INSTRUCTIONS FOR USING REMOTE LEARNING PROJECTS

These materials were developed with the intention of easing the transition between in-class and temporary remote learning. Learning experiences are aligned with curricular outcomes and assessment tools have been included with each project.

Note:

1. The teacher either sends a link to the appropriate project or sends the document itself.
2. The teacher ensures that parents/caregivers receive any required school supplies (bin with pencils, markers, paper, etc.).
3. The teacher reassures parents/caregivers that communication will be maintained between home and school.
4. Parents/caregivers may access additional resources at:
   - My Learning at Home (www.edu.gov.mb.ca/k12/mylearning)
   - My Child in School (www.edu.gov.mb.ca/k12/mychild/index.html)

PROJECT OVERVIEW	
Grade:	6
Main Subject:	Science
Big Idea:	Using and conserving energy safely
Title:	ELECTRICITY
Cluster:	Electricity
Duration:	1–2 weeks
Materials:	Student Slides (digital or printed copy); Google Slides found here: Grade 6 Electricity Student Sheets (see links in Appendix) Calculators Teacher Account at www.tinkercad.com
Short Description:	Independent student learning experience with teacher check-ins. This project varies in difficulty level and is cross curricular. There are four mini-project options for the student to choose with a bonus option if the teacher so chooses. 2 Science • Energy Efficient Homes (Grade Level difficulty) • Electrical Vehicles Vs Gas Powered (Challenge) 1 Mathematics • Choosing the best graph to represent electricity data usage by province 1 Languages • Create a narrative on the safety precautions to take at home or in the community. Bonus–www.Tinkercad.com

LEARNING OUTCOMES

Science: www.edu.gov.mb.ca/k12/cur/science/scicurr.html
6-3-18, 6-3-19

Mathematics: www.edu.gov.mb.ca/k12/cur/essentials/docs/glance_kto9_math.pdf
6-SP-1, 6-SP-3

English Language Arts: ww.edu.gov.mb.ca/k12/cur/ela/index.html
Language as: Power and Agency; Exploration and Design, Sense Making, System

ASSESSMENT

LANGUAGE ARTS					MATHEMATICS			SCIENCE			SOCIAL STUDIES		
COMP. Listening & Viewing	COMP. Reading	COMM. Speaking & Represent.	COMM. Writing	Critical Thinking	Knowledge and Understanding	Mental Math & Estimation	Problem Solving	Knowledge and Understanding	Scientific Inquiry Process	Design Process & Problem Solving	Knowledge and Understanding	Research and Communication	Critical Thinking and Citizenship
		X		X	X	X	X	X	X	X			

Original concept created by: The Critical Thinking Consortium and Jocelynn Foxon

LEARNING EXPERIENCES AND ASSESSMENT

Overview

Teacher's instructions

- Virtual: (Asynchronous)
  - Provide a copy of the PowerPoint (digital or print) for each students (PPT or google slides)
  - Meet with students daily to discuss where they are at within their learning and what they will complete next.
  - Slides include a student choice board that is linked to the different learning experiences.
  - Students may choose a particular mini-project by selecting an option on the choice board or they may work through the slides in order from beginning to end.
  - Provide support to students as they work through the lesson.
  - Provide time for discussion and collaborative thinking.
  - Science projects include word and pdf documents that students can print off
  - Slides can be printed off as physical copies for students to work on as well.
  - Self-assessment and rubrics included in the slides and as pdf document
- Virtual (Synchronous)
  - Provide a copy (digital or print) of the PowerPoint for each students (PPT or google slides)
  - Meet with the students daily and work through each section of the lesson as a whole group.
  - Work through the slides in order from beginning to end.
  - Provide support to students as they work through the lesson.
  - Provide time for discussion and collaborative thinking.
  - Science projects include word & pdf documents that students can print off
  - Slides can be printed off as physical copies for students to work on as well.
  - Self-assessment & rubrics included in the slides and as pdf document

- In-Class:
  - Provide a copy of the PowerPoint (digital or print) for each students (PPT or google slides)
  - Meet with the students daily and work through each section of the lesson as a whole group.
  - Work through the slides in order from beginning to end.
  - Provide support to students as they work through the lesson.
  - Provide time for discussion and collaborative thinking.
  - Science projects include word and pdf documents that students can print off
  - Slides can be printed off as physical copies for students to work on as well.
  - Self-assessment and rubrics included in the slides and as pdf document

Note: For all students requiring only printed materials, please provide the actual links to the videos and provide resource books for the students to use as an alternative to the online resources.

