

Candidate's name: Joni Hesselgrave

Grade/Class/Subject:	Grade 6/7 Mathematics	School:	Lakeview Elementary
Date:	Tuesday, March 1, 2022	Allotted Time:	65 minutes
Topic/Title:	"Comparing & Ordering Fractions" Continued		

1. LESSON ORIENTATION

Key resources: Instructional Design Map

Briefly, describe purpose of lesson, and anything else to note about the context of lesson, students, or class, e.g. emergent learning needs being met at this time, elements of focus or emphasis, special occasions or school events. This lesson builds upon yesterday's lesson, with students continuing to practice the skills required to **compare and order fractions of different type**.

Some students will be comparing and ordering fractions of like denominator (until they are ready to move up to unlike).

Some students will be comparing and ordering fractions of **unlike denominator** (identifying a common denominator, preforming calculations to produce equivalent fractions with that common denominator, and then comparing and ordering as they would with fractions of like denominator).

Some students (those with extending knowledge and skill) will order up to 4 fractions that include fractions of unlike denominator in addition to fractions of improper and mixed number form.

This lesson prepares students for the next step in this learning sequence: **comparing & ordering fractions** and decimals.

2. CORE COMPETENCIES

Key resources: https://curriculum.gov.bc.ca/competencies

Core /Sub-Core Competencies	Describe briefly how you intend to embed Core Competencies in	
(check all that apply):	your lesson, or the role that they have in your lesson.	
 COMMUNICATION – Communicating COMMUNICATION – Collaborating THINKING – Creative Thinking THINKING – Critical Thinking THINKING – Reflective Thinking PERSONAL AND SOCIAL – Personal Awareness and Personsibility 	Communicating encompasses the set of abilities that people use to impart and exchange information, experiences, and ideas; to explore the world around them; and to understand and effectively use communication forms, strategies, and technologies.	
 PERSONAL AND SOCIAL – Positive Personal and Cultural Identity PERSONAL AND SOCIAL – Social Awareness and Responsibility 	 Students will communicate their understanding of mathematical vocabulary and language as they engage in mathematical discussions regarding fractions and the processes involved in comparing and ordering them. 	
	Critical and Reflective Thinking encompasses a set of abilities that people use to examine their own thinking and that of others. This involves making judgments based on reasoning, where students consider options, analyze options using specific criteria, and draw conclusions.	

People who think critically reflect on the information they receive through observation, experience, and other forms of communication to solve problems.
 Students will think critically and reflectively, drawing upon information, reasoning, and specific criteria, to convert fractions from mixed to improper and improper to mixed.
 Students will think critically and reflectively when comparing and ordering fractions with like denominators and unlike denominators.
 Students will make judgments, based on information, reasoning, and specific criteria, to help determine when they need to convert fractions and/or name equivalent fractions, ensuring that all the fractions being compared and/or ordered are of the same type and of like denominator.

3. INDIGENOUS WORLDVIEWS AND PERSPECTIVES

Key resources: First Peoples Principles of Learning (FPPL); Aboriginal Worldviews and Perspectives in the Classroom

FPPL to be included in this lesson	How will you embed Indigenous worldviews,	
(check all that apply):	perspectives, or FPPL in the lesson?	
 Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors. Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place). Learning involves recognizing the consequences of one's actions. Learning involves generational roles and responsibilities. Learning recognizes the role of Indigenous knowledge. Learning is embedded in memory, history, and story. Learning requires exploration of one's identity. Learning involves recognizing that some knowledge is sacred and only shared with permission and/or in certain situations. 	Throughout my Mathematics lessons, I will encourage students to be patient and kind to themselves as they learn new concepts. Lessons will be delivered via open, non-judgmental group discussions, posited on positive teacher/student and student/student relationships and connections. Ideas and concepts will be learned experientially, through a mixture of explicit instruction, modelling, scaffolded support, and practice. Student understanding will be dependent upon their participation in, and attentiveness to, class and group discussions and the assigned practice questions (done in class, with support as needed).	

