowin**an nawaj niibiwa igiwe giigoonyag gaye igiwe gakina nibiikaang gaa-taawaad.

biiwaabikowaabo gaa-waawaageshkaag *ni-v* mercury

| | |
|--------------------------|------------------------------------------------|
| gii- | <i>pv1 (tns)</i> [past tense prefix] |
| babaa- | <i>pv2 (dir)</i> going about; going around |
| bangigaawinigaade | <i>vii</i> it is directly being added (liquid) |
| zaaga'igan | <i>ni</i> a lake |
| nawaj | <i>adv (deg)</i> more |
| idash | <i>adv (conj)</i> but; and; and then; then |
| gizhiikaamagad | <i>vii</i> it is going fast; increasing |

Biiwaabikowaabo gaa-waawaakeshkaag gii-babaa-bangigaawinigaadeg zaaga'iganiing nawaj idash gizhiikaamagad **ani-aayaanjibichibowin**an nawaj niibiwa igiwe giigoonyag gaye igiwe gakina nibiikaang gaa-taawaad.

| | |
|---------------------------|----------------------------------------------------------------------------|
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| aayaanjibichibowin | <i>ni</i> other types of poison |
| nawaj | <i>adv (deg)</i> more |
| niibiwa | <i>adv (qnt)</i> a lot; many; much |
| igiwe | <i>pron (dem)</i> those (animate plural) |
| giigoonh | <i>na</i> a fish |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| igiwe | <i>pron (dem)</i> those (animate plural) |
| gakina | <i>adv (qnt)</i> all; every |
| nibiikaa | <i>vii</i> there is (a lot of) water |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| daa | <i>vai</i> s/he lives; dwells in a certain place |

- ▶ Mercury added by the crop-duster plane to the surrounding area took longer to accumulate in the lake but may enter the lake in runoff for many years to come.

Biiwaabikowaabo gaa-waawaakeshkaag bemisemagak miziwe noopiming
zesiswanjigemagak noomag igo gii-tazhitaamagad jibwaa-niminaaweshkaag
bakobiijiwan biinish igo ji-ani-akiiwang.

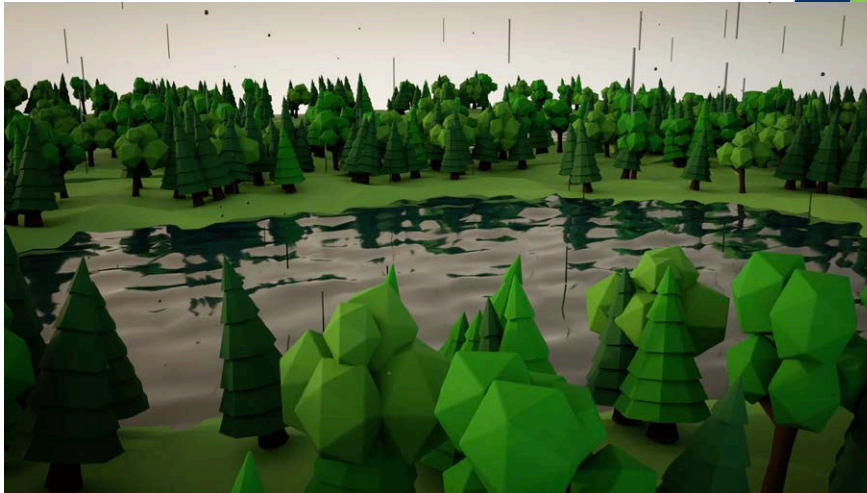
biiwaabikowaabo gaa-waawaageshkaag *ni-v* mercury

| | |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| bemisemagak | <i>ni-v</i> an airplane |
| miziwe | <i>adv (loc)</i> all over; everywhere |
| noopiming | <i>adv (loc)</i> in the bush; in the woods; inland |
| zesiswanjigemagak | <i>ni-v</i> spits something out |
| noomag | <i>adv (tmp)</i> for a long time; for a spell; for a while |
| igo | <i>pc (emph)</i> [emphatic word] |
| gii- | <i>pv1 (tns)</i> [past tense prefix] |
| dazhitaamagad | <i>vii</i> 1 s/he takes time; spends time; stays in a certain place 2 s/he works; plays (in a certain place) |
| jibwaa- | <i>pv1 (tns)</i> before |
| niminaaweshkaa | <i>vii/vai</i> s/he goes out into the lake or an open area |
| bakobiijiwan | <i>vii</i> it flows into the water |
| biinish | <i>adv (gram)</i> until; up to |
| igo | <i>pc (emph)</i> [emphatic word] |
| ji- | <i>pv1 (tns)</i> in order to; that; so that |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| akiiwan | <i>vii</i> it is the earth; is land |

- ▶ When mercury was no longer directly added to the lake, methylmercury levels in small fish declined by 80% within four years.