Assessment Tools (rubrics) are included in the slides/PPT at the end of each lesson as well a PDF linked in the appendix.

- One copy per student
  - There is a fillable assessment tool at the end of each lesson within the slide deck/PPT.
  - Teachers can fill in the table directly on each student's slide/PPT. Then download the filled in assessment tool to a JPEG or PDF and save a copy for each student in their individual files.

  OR
  - Select the slide or the table on the slide and copy and paste into a word document or a new slide to keep a copy for each student separate from their project slides/PPT. Fill in the table as you work with the student through observation, conversation and/or product
- Indicate in each box the student's actual learning and what they do in each lesson that demonstrates understanding. Include where the student is at and what they need to do to reach the next learning goal.
- Collect evidence of students' growth and changes in their thinking.

Step-by-step instructions for students:

- Choose a project from the student choice board.
- Follow along with the slides and read the instructions carefully.
- Ask questions if you need clarification.

Once you are completed one mini-project, hand it in to your teacher and return to the student choice board to complete another mini-project.

Question: What can you do to make your home more energy-efficient?

Teacher's instructions

- Provide students with project slides or print-outs and instructions.
- Check in daily to see if student is struggling or on/off track.
- Provide extra support if needed (verbal/video instruction, extra resources, etc.).
- Students and teachers can use the self-assessment tool to determine students' understanding.

Step-by-step instructions for students:

- What's this lesson about and how will it help me?
  - This lesson will help you learn what actions your family can take to make your home more energy-efficient.
  - The lesson will teach you about the criteria for an energy-efficient home, the factors that limit efficiency and will help you identify possible solutions.

- What do I need to do?
  - Take your time to read through each section of the lesson in order. It might help to skim the whole thing before you begin.
  - Follow the instructions in the PowerPoint and record your work either on the slides or on the Activity Sheets and Assessment Materials that are provided as Word documents.
  - You can print out the pages and write your answers in the space provided or write your answers into a digital file **[teachers: customize this instruction to suit your context]**
- What if I get stuck or I don't know what to do?
  - If you are unsure of how to proceed, be sure to check in with me by **[teachers: insert method of communication]**. You can also **[teachers: insert ways they can connect with peers—e.g., is there an online discussion forum they can use to ask their classmates questions]**

Question: How effectively do electric vehicles solve the problem of gas-powered vehicles?

Teacher's instructions

- Provide students with project slides or print-outs and instructions.
- Check in daily to see if student is struggling or on/off track.
- Provide extra support if needed (verbal/video instruction, extra resources, etc.).
- Students and teachers can use the self-assessment tool to determine students' understanding.

Step-by-step instructions for students:

- What's this lesson about and how will it help me?
  - This lesson will help you learn to assess the effectiveness of electric vehicles (EVs) as a solution to problems created by gas-powered vehicles.
  - You will also consider how this solution compares to using solar power-generated electricity to offset emissions produced, and energy consumed, by gas-powered vehicles.
- What do I need to do?
  - Take your time to read through each section of the lesson in order. It might help to skim the whole thing before you begin.
  - Follow the instructions in the PowerPoint and record your work either on the slides or on the Activity Sheets and Assessment Materials that are provided as Word documents.
  - You can print out the pages and write your answers in the space provided or you write your answers into a digital file **[teachers: customize this instruction to suit your context]**
- What if I get stuck or I don't know what to do?
  - If you are unsure of how to proceed, be sure to check in with me by **[teachers: insert method of communication]**. You can also **[teachers: insert ways they can connect with peers—e.g., is there an online discussion forum they can use to ask their classmates questions]**

Question: How can you stay safe around electricity?

Teacher's instructions

- Provide students with project slides or print-outs and instructions.
- Check in daily to see if student is struggling or on/off track.
- Provide extra support if needed (verbal/video instruction, extra resources, etc.).
- Students and teachers can use the self-assessment tool to determine students' understanding.