4. BIG IDEAS

Key resources: <u>https://curriculum.gov.bc.ca/</u> (choose course under Curriculum, match lesson to one or more Big Ideas)

 What are students expected to UNDERSTAND? How is this lesson connected to Big Idea/s or an essential question?

 Big Idea: Mixed numbers and decimal numbers represent quantities that can be decomposed into parts and wholes (Gr.6)

 Decimals, fractions, and percents are used to represent and describe parts and wholes of numbers (Gr.7)

Elaboration: What are the connections between fractions, mixed numbers, and decimal numbers?

- 1. Number represents and describes quantity.
- 2. *Fractions* allow us to describe parts of a whole.
- 3. *Mixed numbers* allow us to describe integers (wholes) and fractions (parts of a whole).
- 4. *Decimal numbers* allow us to describe integers (wholes) and fractions (parts of a whole) using a decimal point to separate the whole number part and the fractional part.
- 5. Fractions, mixed numbers, and decimal numbers can be converted (one to another) using mathematical processes and calculations.

5. LEARNING STANDARDS/INTENTIONS

Key resources: <u>https://curriculum.gov.bc.ca/</u> (choose course under Curriculum)

Curricular Competencies: What are students expected to DO ?	Content: What are students expected to learn (KNOW)?
Students will participate in a class review of yesterday's material (strengths and stretches will be discussed).	Students will know that fractions are numerical quantities that represent parts of a whole, each with a denominator indicating the number of equal parts that make up the
Students will review stretches together, as a class.	whole, and a numerator indicating the number of equal parts used or taken from the whole.
Students will then perform independent practice, selecting "good fit" worksheets that match their skill level/ability.	Students will know the types of fractions (proper, improper, mixed, and whole), and the processes required to convert from one type to another (crossifically mixed to improper
Students are expected to DO the following:	and improper to mixed).
 1. Reasoning and analyzing: Use reasoning and logic to explore, analyze, and apply mathematical ideas. Demonstrate and apply mental math strategies. Model mathematics in contextualized experiences. 2. Understanding and solving: Apply multiple strategies to solve problems in both abstract and contextualized situations. Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving. Visualize to explore mathematical concepts. 3. Communicating and representing: Use mathematical vocabulary and language to contribute to mathematical discussions. Explain and justify mathematical ideas and decisions. Communicate mathematical thinking in many ways. Represent mathematical ideas in concrete, pictorial, and symbolic forms. 4. Connecting and Reflecting: Reflect on mathematical concepts to each other and to other areas and personal interests. Use mathematical arguments to support personal choices. 	Students will know how to compare and order fractions with like denominators (i.e., fraction with the largest numerator is largest and the fraction with the smallest numerator is smallest, and the ones in between are ordered accordingly), unlike denominators (i.e., fractions will need to be converted into equivalent fractions with a common denominator before comparing and ordering using the "like denominators" method), and mixed numbers (see above). Students are expected to KNOW the following: Multiplication and division facts to 100 (developing computational fluency). Factors and multiples – greatest common factor and least common multiple. Improper fractions and mixed numbers.
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6. ASSESSMENT PLAN

Key resources: Instructional Design Map and https://curriculum.gov.bc.ca/classroom-assessment

How will students demonstrate their learning or achieve the learning intentions? How will the evidence be documented and shared? Mention any opportunities for feedback, self-assessment, peer assessment and teacher assessment. What tools, structures, or rubrics will you use to assess student learning (e.g. Performance Standard Quick Scale)? Will the assessments be formative, summative, or both?

Throughout the week, students will demonstrate their learning and understanding of "Fractions" and "Comparing and Ordering Fractions" in several ways:

- (1) In the responses they provide during class discussions.
- (2) In the responses they provide during self-assessed thumbs up/down polls.
- (3) In their responses to practice questions.
- (4) In a low-stakes, summative, quiz (Friday).

Students will receive formative feedback at each of the three initial stages of learning, followed by summative feedback at the fourth stage.

Student responses to the practice questions will be handed in at the end of the lesson/block, so that I can review and provide feedback to students on where they are at in their learning (vs. where they need to be) before the next lesson. This way, I can adjust my instruction, reviewing and/or re-teaching when necessary. I can also arrange additional support and go over corrections (working toward mastery of the concept). Throughout the week (in lessons to follow), students will have ample opportunity to practice, gain teacher feedback, and receive extra support.