Gii-**ishkwaajigaade**g gaawiin geyaabi achigaadesinoo **biiwaabikowaabo gaa-waawaakeshkaag** zaaga'iganing, ani-**aayaanjibichibowin**an gakina giigoonyensag gaye nawaj bangii angonaagwad eko-niiyo-biboonigak.

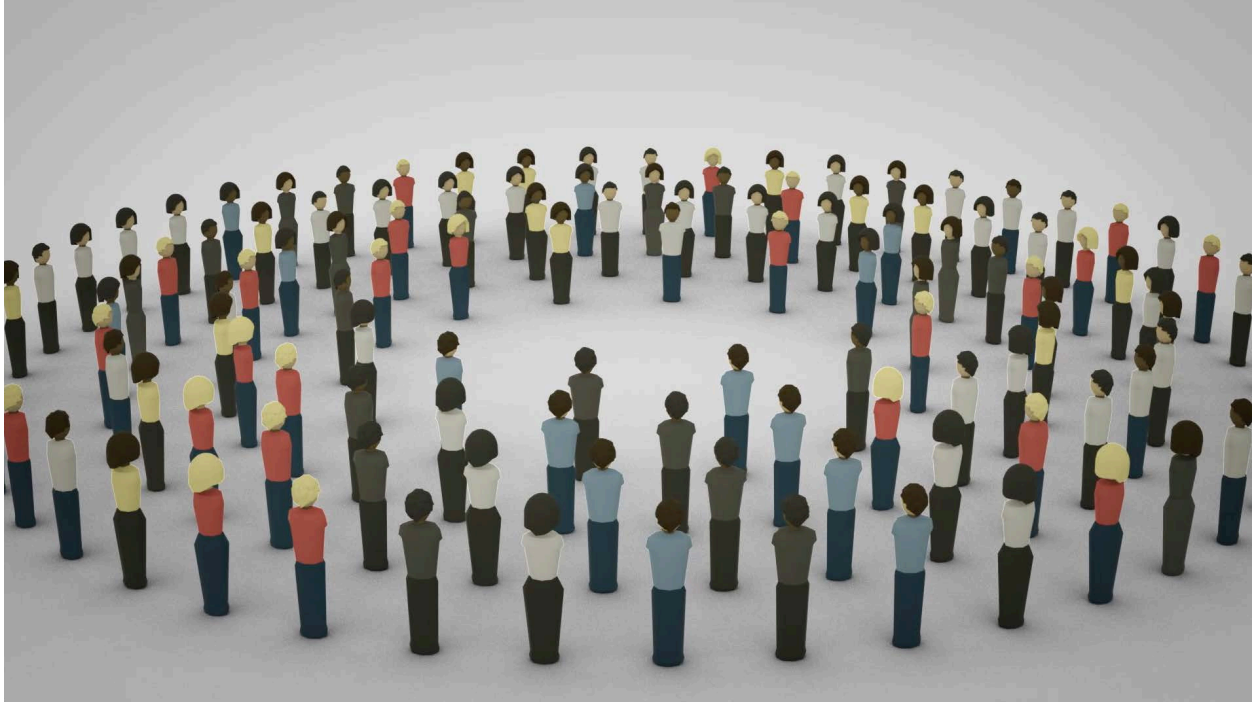
| | |
|-------------------------------------------|----------------------------------------------------------------------------------------|
| gii- | <i>pv1 (tns)</i> [past tense prefix] |
| ishkwaajigaade | <i>vii</i> after it is undergoing action (by someone) |
| gaawiin | <i>adv (neg)</i> no; not |
| geyaabi | <i>adv (tmp)</i> still; yet |
| achigaade | <i>vii</i> it is put in a certain place (by someone); “they” put it in a certain place |
| biiwaabikowaabo gaa-waawaageshkaag | <i>ni-v</i> mercury |
| zaaga'igan | <i>ni</i> a lake |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| aayaanjibichibowin | <i>ni</i> other types of poison |
| gakina | <i>adv (qnt)</i> all; every |
| giigoonh | <i>na</i> a fish |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| nawaj | <i>adv (deg)</i> more |
| bangii | <i>adv (qnt)</i> a little; a little bit; few |
| angonaagwad | <i>vii</i> it vanishes; fades from view |
| eko- | <i>pv3 (rel)</i> a certain length; as far as; as long as; since |
| niiyo-biboonigad | <i>vii</i> four years; four winters |



▶ These results provide strong evidence for limiting mercury emissions. What was done?