Step-by-step instructions for students:

- What's this lesson about and how will it help me?
  - In this lesson, you will be deciding what actions your family and friends can take to stay safe around current and static electricity.
  - Also, you will develop skills around planning, writing, and presenting a narrative of choice.
- What do I need to do?
  - Take your time to read through each section of the lesson in order. It might help to skim the whole thing before you begin.
  - Follow the instructions in the PowerPoint and record your work either on the slides or on the Activity Sheets and Assessment Materials that are provided as Word documents.
  - You can print out the pages and write your answers in the space provided or you write your answers into a digital file **[teachers: customize this instruction to suit your context**]

Question: What is the best way to represent electricity data graphically?

Teacher's instructions

- Provide students with project slides or print-outs and instructions.
- Check in daily to see if student is struggling or on/off track.
- Provide extra support if needed (verbal/video instruction, extra resources, etc.).
- Students and teachers can use the self-assessment tool to determine students' understanding.

Step-by-step instructions for students:

- What's this lesson about and how will it help me?
  - You will review how to represent data through pictographs and bar graphs.
  - You will learn how to represent data through line graphs.
  - You will decide and justify which representation is the best for the data presented.
- What do I need to do?
  - Take your time to read through each section of the lesson in order. It might help to skim the whole thing before you begin.
  - Follow the instructions in the PowerPoint and record your work either on the slides or on the Activity Sheets and Assessment Materials that are provided as Word documents.
  - You can print out the pages and write your answers in the space provided or you write your answers into a digital file **[teachers: customize this instruction to suit your context**]
- What if I get stuck or I don't know what to do?
  - If you are unsure of how to proceed, be sure to check in with me **by [teachers: insert method of communication]**. You can also **[teachers: insert ways they can connect with peers–e.g., is there an online discussion forum they can use to ask their classmates questions]**
- What if I get stuck or I don't know what to do?
  - If you are unsure of how to proceed, be sure to check in with me by **[teachers: insert method of communication]**. You can also **[teachers: insert ways they can connect with peers—e.g., is there an online discussion forum they can use to ask their classmates questions]**

Bonus Question: Creating a Tinkercad Circuit

Teachers and students will need to make a tinkercad account at https://www.tinkercad.com/learn/circuits.

Tinkercad has built-in tutorials to teach basic functionality. A simple instructional video can be found at https://www.youtube.com/watch?v=bpF287c-cUA.

APPENDIX (PRINTABLE SUPPORT MATERIALS INCLUDING ASSESSMENT)

Grade 6: Electricity.pptx
Grade 6: Appendix.docx

Question:	Student Materials:	Assessment
What can you do to make your home more energy-efficient?	1. Grade 6 Electricity Slides 2. Activity-sheet-Make-an-initial-decision.docx 3. Briefing-sheet-B-What-is-an-energy-efficient-home.pdf 4. Activity-sheet-Improving-home-energy-efficiency.docx 5. Briefing-sheet-A-Advice-from-a-home.pdf 6. Activity-sheet-Identifying-effective-solutions.docx 7. Activity-sheet-Propose-a-course-of-action.docx	Students Self-Assessment—Assessment-materials-Assessing-my-understanding.docx
How effectively do electric vehicles solve the problem of gas-powered vehicles?	1. Grade 6 Electricity Slides 2. Activity-sheet-Make-an-initial-decision.docx 3. Activity-sheet-Reassess-my-initial-decision.docx 4. Activity-sheet-Locate-evidence.docx 5. Briefing-sheet-Addressing-environmental-impacts.pdf 6. Activity-sheet-Record-initial-thinking.docx 7. Background-information-Sample-calculations.pdf 8. Activity-sheet-Calculating-solar-PV-requirements.docx 9. Activity-sheet-Reassess-initial-thinking.docx 10. Activity-sheet-Make-a-final-decision.docx	Student Self-Assessment—Assessment-materials-Assessing-my-ability-to-judge.docx
How can you stay safe around electricity?	1. Grade 6 Electricity Slides 2. Grade 6 Electricity ELA Student Sheets.pdf	Rubric—ELA Electricity Assessment Tool
What is the best way to represent electricity data graphically?	1. Grade 6 Electricity Slides 2. Grade 6 Electricity Math Student Sheets.pdf	Assessment Checklist—MATH Electricity Math Assessment Tool.pdf