# **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 (<u>www.edu.gov.mb.ca/k12/mylearning</u>)
  - My Child in School (<u>www.edu.gov.mb.ca/k12/mychild/index.html</u>)

PROJECT OVERVIEW						
Grade:	3					
Main Subject:	Mathematics Additional Social Studies					
Big Idea:	Fractions					
Title:	BREAKFAST AROUND THE WORLD					
Strand:	Number					
Duration:	2–3 weeks					
Materials:	Materials:Paper, crayons/pencil crayons/markers, measuring cups, measuring spoons, sink, water, uncooked spaghetti or licorice					
Short Description:	This learning experience explores the conceptual meaning of fractions through visualization, problem solving and estimation while examining the common experience of breakfast from around the world. The activities blend asynchronous and synchronous instruction and can be adapted to meet your specific learning environment.					

## LEARNING OUTCOMES

Social Studies: <u>www.edu.gov.mb.ca/k12/cur/socstud/docs.html</u> 3-KI-010, 3-KI-011, 3-KI-012, 3-KI-013, 3-VI-004, 3-VL-005

Mathematics: <u>www.edu.gov.mb.ca/k12/cur/essentials/docs/glance\_kto9\_math.pdf</u> 3.N.13

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
					х		х				х		

Original concept created by: Denise Smith

# LEARNING EXPERIENCES AND ASSESSMENT

#### **Questions:**

How do we use fractions to represent quantities? How do we show diversity of cultures and societies through common experiences and aspects of life?

#### Teacher's instructions

The PowerPoint resources for this learning experience contain two sets of resources:

- Part 1 is the lesson (or activity) resources.
- Part 2 is a set of resources for a math routine called Is it Fair? These should be used throughout the learning experience.

#### Part 1

#### Introduction:

The introductory activity for this learning experience is a 3-Act Task called Sliced Up by Graham Fletcher. Acts 1 and 2 should be done synchronously. Students would then have time to work asynchronously on solving the main questions. Act 3 should take place after students have completed the problem.

**Slide 3**—During a synchronous session, play the video (<u>https://vimeo.com/209250578</u>) for students (Act 1).

**Slide 4**—Then ask students what do they notice and what do they wonder. Students' ideas can be recorded on this slide (Act 1). You may choose to investigate a number of questions that students share, but the following slides investigate the question: How many oranges are in the bowl? This question allows for an informal exploration of fractions as an introduction to this learning experience.

**Slide 5**—This slide introduces the main question that will be investigated. Provide students with a copy of this slide or have them draw the estimation line on blank paper or a white board. As a class, consider numbers that would be "too low" and "too high" for the amount of whole oranges in the bowl. Students should be encouraged to give their bravest estimate that is "too low" and "too high." Record the low and high amounts together and then have students record their estimate on the line between the boxes. Have students share their estimates and their reasoning.

**Slide 6**—Ask students what information they would like to know in order to be able to solve the question.

**Slide 7**—This slide contains the information that students need to know in order to solve the main question (Act 2). Students can now be assigned to work on solving the main question. You may provide independent work time for this and have students return to a synchronous session later in the day or the following day for sharing of their solutions.

**Slide 8**—This slide can be used for students to share their solution process and answer.

**Slide 9**—Before showing students the final video (<u>https://vimeo.com/210815156</u>) (Act 3), select some of the student work for sharing with the whole class. Consider student samples that use visual models and make connections to fractional understandings for sharing with the whole class. You might project a student's work and have other students explain what the student did to generate some conversation. After discussing some solution processes, you can then show the video as the final act of this task.

**Slide 10**—This slide can be used to introduce the inquiry questions for this learning experience.

## Breakfast Around the World:

The story, *Breakfast Around the World* (<u>https://youtu.be/F2th3RagZEE</u>), introduces the concept of fractions by travelling around the world and seeing what people eat for breakfast in different countries. Through this text, you will introduce the notation and meaning of a fraction.

**Slide 11**—Students can view the book independently, though you might consider viewing the book together so that you can stop on pages that show the fractional number sentences so that you can explicitly introduce fraction notation and have students make connections with the pictures and the symbolic representations. The following would be suggested stopping points:

- 1:12—halves
- 1:49—thirds
- 2:54—fourths
- 3:45—fifths
- 4:35—eighths
- 5:11—tenths
- 5:56—fourths
- 6:30-eighths

**Slide 12**—After viewing the text, students are then prompted to draw a picture about something they might share for breakfast and how many they might share it with. Students are encouraged to make a connection to the fractional name for their share. Consider how you might have students share their drawings and fractional connections.