Noongom ani-naagwad ani-agaasiinad **biiwaabikowaabo gaa-waawaageshkaag** ani-angonaagwad. Aaniin dash waa-ani-izhichigemagak?

| | |
|-------------------------------------------|----------------------------------------------------------------------------|
| noongom | <i>adv (tmp)</i> now; today; nowadays |
| ani-naagwad | <i>vii</i> it goes out of sight |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| agaasinad | <i>vii</i> it is small |
| biiwaabikowaabo gaa-waawaageshkaag | <i>ni-v</i> mercury |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| angonaagwad | <i>vii</i> it vanishes; fades from view |
| aaniin dash | <i>adv (inter)</i> why |
| waa- | <i>pv1 (tns)</i> is going to; will; want to (under initial change) |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| izhichigemagak | <i>vii</i> it does; it makes things a certain way |



- ▶ Canada and the United States have both proposed new laws to reduce mercury emissions from coal-fired power plants, with a goal of reducing methylmercury in fish.

Zhaaganaashiiwakiing miinawaa gichi-mookomaanakiing ogii-ozhi'ayaanaawaa ge-izhi-**nana'izhichigaadeg** gaa-waawaakeyaagamig **biiwaabikowaabo gaa-waawaakeshkaag** gaa-baashkineyaabiteg nawaj ji-**zaagidaabatesinok biiwaabikowaabo gaa-waawaakeshkaag** ji-bichibosigwaa giigoonyag.

zhaaganaashiiwaki *ni* Canada

miinawaa *adv (conj)* also; and; again

gichi-mookomaanakiing *ni* U.S.A.

gii- *pv1 (tns)* [past tense prefix]

ozhi'ayaan *vti4* build;make; form it

ge- *pv1 (tns)* [future tense prefix under initial change]

izhi- *pv3 (rel)* in a certain way; so; there; thus; to a certain place

Zhaagaanashiiwakiing miinawaa gichi-mookomaanakiing ogii-ozhi'ayaanaawaa ge-izhi-**nana'izhichigaade**g gaa-waawaakeyaagamig **biiwaabikowaabo gaa-waawaakeshkaag** gaa-baashkineyaabiteg nawaj ji-**zaagidaabate**sinok **biiwaabikowaabo gaa-waawaakeshkaag** ji-bichibosigwaa giigoonyag.

| | |
|-------------------------------------------|-----------------------------------------------------------|
| nana'izhichigaade | <i>vii</i> consider fixing |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| waawaakeyaagamig | <i>vii</i> shiny thing on the water |
| biiwaabikowaabo gaa-waawaageshkaag | <i>ni-v</i> mercury |
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| baashkineyaabite | <i>vii</i> there is dust or mist in the air |
| nawaj | <i>adv (deg)</i> more |
| ji- | <i>pv1 (tns)</i> in order to; that; so that |
| zaagidaabate- | <i>vii</i> it is being filtered |
| biiwaabikowaabo gaa-waawaageshkaag | <i>ni-v</i> mercury |
| ji- | <i>pv1 (tns)</i> in order to; that; so that |
| bichibos | <i>vta</i> poison h/ |
| giigoonh | <i>na</i> a fish |



- ▶ By reducing mercury emissions, we reduce methylmercury in our lakes and in our food.

Nawaj ji-ani-angonaagwak **biiwaabikowaabo gaa-waawaakeshkaag**, wenji-bichiboomagak zaaga'igan miinawaa wendanjigeyang.

| | |
|-------------------------------------------|---------------------------------------------------------------------------------------------|
| nawaj | <i>adv (deg)</i> more |
| ji- | <i>pv1 (tns)</i> in order to; that; so that |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| angonaagwad | <i>vii</i> it vanishes; fades from view |
| biiwaabikowaabo gaa-waawaageshkaag | <i>ni-v</i> mercury |
| wenji- | <i>pv3 (rel)</i> because; for a certain reason; from a certain place (under initial change) |
| bichiboomagad | <i>vii</i> it is poison |
| zaaga'igan | <i>ni</i> a lake |
| miinawaa | <i>adv (conj)</i> also; and; again |
| wendanjigeyang | <i>ni-v</i> s/he eats from there; gets h/ food from there |

