

# 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. The parents/caregivers may access additional resources at:
  - My Learning at Home ([www.edu.gov.mb.ca/k12/mylearning](http://www.edu.gov.mb.ca/k12/mylearning))
  - My Child in School ([www.edu.gov.mb.ca/k12/mychild/index.html](http://www.edu.gov.mb.ca/k12/mychild/index.html))

## PROJECT OVERVIEW

<b>Grade :</b>	3
<b>Main Subject :</b>	Science
<b>Big Idea :</b>	Structures
<b>Title :</b>	STRUCTURES
<b>Cluster :</b>	Materials and structures
<b>Duration :</b>	5-10 hours
<b>Materials :</b>	Pen, pencils, paper, marshmallows, toothpicks
<b>Short description :</b>	This project focuses on the exploration of structures and materials through the implementation of the Scientific Inquiry and problem solving loops. Students will research (with provided videos), build prototypes, assess, and critique solutions of structure, material and their designs to build understanding of materials and structures. Secondary learning goals include measurement, the implementation and exploration of materials and structures by using critical inquiry and the problem-solving loop, and presentation and communication skills when explain final project through written, digital, or oral media.

## LEARNING OUTCOMES

Science: [www.edu.gov.mb.ca/k12/cur/science/scicurr.html](http://www.edu.gov.mb.ca/k12/cur/science/scicurr.html)

3-2-01, 3-2-02, 3-2-03, 3-2-04, 3-2-05, 3-2-06, 3-2-07, 3-2-09, 3-2-10, 3-2-11

Mathematics: [www.edu.gov.mb.ca/k12/cur/essentials/docs/glance\\_kto9\\_math.pdf](http://www.edu.gov.mb.ca/k12/cur/essentials/docs/glance_kto9_math.pdf)

3.N.4, 3.SS.3, 3.SS.5, 3.SS.6, 3.SP.1,

## 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			

Original concept created by: David Gamble

## LEARNING EXPERIENCES AND ASSESSMENT

### Question:

Teacher's instructions:

Have students read and complete the attached PowerPoint. Edit and augment where needed to fit unique teaching and learning context.

Step-by-step instructions for students:

See instructions in project, multiple assignments found within.

## APPENDIX (PRINTABLE SUPPORT MATERIALS INCLUDING ASSESSMENT)

Grade 3 structures PowerPoint

Assessment Rubric – see next page

Outcomes Addressed	Achievement Grade Profiles <a href="https://www.edu.gov.mb.ca/k12/assess/report_cards/grading/profiles.html">https://www.edu.gov.mb.ca/k12/assess/report_cards/grading/profiles.html</a>			
	Limited	Basic	Good	Very Good to Excellent:
<b>Science - Design Process and Problem Solving</b>	Requires considerable, ongoing teacher support to ▪ apply strategies to solve practical problems and to explain reasoning ▪ use scientific vocabulary ▪ use criteria or constraints to define a problem and evaluate the chosen solution ▪ recognize when changes need to be made to a plan ▪ work collaboratively with peers	Requires occasional teacher or peer support to ▪ apply strategies to solve practical problems and to explain reasoning ▪ use scientific vocabulary ▪ use criteria or constraints to define a problem and evaluate the chosen solution ▪ recognize when changes need to be made to a plan ▪ work collaboratively with peers	Applies appropriate strategies to solve practical problems; requires occasional prompting to recognize when changes need to be made to a plan. Explains and justifies reasoning using appropriate science vocabulary, and generalizes to similar contexts; requires occasional prompting for clarification. Collaborates effectively with peers.	Demonstrates flexibility, resilience, and creativity when solving practical problems; critically analyzes results and makes any necessary changes to a plan. Explains and justifies reasoning clearly using appropriate science vocabulary and generalizes to other contexts. Collaborates effectively with peers, often taking a key role in group work.
3-2-01 Use appropriate vocabulary related to their investigations of materials and structures.				
3-2-02 Conduct experiments to compare the strength of common materials.				
3-2-03 Explore to determine ways to strengthen a material used for building.				
3-2-04 Explore to determine an appropriate method for joining two materials for a specific use.				
3-2-05 Recognize that balance affects the stability of a structure.				
3-2-06 Explore to determine ways to improve the strength and stability of a frame structure.				

3-2-07 Identify shapes that are part of natural and human-built structures from various cultures and describe how these shapes help to provide strength and stability.				
3-2-09 Use the design process to build a structure that meets given criteria related to strength, stability, and function.				
3-2-10 Describe the effects of various forces on different structures.				
3-2-11 Evaluate simple structures to determine if they are safe and appropriate to the user.				