#### Fractions in the Kitchen:

This is a learning activity that allows students to explore fractions using measuring cups and spoons. Through play students should uncover relationships such as there are 2 one-halves in a whole, 3 onethirds in a whole, 4 one-fourths in a whole, and 8 one-eighths in a whole.

**Slide 13**—This is the directions and questions for students for this activity. This activity can be completed independently.

**Slide 14**—This is a space for students to record their findings. Consider how you might have students share and consolidate their learning.

#### Mama Panya's Pancakes:

This learning activity will provide students with an opportunity to apply their learning from Fractions in the Kitchen to a problem.

## Slide 15—Students can independently view Mama Panya's Pancakes

(www.youtube-nocookie.com/embed/-

<u>7zCNCw5qKo?autoplay=1&iv\_load\_policy=3&loop=1&modestbranding=1&playlist=-7zCNCw5qKo</u>) and then solve the problem using the pancake recipe from the story. Consider how you might have students share and consolidate their learning.

## Fractions in the Kitchen 2:

This is another exploratory activity that involves some estimating of the size or length of fractional pieces. Students will estimate where to break a piece of spaghetti to make fractional pieces. Some ideas to look for from students here is that they understand that their broken pieces are only representing fractions if the pieces are of equal length. "Bigger half" and "smaller half" do not exist as fractions, as fractional pieces need to be of equal value.

**Slide 16**—This is the directions for the students. This activity can be completed independently.

**Slide 17**—This is a space for students to record their findings. Consider how you might have students share and consolidate their learning.

## Lili's Toast:

This problem allows students to explore the idea that in area models of fractions the shapes that are created do not have to have the same shape but have to cover the same area. Students will likely start by creating the same shapes (rectangles, squares, or triangles). Look for student work that might have unique but equal divisions for stretching the thinking. Also look for student work that shows unequal partitioning to emphasize the need for fraction pieces to be equal.

## Slide 18—Students can listen to the story Lili's Breakfast

(<u>https://cdn.pixabay.com/photo/2015/12/05/11/04/bread-1077984\_960\_720.jpg</u>) to set the context for the problem. Students can use the squares to record their ideas. Consider sharing and discussing some of the student's ideas after they have had an opportunity to work on this independently.

## The Cookie Fiasco:

The problem context that the story, *The Cookie Fiasco* (www.youtube.com/watch?v=ZnhjuhVsjgA), sets up involves fractions that are not unit fractions. Although the story introduces the idea that they need to split the cookies to share them, it does not name the fractional amount that each character would receive. The provided problem allows for this opportunity.

**Slide 19**—Students can listen to the story and then use the provided space to show their thinking about the problem. Consider sharing and discussing some of the students' ideas after they have had an opportunity to work on this independently.

#### Groceries Around the World:

Grocery shopping is a common experience around the world. The article, *Hungry Planet: What the World Eats* (www.theguardian.com/lifeandstyle/gallery/2013/may/06/hungry-planet-what-world-eats), is a photo essay showing the groceries bought by families from different places around the world. The text provides an opportunity for students to discuss the diversity of this common experience.

**Slide 20**—There are a lot of pictures in this article for students to view. As a result, you might have students view the article independently making individual notes about things they notice and wonder. Then in a synchronous session, students can meet in breakout rooms to share their ideas and to discuss the question: Why is our grocery shopping so different around the world?

## Breakfast of My Family:

This activity provides an opportunity to examine the common experience of eating breakfast through a historical perspective. Information from this activity may be used in the final learning activity.

**Slide 21 and 22**—Students can independently complete this activity. They will interview an older family member (e.g., parent or grandparent) or caregiver. Responses can be recorded in the space provided. Students could share in a synchronous meeting.

## Canada's Food Guide Comparison:

The latest version of Canada's Food Guide (<u>https://food-guide.canada.ca/en/</u>) provides a visual of a plate of food separated into food types. The plate represents the whole and each food group is a fractional amount of the plate. In this activity, students will compare their actual breakfast to the food guide recommendations. This will provide students with an opportunity to compare fractions. For example, if a student's actual breakfast is ½ grains they will be able to say that their grains is larger than the food guide and could write  $\frac{1}{2} > \frac{1}{4}$ .