- ▶ Research at IISD-ELA helps us understand the effects humans have on the environment enabling us to take meaningful action and make better decisions,

Gaa-**anokiitam**owaad IISD-ELA ogowe endone'igewaad wenji-nisidotamang ezhinaagwakin waa-izhi-gwayakochigewaad omaa gidakiiminaang nawaj gegoo ji-ani-minochigeyang.

| | |
|-----------------------|---------------------------------------------------------------------------------------------|
| gaa- | <i>pv1 (tns)</i> [past tense prefix under initial change] |
| anokiitan | <i>vti</i> work it |
| IISD-ELA | <i>ni</i> IISD-ELA (place name) |
| ogowe | <i>pron (dem)</i> these (animate plural) |
| endone'igewaad | <i>na-v</i> the things that they find |
| wenji- | <i>pv3 (rel)</i> because; for a certain reason; from a certain place (under initial change) |
| nisidotan | <i>vti</i> understand it; recognize; identify it (by hearing) |
| ezhinaagwak | <i>ni-v</i> it is looking or appearing a certain way |
| waa- | <i>pv1 (tns)</i> is going to; will; want to (under initial change) |
| izhi- | <i>pv3 (rel)</i> in a certain way; so; there; thus; to a certain place |
| gwayakochige | <i>vai</i> s/he makes things right; does things right |
| omaa | <i>adv (loc)</i> here |
| aki | <i>ni</i> 1 Earth; land; ground 2 a country; a territory 3 moss |
| nawaj | <i>adv (deg)</i> more |
| gegoo | <i>pron (indf)</i> something; anything |
| ji- | <i>pv1 (tns)</i> in order to; that; so that |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| minochige | <i>vai</i> s/he does things well; does a good job |

▶ keeping our water and ecosystems clean and healthy. To find out more, visit www.iisd.org/ela.

Ge-onji-biinichigaadeg nibiikaang omaa gidakiiminaang gaye weweni ji-biinaagaming ge-ani-mino-ayaayang. Geyaabi anooj gikendang omaa daanginan www.iisd.org/ela.

| | |
|-------------------------|--------------------------------------------------------------------------------------|
| ge- | <i>pv1 (tns)</i> [future tense prefix under initial change] |
| onji- | <i>pv3 (rel)</i> because; for a certain reason; from a certain place |
| biinichigaade | <i>vii</i> it is cleaned (by someone); “they” clean it |
| nibiikaa | <i>vii</i> there is (a lot of) water |
| omaa | <i>adv (loc)</i> here |
| aki | <i>ni</i> 1 Earth; land; ground 2 a country; a territory 3 moss |
| gaye | <i>adv (conj)</i> as for; also; too; and |
| weweni | <i>adv (man)</i> properly; correctly; carefully |
| ji- | <i>pv1 (tns)</i> in order to; that; so that |
| biinaagamin | <i>vii</i> it (a liquid) is clean |
| ge- | <i>pv1 (tns)</i> [future tense prefix under initial change] |
| ani- | <i>pv2 (dir)</i> coming up to in time; going away; in progress; on the way |
| mino-ayaa | <i>vai</i> s/he is good; is fine; is well |
| geyaabi | <i>adv (tmp)</i> still; yet |
| anooj | <i>adv (qnt)</i> all kinds; various |
| gikendan | <i>vti</i> know it; know about it; find it out; realize it |
| omaa | <i>adv (loc)</i> here |
| daanginan | <i>vti</i> touch it (with hand) |
| www.iisd.org/ela | <i>ni</i> website |

Glossary

AA

- aabajitoon** *vti2* use it
- aakoziishkaw** *vta* make h/ sick (something consumed)
- aanind** *adv (qnt)* some
- aaniin** *adv (inter)* how; in what way; why
- aaniin dash** *adv (inter)* why
- aaniish wiin** *adv (inter)* how; in what way [interrogative]; well now; why; you see well why
- aayaanjibichibowin** *ni* changed type of poison
- aazha** *adv (tmp)* already; now
- aazhawi-** *adv (conj)* across

A

- agaasinad** *vii* it is small
- agwajjig** *adv (loc)* outside; outdoors
- akakazhe'ondaabasigewin** *ni* waste from coal, mining, etc.
- aki** *ni* **1** Earth; land; ground **2** a country; a territory **3** moss
- akiiwan** *vii* it is the earth; is land
- amo/amW** *vta* eat h/
- ando-** *pv4 (lex)* look for; seek
- andawenjigaade-** *vii* it wants; needs things
- angonaagwad** *vii* it vanishes; fades from view
- ani-** *pv2 (dir)* coming up to in time; going away; in progress; on the way
- ani-naagwad** *vii* it goes out of sight
- anokiitan** *vti* work it