The low-stakes, summative quiz will assess student understanding of the concepts and quiz results will help determine if students need further instruction/review of the concepts or if they are ready to move to new concepts (likely of increasing difficulty).

7. DESIGN CONSIDERATIONS

Key resources: Instructional Design Map

Make brief notes to indicate how the lesson will meet needs of your students for: <u>differentiation</u>, especially for known exceptionalities, learning differences or barriers, and language abilities; <u>inclusion</u> of diverse needs, interests, cultural safety and relevance; <u>higher order thinking</u>; <u>motivations</u> and specific <u>adaptations or modifications</u> for identified students or behavioural challenges. Mention any other design notes of importance, e.g. cross-curricular connections, organization or management strategies you plan to use, extensions for students that need or want a challenge.

This lesson will be delivered to students who have already spent time comparing and ordering fractions (see yesterday's lesson). As such, all students have received instruction on comparing and ordering fractions of **like denominator** and **unlike denominator** (i.e., adding the extra step of determining a common denominator and then preforming calculations to make equivalent fractions with that common denominator before comparing and ordering), and those that include **fractions of improper and mixed number form**. As noted, this lesson is a starting point and will guide further lessons in this learning sequence (i.e., tomorrow's lesson on "Comparing and Ordering Fractions <u>and</u> Decimals).

Exceptionalities: One student needs support regulating emotions and behaviour. This student has a designated EA and there is a plan in place to help avert significant behavioural challenges. This student can follow through with this lesson, and its tasks, with the supports previously in place. Several students in this group are colour-blind, so I have chosen texts that account for colour-blindness (i.e., avoided red, green, and light blue) and will write on the board with black markers.

This lesson is important because students will frequently encounter situations involving fractions in their daily lives (sharing parts of a whole, recipes, discounts, etc.). An understanding of fractions (and how to compare and order them) provides students with the numerical and analytical skills necessary to be informed consumers and effective workers in our society. The skills students will develop in this lesson (and lessons to follow) will enhance their knowledge of, and flexibility in thinking about, "number."

Required preparation: Mention briefly the resources, material, or technology you need to have ready, or special tasks to do before the lesson starts, e.g. rearrange desks, book a room or equipment.

I will need to do the following:

- (1) Scan to email today's levelled practice worksheets (attached).
- (2) Photocopy sufficient copies of each worksheet and have ready for students.
- (3) Have extra worksheets photocopied for early finishers.
- (4) Have answer keys ready for marking.

8. LESSON OUTLINE

Instructional Steps	nal Steps Student Does/Teacher Does (learning activities to target learning intentions)	
OPENING: <i>e.g. greeting students, sharing intentions, look back at what was learned, look ahead to what will be learning, use of a hook, motivator, or other introduction to engage students and activate thinking and prior knowledge</i>	Cue ALL students (6s and 7s) that it is time for Math, referring them to the visual schedule and asking them to get out their math supplies (pencil, eraser, calculator, and multiplication table). When students are seated, organized, quiet, and "eyes on," say: "Today, you will continue to practice questions that involve comparing and ordering fractions of different type. If you were away or missed yesterday's lesson, I will touch base with you after I get everyone else going on today's practice questions." Tell students that they will then need to self-assess their individual understanding of the concepts and proceed to choose from a selection of levelled worksheets that align with their abilities (keeping in mind that further learning does not occur if we choose work that is too easy, and that we must choose work that challenges us to extend our current knowledge). Inform students that the worksheets progress in difficulty, from level 1 to level 4. Today's worksheet options include comparing fractions of like denominator (level 1), comparing fractions of unlike denominator (level 2), ordering fractions of unlike denominator (level 3), and ordering fractions of	Quick transition to lesson; interactive and lively pace. (5 min)
BODY: • Best order of activities to maximize learning each task moves students towards learning intentions	I DO: Tell students that yesterday's handout will help guide them in their practice. It does not need to be handed in since we completed it together and reviewed the answers as a class. I DO: Ask students if they have any questions or concerns about the information we covered in vesterday's lesson	Interactive, Responsive and lively pace. Redirect
 Students are interacting with new ideas, actively constructing knowledge and understanding, and given opportunities to practice, apply, or share learning, ask questions and get feedback Teacher uses learning resources and strategic opportunities for guided practice, direct 	STUDENTS DO: Ask questions and/or share concerns. I DO: Answer student questions and concerns. I DO: Tell students that it is now time for them to practice. Display the worksheets on the Smart Board and go over the types of questions they will be asked to do on each worksheet (increasing levels of difficulty). Inform students that they will need to self-assess their understanding and choose a "good-fit" worksheet, keeping in mind that they do not want it to be too easy or too difficult—it should be "just right."	who go off- task as needed. 15 min instruction, (depending on student questions), followed by 35 min of worksheet practice.