**Slide 23**—Students can complete this activity independently. They will first need to view the food guide and recreate a drawing of the food guide in the first section and add in the fractional amount of the plate for each food group. In the next section they will then draw what they ate for breakfast, sorting their food items into the food groups. They should determine the fractional amount for the food groups for their actual breakfast. In the final section on the slide, students will then compare their breakfast with the food guide recommendations. After students have an opportunity to complete this independently, consider sharing some student samples. Conversation should focus on the comparison of plates with a focus on the mathematical comparison and not on a judgement of what students eat. Encourage students to share their ideas about bigger and smaller with naming the fractions and modelling the recording of these comparisons with greater than and less than symbols. You might have students return to their original work after modelling to add in some symbolic representations of their comparisons.

### Comparing Breakfast Around the World:

This is the final challenge for this learning experience. Students will apply their understanding of fractions to compare the common experience of breakfast from different cultures or societies from around the world. Students will create a visual display. This can be a picture or a model. Students will compare the breakfasts through the use of fractions.

**Slide 24**—This slide provides the instructions for this task. Depending on the type of visual students create will determine how they will be able to share their creations. Be sure to communicate clearly with students how they will share their work.

**Slide 25**—This slide can be used to establish success criteria with students. As well, it can be used for individual or small group check-ins to provide students with an opportunity to self-reflect and for teacher feedback. Feedback to students while they are working on their challenge is more useful than after they have completed it.

## Part 2

Is it Fair? is a visual number talk routine that uses the concept of fair as a basis for reasoning and communication. The original routine uses the context of snacks. The sets provided here have been adapted to use the context of breakfast. Setting up the context is vital to this routine. The sets included with this learning experience are designed to help to develop big ideas about fractions including equivalence and comparison. Encourage students' use of language related to fractional concepts. This routine also helps to build students communication and reasoning skills as they provide a justification of their ideas.

This routine should be used periodically throughout this learning experience. It may be used as a warm up to a synchronous session. Use the following structure to implement this routine:

- Prepare students to see the image.
- Show an image for a few seconds.
- Ask: Fair or Not Fair? Students can respond by moving an apple image to the appropriate box if using interactive slides. If you are sharing the images rather than using interactive slides you might have students use a thumbs up or down emoji in the chat box.
- Repeat for several images. (There are blank images in between slides to allow for time for student responses in the chat box between images. These may be deleted if using interactive slides.)
- Based on responses choose an image to discuss. Choose an image where there seems to be some debate. Students share their reasoning. This can be done through the chat box or by unmuting their mics. Do not feel that you have to resolve and reach consensus, rather provide a space for debate/discussion.

If you would like to know more about this routine or see a virtual example of the routine in action, Stenhouse hosted a webinar with author Toni Cameron. During the webinar, Toni and her co-presenter, Stephanie Slabic, model this routine as well as several others from the book *Early Childhood Routines: Empowering Young Minds to Think.* The Is it Fair? routine can be viewed from 5:44 to 12:45.

(https://players.brightcove.net/1740322051001/default\_default/index.html?videoId=6158577793001)

#### How to Use the Assessment Rubric

- 1. The rubric is to be used throughout the learning experiences. There is no need for individual criteria or rubrics for each task. Students will use each task to further their understanding of the essential understandings. Students will be demonstrating this through a variety of modalities.
- 2. As you collect evidence of students' level of understanding, highlight or check off their progress on the rubric. You should notice your students move across the rows as their understanding develops throughout the experiences. Do not average your check marks or highlights. Students obtain their highest level of understanding. It does not matter where they start.

Step-by-step instructions for students:

See PowerPoint Presentation.

# APPENDIX (PRINTABLE SUPPORT MATERIALS INCLUDING ASSESSMENT)

Grade 3: Breakfast Around the World.pptx Grade 3: Breakfast Around the World Rubric.docx

#### **Assessment Rubric**

	Essential Understanding	Limited	Basic	Good	Very Good to Excellent
Social Studies Knowledge and Understanding	People from diverse cultures and societies share some common experiences and aspects of life.	Identifies different cultures and societies' basic elements (e.g., families, food, jobs)	Analyzes common elements of societies and cultures around the world.	Evaluates common experiences and cultures around the world.	Makes connections between their own community and others around the world in terms of shared experiences and values.
MATHEMATCIS Knowledge and Understanding	Fractions are a type of number that represents quantities.	Names basic fractions (halves, fourths, wholes)	Understands that fractions are represented with equal parts.	Explains the meanings of the numbers in a fraction and connects this to real-life experiences with fractions.	Compares different fractions
MATHEMATICS Problem Solving	We can make sense of problems involving fractions.	Describes a problem to be solved using fractions.	Identifies information needed to solve a problem.	Uses fractions to solve problems.	Justifies the choice of fractions and visuals to solve problems.