- anzanziin** *ni* seaweed; algae
- asinikewin** *ni* cement
- adoon** *vti2* put it in a certain place; (also “atooon”)
- awesiinh** *na* a (wild) animal
- awiya** *pron (indf)* somebody; someone; anybody; anyone
- awi'igoowiziwin** *ni* that which being lent to by someone
- ayaamagad** *vii* it is being

B

- baashkineyaabide** *vii* it is hazy
- baatayiinaad** *vii* **1** there is much of it **2** they are many; there are many of them
- babaa-** *pv2 (dir)* going about; going around
- babiiskijiibani'o** *vai* crawls like an inchworm
- bagidin** *vta* **1** set h/ down; offer; release h/ **2** allow h/
- bakaanad** *vii* it is different
- bakobiijiwan** *vii* it flows into the water
- bangigaawinigaade** *vii* it is directly being added (liquid)
- bangisin** *vii* it falls
- bangiins** *adv (qnt)* a very little; very few
- bapangising** *vii* falls here and there
- bashkineyaabowade** *vai* s/he is mining
- bebangii** *adv (qnt)* a little bit each; a little bit at a time
- bangiins** *adv (qnt)* a little; a little bit; few one sixth
- bebakaan** *adv (man)* all different

bebaa- *pv2 (dir)* going about; going around
(under initial change)

bemisemagak *ni-v* an airplane

bemaadiziwaad *ni-v* the ones who are alive
(under initial change)

bi- *pv2 (dir)* here; hither; this way; toward
the speaker

bichibo *vai* s/he is poisoned

bichibowin *ni* it is highly toxic

bichibonindiwig *vai* they poison each other

bimibide *vii* it speeds; drives; flies along

biminzhikaagon *vti* follow it

bimaadizi *vai* s/he lives; is alive

biim *ni* certain type of water

biidigeshkaagon *vti* s/he caught it

biindig *adv (loc)* inside; indoors

biindigeshkaa *vai* s/he moves inside; enters
slowly

biinesh *adv (gram)* until; up to; (also
“biinish”)

biinish *adv (gram)* until; up to; (also
“biinesh”)

bineshiinh *na* a bird

biinitoon *vti2* clean it

**biiwaabikowaabo gaa-
waawaageshkaag** *ni-v* mercury

boozabikinigan *ni* gun oil; lubricant for a
machine or vehicle

D

daa- *pv1 (tns)* modal preverb of possibility;
necessity; or obligation: can; could; should;
would; might; must

daa *vai* s/he lives; dwells in a certain place

daabishkoo *adv (gram)* for example; alike

danakii *vai* s/he lives; dwells in a certain
place

dash *adv (conj)* but; and; and then; then

dazhi- *pv3 (rel)* in a certain place; of a
certain place; there

dazhitaamagad *vii* 1. s/he takes time;
spends time; stays in a certain place 2. s/he
works; plays (in a certain place)

E

eko- *pv3 (rel)* a certain length; as far as; as
long as; since (under initial change)

endazhi- *pv3 (rel)* in a certain place

eta *adv (deg)* only

ezhi- *pv3 (rel)* in a certain place; in a certain
way; so; there; thus (under initial change)

G

gaa- *pv1 (tns)* [past tense prefix under
initial change]

gaawiin *adv (neg)* no; not

gakina *adv (qnt)* all; every

gaye *adv (conj)* as for; also; too; and

ge- *pv1 (tns)* [future tense prefix under
initial change]

gegoo *pron (indf)* something; anything

gegooyan *pron (indf)* all things

geyaabi *adv (tmp)* still; yet

gibiiminaan biim *ni* a type of water

gichi- *pv4 (lex)* very; quite; big; great

gikendan *vti* know it; know about it; find it
out; realize it

gikendaagwad *vii* it is known (by someone);
“they” know it

gikenjigaade- *vii* it is being known; studied

gimiwan *vii* it rains

gizhiikaamagad *vii* it is going fast;
increasing

gii- *pv1 (tns)* [past tense prefix]

giigoonh *na* a fish

giinawind *pron (per)* we; us

go *pc (disc)* [emphatic word]