instruction, and/or	I DO: Ask students if they have any other questions or concerns before they	
• Can include: transitions	proceed to the practice.	
sample questions,	STUDENTS DO: Ask questions/share concerns/get clarification.	
student choices,		
assessment notes (formative or otherwise)	I DO: Answer student questions/concerns and then tell them that they have	
and other applications of	the remainder of the Math block to complete yesterday's handout (if they did	
design considerations	They are to do as many questions as possible and then hand in what they	
	complete so that I can gauge understanding and provide feedback. Remind	
	students that they need to have their name clearly indicated.	
	I DO: Tell students that if they finish early, they must select another, more challenging, worksheet to extend their thinking. If there is only a short amount of time left until Gym, they can work on their Math Minute or Daily Language tasks.	
	STUDENTS DO: Complete yesterday's group handout (if they did not have time	
	and proceed to work through the questions.	
	I DO: Touch base with the students who were away yesterday and bring them	
	providing feedback and assistance when needed.	
	STUDENTS DO: If they finish early, select another, more challenging, worksheet from the levelled options.	
CLOSING:	2 minutes before the end of Math, cue students that it is nearing the end of	5 minutes
 Closure tasks or plans to gather solidify deepen 	their math time and that (1) they should wrap up the question they are	or less to
or reflect on the learning	working on, and (2) hand in what they have completed with their hame clearly indicated	wrap up.
• review or summary if		
 applicable anticipate what's next in 	Ask students to relate their level of understanding by a show of "thumbs up"	
learning	(I get it), "thumbs in the middle" (I get some of it), or "thumbs down" (I am	
"housekeeping" items (a a due dates next days)	confused/do not get it).	
(e.g. aue dates, next day reauirements	Let students know that I will return their practice questions tomorrow, with	
	feedback, and that there will be time for them to do corrections, ask clarifying questions, and do more practice.	
	Cue students to move on to the next activity/scheduled task (i.e.	
	wash/sanitize hands and head to gym).	

9. REFLECTION

- Did any reflection <u>in</u> learning occur, e.g. that shifted the lesson in progress?
- What went well in the lesson (reflection <u>on</u> learning)?
- What would you revise if you taught the lesson again?
- How do the lesson and learners inform you about necessary next steps?
- Comment on any ways you modelled and acted within the Professional Standards of BC Educators and BCTF Code of Ethics?
- If this lesson is being observed, do you have a specific observation focus in mind?

*To be completed at the end of the lesson.