I

i *pron (dem)* that (inanimate singular)

idash *adv (conj)* but; and; and then; then

igo *pc (disc)* [emphatic word]

imaa *adv (loc)* there

inaabi *vai* s/he looks to a certain place; peeks

inaakonigewaki *ni* Treaty #3 territory

inendaagwad *vii* it is thought of a certain way; seems to be a certain way

ingoding *adv (tmp)* at one time; sometime

inigokwaa *vii* it is a certain size; is so big

ishkwaa- *pv4 (lex)* when something has stopped; is over; is done; after

ishkwaajigaade *vii* after it is undergoing action (by someone)

ishpendaagwad *vii* it is highly regarded; is highly respected; is esteemed

ishpiming *adv (loc)* in the sky; above; in heaven

iwedi *pron (dem)* that over there (inanimate singular)

iye *pron (dem)* this (inanimate singular)

izhi- *pv3 (rel)* in a certain way; so; there; thus; to a certain place

izhichigemagad *vii* it does; it makes things a certain way

izhiwebad *vii* **1** it is a certain weather condition **2** it happens a certain way

J

jaagizimagad *vii* it is burned

ji- *pv1 (tns)* in order to; that; so that

jibwaa- *pv1 (tns)* before

M

maajiigin *vii* it starts growing; grows up

maanaagajichige *vai* s/he analyzed; studied

maanikaw *vta* s/he is exposed to something bad to h/

mamaandado *vai* s/he is large; big

manaaw *vta* avoid h/

manidoo *na* a manitou; a spirit; god

manidoosh *na* a bug; an insect; a worm

maskawise *vai* it is highly concentrated

mashkawisewan *vii* it is powerful

mashkawishkaa *vii* it is different now; transforms

mashkawiziimagad *vii* it is strong; hard; dense

minik *adv (qnt)* a certain amount; a certain number; so much; so many

minoshkaagemagad *vii* it is healthy

miziwe *adv (loc)* all over; everywhere

miziwekamig *adv (loc)* all over the world

mii *adv (pred)* it is thus that...; it is that...

miijin *vti3* eat it

miizh/miiN *vta* give (it) to h/

moozhigam *vta* feel h/ in or on h/ body; sense h/ presence

mookinaagwad *vii* it is appearing

moona'aabikwe *vai* s/he digs up metal

N

naa *pc (emph)* well!

naabikwaan *ni* motorboat

naanaagadawaabandaan *vti* s/he watches carefully; observes

naanaagadawaabi *vai* s/he watches carefully; observes

naanaagajichige *vai* s/he pays careful attention; guards; s/he takes care of; preserves; respects; studies; analyzes

naanaagajigaade *vii* is being preserved; respected; studied; analyzed

naanaagajitoon *vti2* pay close attention to it: guard; take care of; preserve; respect; study; analyze it

naanimidana-ashi-nishwaaswo- *pv1 (num)* fifty-eight

nana'izhichigaade *vii* consider fixing

nanandotam *vai2* s/he seeks

nawaj *adv (deg)* more

nibi *ni* water

nibiikaa *vii* there is (a lot of) water

nibiikaamanidoosh *ni* water insects

niminaaweshkaa *vii/vai* s/he goes out into the lake or an open area

niibiwa *adv (qnt)* a lot; many; much

niiyo-biboonigad *vii* four years; four winters

niizhwaaso-biboon *adv (num)* seven years; seven winters

noomag *adv (tmp)* for a long time; for a spell; for a while

noongom *adv (tmp)* now; today; nowadays

noopiming *adv (loc)* in the bush; in the woods; inland

O

odapenimon *vai + o* s/he depends on (it); s/he relies on (it)

odish/odiS *vta* come up to; reach; visit h/; get to where h/ is

oko- *pv4 (lex)* bunched together; in a group

omaa *adv (loc)* here

ombaabate *vii* it goes upwards as smoke

onji- *pv3 (rel)* because; for a certain reason; from a certain place

onjise *vii* it flies from a certain place

onowe *pron (dem)* these (inanimate plural)

onzaamiinad *vii* [plural] there are a large number of them; there are too many of them; there is a large amount of it; there is too much of it

oshkwaakoizin *ni* matter released from burning; refining

owe *pron (dem)* this (inanimate singular)

ozhitoon *vti2* make; build; form it

ozhi'omagad *vii* it is built; formed up

W

wanichige *vai* s/he makes a mistake; makes things wrong

waa- *pv1 (tns)* is going to; will; want to (under initial change)

wegimaawaadizi *vai* s/he is being a leader (under initial change)

wenji- *pv3 (rel)* because; for a certain reason; from a certain place (under initial change)

wiiji' *vta* **1** help h/ **2** play with h/

Z

zaaga'igan *ni* a lake

zaagidaabate- *vii* it is being filtered

zesiswanjigemagak *ni-v* spits something out

zhigwa *adv (tmp)* already; at this time; now; then

ziibi *ni* a river

New Words

AA

aayaanjibichibowin *ni* changed type of poison; methylmercury

aayaanji *pv4 (lex)* change (reduplication of aa); (also “aanji-”)

A

akakazhe'ondaabasigewin *ni* waste from coal, mining, etc.

akakanzhe charcoal; coals; coal

ond from a certain place; for a certain reason

aabas smoking/producing smoke

ige h/ acts (on an unspecified object)

win noun forming

anokiitan *vti* s/he works it

anokii s/he works

tan it

anzanziin *ni* seaweed; algae

ayaamagad *vii* it is being

ayaa being it (inanimate) is doing it

B

bakobiijiwan *vii* it flows into the water

bakobii s/he goes into the water

jiwan it flows

bangigaawinigaade *vii* it is directly being added (liquid)

bangigaa it drips down

win noun forming

i connects consonant ending syllable with consonant syllable beginning

gaade it undergoes action (by someone)

bashkineyaabowade *vai* s/he is mining

bashkineyaa there is dust or mist in the air

aabow liquid

ad it is in a state or condition

e incorporating, making into an intransitive verb animate

bichibos *vta* poison h/

bich accidentally

bo eat

s does to h/

bichibowin *ni* poison

bich accidentally

bo eat

win noun forming ending

biiwaabikowaabo gaa-waawaageshkaag *ni-v* mercury

biiwaabiko metal iron

waabo liquid

gaa-waawaagehskaag it is bright/shiny

G

gegooyan *pron (indf)* all things

gegoo something; anything

yan all

gibiiminaan biim *ni* a type of water

gi+NI+inaan means “our” (inclusive)

I

inaakonigewaki *ni* Treaty #3 territory

in thus; in a certain direction; in a certain manner

aakw stick-like; wooden; organic solid

in act on it by hand

ig h/ acts (on an unspecified object)

waki land earth

ishkwaajigaade *vii* after it is undergoing action (by someone)

ishwaaji last

gaade it undergoes action (by someone)

J

jaagizimagad *vii* it is burned

jaag use up; exhaust; deplete

izi act on h/ by heat

magad it is doing it

M

maanikaw *vta* s/he is exposed to something bad to h/

maani bad; malformed; poorly

taw act in relation to h/

mamaandado *vai* s/he is large; big; one form of reduplication for plural stative verbs **mindido**

mashkawishkaa *vii* it is different now; transforms; (also “meshkojishkaa” *vii* it is different now; transforms)

mashkaw hard; strong; tough

shkaa s/he or it (animate) moves, goes; has happen to h/ or it

maskawise *vai* it is highly concentrated

mashkaw hard; strong; tough

ise s/he flies, falls; has something happen to h/ quickly or spontaneously

minoshkaagemagad *vii* it is healthy

mino good

shkaa s/he or it (animate) moves, goes; has happen to h/ or it

magad it is doing it

mookinaagwad *vii* it is appearing

mook emerge; appear

naagw appear; visible

ad it is in a state or condition

moona'aabikwe *vai* s/he digs up metal

moon dig; uncover

a' act on it using a tool or medium; sing it

biiwaabikw metal iron

e incorporating; making in intransitive verb animate

moozhigam *vta* feel h/ in or on h/ body; sense h/ presence

moozh feel

igam presence; body of water

N

naanaagajichige *vai* s/he analyzed; studied

naanaagaji examine; attend carefully to

chi cause it to be or to act; make it

ge h/ acts (on an unspecified object)

nana'izhichigaade *vii* consider fixing

na' correct; adjust; put away

izhichigaade it is made a certain way (by someone); "they" make it a certain way

nanandotam *vai2* s/he seeks; reduplication of **nandotam**

nando seek

t hear it

am *vai2* ending usually to used with mind or feeling verbs

nibiikaamanidoosh *ni* water insects

nibi water

kaa it is present; is abundant

manidoosh insect or bug

O

oshkwaakozigin *ni* matter released from burning; refining

oshkwaa when something has stopped; is over; is done; after

aakw intense

izi s/he, it (animate) is in a state or condition

gin it grows

W

wegimaawaadizi *vai* s/he is being a leader (under initial change)

ogimaa chief; leader

waad way of being or life; one's character or nature

izi s/he, it (animate) is in a state or condition

Z

zaagidaabate- *vii* it is being filtered

zaagid outside

aabate it smokes; is in the smoke; there is smoke or vapour

zesiswanjigemagak *ni-v* spits something out

zisw spray

anj act on it by mouth

ige h/ acts (on an unspecified object)

magad it is doing it

Grammatical Indicators

Resource credit to [The Ojibwe People's Dictionary](#)