		Comparing Fracti	Ons Name:	
Use	< or > to compar	e each fraction.		Answers
A	Anytime the <u>numer</u> with the smaller because it w $\frac{1}{3} > \frac{1}{5}$	rator is the same, the number denominator will be larger vill have larger pieces. $3^{n}_{7} < 3^{n}_{4}$	Anytime the <u>denominator</u> is the same, the number with the larger numerator will be large because it will have more pieces. $4\frac{x}{5} > \frac{2x}{5} \qquad 1\frac{x}{3} < \frac{2x}{3}$ $\bigcirc \qquad \bigcirc \qquad$	Ex 1 2 3
Ex)	$\frac{1}{4} < \frac{3}{4}$	1) $\frac{1}{7}$ $\frac{1}{2}$	2) $\frac{1}{8}$ $\frac{4}{8}$	4 5
3)	$\frac{4}{5}$ $\frac{4}{6}$	$\frac{4}{5} \frac{4}{5} \frac{3}{5}$	5) $\frac{2}{7}$ $\frac{5}{7}$	6 7
6)	$\frac{3}{7} \frac{3}{4}$	7) $\frac{1}{3}$ $\frac{2}{3}$	$\frac{8}{8} \frac{2}{8} \frac{2}{5}$	8 9 10.
9)	$\frac{4}{6}$ $\frac{4}{5}$	$\frac{10}{5} \frac{1}{5} \frac{4}{5}$	11) $\frac{4}{7}$ $\frac{6}{7}$	11 12
12)	$\frac{7}{8}$ $\frac{3}{8}$	13) $\frac{1}{3}$ $\frac{1}{6}$	14) $\frac{2}{8}$ $\frac{2}{5}$	13 14
15)	$\frac{1}{7}$ $\frac{1}{2}$	$\frac{16}{4}$ $\frac{1}{4}$ $\frac{3}{4}$	17) $\frac{2}{7}$ $\frac{2}{4}$	15 16
18)	$\frac{1}{6} \frac{5}{6}$	19) $\frac{3}{4}$ $\frac{2}{4}$	20) $\frac{4}{7}$ $\frac{5}{7}$	17 18 19
	Math	www.CommonCoreSheets.com	1-10 95 90 85 80 7 11-20 45 40 35 30 2	20. 75 70 65 60 55 50 25 20 15 10 5 0

]	Comparing F	Fractions		Name [.]	
Use '>	>' . '<' or '=' t	o solve each problem.	Tuetions		Traine.	Answars
Ex)	$\frac{3}{6} \frac{4}{5}$	1) $\frac{3}{8}$	$\frac{3}{4}$	2) <u>3</u> <u>4</u>	<u>4</u> 12	Ex
3)	$\frac{7}{12}$ $\frac{9}{10}$	4) <u>5</u> <u>6</u>	$\frac{5}{10}$	5) <u>2</u> <u>3</u>	$\frac{1}{12}$	1.
6)	$\frac{6}{8}$ $\frac{2}{12}$	7) <u>5</u> 12	$\frac{2}{5}$	8) <u>3</u> 4	$\frac{1}{8}$	4.
9)	$\frac{2}{5}$ $\frac{7}{12}$	10) <u>2</u> <u>3</u>	<u>1</u> 8	11) <u>8</u> 12	2 4	7. 8. 9.
12)	$\frac{5}{6}$ $\frac{4}{12}$	13) <u>1</u> <u>12</u>	<u>4</u> 5	14) <u>5</u> 10	<u>4</u> 5	10. 11. 12.
15)	$\frac{8}{12}$ $\frac{6}{8}$	16) <u>2</u> <u>8</u>	$\frac{2}{3}$	17) <u>4</u> <u>6</u>	$\frac{1}{5}$	13. 14. 15.
18)	$\frac{2}{3}$ $\frac{3}{10}$	19) <u>2</u> <u>3</u>	3/4	20) <u>6</u> <u>10</u>	<u>4</u> 12	16. 17. 18.
	Math	www.CommonCoreSheets	.com 1		1-10 95 90 85 80 11-20 45 40 35 30	19. 20. 75 70 65 60 55 50 25 20 15 10 5 0





Ordering fractions

$\frac{4}{9}$ $\frac{1}{9}$ $\frac{6}{9}$	$\frac{1}{6}$ $\frac{7}{6}$ $\frac{2}{6}$	$\frac{11}{16} \frac{3}{16} \frac{12}{16}$
$\frac{3}{5}$ $\frac{3}{4}$ $\frac{3}{8}$	$\frac{8}{9} \frac{8}{13} \frac{8}{10}$	$\frac{16}{17} \frac{16}{14} \frac{16}{15}$
$\frac{3}{2}$ $\frac{1}{7}$ $\frac{9}{5}$	$\frac{3}{5} \frac{8}{4} 1\frac{1}{7}$	$1\frac{2}{3}$ $\frac{1}{4}$ $2\frac{3}{4}$