Abbreviations

pv1 (tns): tense/mode preverb; one of a positional class of adverbs of tense and mode

pv1 (num): quantitative preverb; preverb indicating specific number

pv1 (sub): subordinating preverb; preverb serving as subordinator

pv2 (dir): directional preverb; one of a positional class of preverbs of location and direction

pv3 (rel): relative preverb; one of a positional class of preverbs relating the verb to other sentence or discourse elements

pv4 (lex): lexical preverb; manner; quality; and quantity preverbs

vii: inanimate intransitive verb; verb with an intransitive stem; an inanimate subject and no object

vai: inanimate intransitive verb; verb with an intransitive stem; an inanimate subject and no object

vai + o: animate intransitive verb with object; verb with an intransitive stem; an animate subject and an object

ni: noun inanimate; noun of the inanimate gender that is not obligatorily possessed

na: noun animate; noun of the animate gender that is not obligatorily possessed

na-v (prt): animate participle; animate gender nominalized verb; noun-like verb

ni-v (prt): inanimate participle; inanimate gender nominalized verb; noun-like verb

adv (qnt): quantitative adverb; adverb specifying generally how much or how many

adv (tmp): temporal adverb; adverb specifying time or duration

adv (deg): degree adverb; adverb specifying degree or intensity

adv (number): number adverb; adverb specifying number

adv (pred): predicative adverb; adverb serving as a predicator

adv (inter): interrogative adverb; adverb asking questions

adv (gram): grammatical adverb; grammatical function word not falling into other categories

adv (loc): locational adverb; adverb specifying location

adv (conj): conjunctive adverb; adverb connecting words; phrases; clauses; or sentences

adv (man): manner adverb; adverb specifying a way or manner

adv (pred): predicative adverb; adverb serving as a predicator

adv (neg): negative adverb; adverb with negative meaning

pc (disc): discourse particle; particle serving as a discourse marker

pc (emph): emphatic particle; particle marking emphasis

pc (asp): aspectual particle; particle with aspectual function

pron (dem): demonstrative pronoun; pronoun identifying which one relative to position

pron (indf): indefinite pronoun; pronoun of indefinite reference

pron (per): personal pronoun; personal pronouns identifying participant roles

vta: transitive animate verb; verb with a transitive stem and an animate object

vti: transitive inanimate verb; verb with a transitive stem; and an inanimate object; and a characteristic set of inflections

vti2: Class 2 transitive inanimate verb; verb with a transitive stem; and an inanimate object; and a different characteristic set of inflections

vti3: Class 3 transitive inanimate verb; verb with a transitive stem; and an inanimate object; and a different characteristic set of inflections

Lesson Planning Form

| | |
|------------------------|----------------------------------|
| LESSON PLAN: | |
| UNIT: Listening | THEME: Sentence Structure |
| NAME: | DATE: |
| TIME: | CLASS: Any |

OVERALL MINISTRY EXPECTATIONS:
Listening to sentences in the writing system used in the program.

SPECIFIC MINISTRY EXPECTATIONS::

ORAL COMMUNICATION:

LISTENING: Listen to sentences in the writing system used in the program.

GRAMMAR/LANGUAGE CONVENTION AND YOUR VOCABULARY COVERED:
Mercury video from [IISD Experimental Lakes Area](#)

LIST MATERIALS AND RESOURCES:
Smartnotebook file (attached)

| | |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TIME: | |
| First 7 minutes | Introduction of lesson and how to complete it. Explain that it will be a listening exercise in which learners will listen to the audio on the right of each page (tapping the speaker). |
| Next 35 minutes | Class will listen to each audio on each page and put them in the proper order. Remind learners that these are the words before anything is added to them. They must put them in the proper order, as they hear them. The teacher can help explain the letter added to each audio sentence. This is a long assignment and may take several sessions to complete. |

EVALUATION: How do I evaluate the learners?
Review each slide, making sure that each sentence is put in the proper order. Reveal the top section of the audio to see if learners were correct in audio slide.

SELF EVALUATION:
What worked well this time? What would I change next time?

