

Candidate's name: Joni Hesselgrave

Grade/Class/Subject:	Grade 6/7 Mathematics	School:	Lakeview Elementary
Date:	Friday, March 4, 2022	Allotted Time:	40 minutes
Topic/Title:	"Comparing & Ordering Fractions" Quiz		

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.

The purpose of this lesson is to **provide a low-stakes quiz** and **collect summative evidence of learning**. This is an opportunity for students to show how well they understand the processes required to **compare and order fractions of different type**. Students have received instruction (and sufficient time to review and practice) comparing and ordering fractions of **like numerator, like denominator, and unlike denominator**, where fractions are in **proper, improper, and mixed number** form. This lesson leads to **comparing & ordering fractions and decimals**.

2. CORE COMPETENCIES

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

Core /Sub-Core Competencies (check all that apply):	Describe briefly how you intend to embed Core Competencies in your lesson, or the role that they have in your lesson.
<input checked="" type="checkbox"/> COMMUNICATION – Communicating <input type="checkbox"/> COMMUNICATION – Collaborating <input type="checkbox"/> THINKING – Creative Thinking <input checked="" type="checkbox"/> THINKING – Critical Thinking <input checked="" type="checkbox"/> THINKING – Reflective Thinking <input type="checkbox"/> PERSONAL AND SOCIAL – Personal Awareness and Responsibility <input type="checkbox"/> PERSONAL AND SOCIAL – Positive Personal and Cultural Identity <input type="checkbox"/> PERSONAL AND SOCIAL – Social Awareness and Responsibility	<p> 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.</p> <ul style="list-style-type: none"> 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. <p> 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.</p> <ul style="list-style-type: none"> 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 numerators, like denominators, and unlike denominators.

	<ul style="list-style-type: none"> 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.
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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 (check all that apply):	<i>How will you embed Indigenous worldviews, perspectives, or FPPL in the lesson?</i>
<input checked="" type="checkbox"/> Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors. <input checked="" type="checkbox"/> Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place). <input checked="" type="checkbox"/> Learning involves recognizing the consequences of one's actions. <input type="checkbox"/> Learning involves generational roles and responsibilities. <input type="checkbox"/> Learning recognizes the role of Indigenous knowledge. <input type="checkbox"/> Learning is embedded in memory, history, and story. <input checked="" type="checkbox"/> Learning involves patience and time. <input type="checkbox"/> Learning requires exploration of one's identity. <input type="checkbox"/> 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: <https://curriculum.gov.bc.ca/> (choose course under Curriculum, match lesson to one or more Big Ideas)

<i>What are students expected to UNDERSTAND? How is this lesson connected to Big Idea/s or an essential question?</i>
<p>Big Idea: <i>Mixed numbers and decimal numbers represent quantities that can be decomposed into parts and wholes (Gr.6)</i> <i>Decimals, fractions, and percents are used to represent and describe parts and wholes of numbers (Gr.7)</i></p> <p>Elaboration: What are the connections between fractions, mixed numbers, and decimal numbers?</p> <ol style="list-style-type: none"> <i>Number</i> represents and describes quantity. <i>Fractions</i> allow us to describe parts of a whole. <i>Mixed numbers</i> allow us to describe integers (wholes) and fractions (parts of a whole). <i>Decimal numbers</i> 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. Fractions, mixed numbers, and decimal numbers can be converted (one to another) using mathematical processes and calculations.

5. LEARNING STANDARDS/INTENTIONS

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

Curricular Competencies: <i>What are students expected to DO?</i>	Content: <i>What are students expected to learn (KNOW)?</i>
During the quiz, students are expected to DO the following: <ol style="list-style-type: none"> Reasoning and analyzing: <ul style="list-style-type: none"> Use reasoning and logic to explore, analyze, and apply mathematical ideas. Demonstrate and apply mental math strategies. 	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 whole, and a numerator indicating the number of equal parts used or taken from the whole. Students will know the types of fractions (proper, improper, mixed, and whole), and the processes required to convert

<ul style="list-style-type: none"> • Model mathematics in contextualized experiences. <p>2. Understanding and solving:</p> <ul style="list-style-type: none"> • 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. <p>3. Communicating and representing:</p> <ul style="list-style-type: none"> • 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. <p>4. Connecting and Reflecting:</p> <ul style="list-style-type: none"> • Reflect on mathematical thinking. • Connect mathematical concepts to each other and to other areas and personal interests. • Use mathematical arguments to support personal choices. 	<p>from one type to another (specifically mixed to improper and improper to mixed).</p> <p>Students will know how to compare and order fractions with like numerators (i.e., fraction with smallest denominator will be largest and fraction with largest denominator will be smallest, with the fractions in between ordered accordingly), like denominators (i.e., fraction with largest numerator is largest and fraction with smallest numerator is smallest, with the fractions in between 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 OR, if possible, use the <i>benchmark strategy</i>), and improper fractions and mixed numbers (convert all mixed number fractions to improper fractions before finding a common denominator, making equivalent fractions, and then comparing or ordering).</p> <p>Students are expected to KNOW the following:</p> <ul style="list-style-type: none"> • 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, 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 (comparing and ordering fractions AND decimals).

7. DESIGN CONSIDERATIONS

Key resources: [Instructional Design Map](#)

Make brief notes to indicate how the lesson will meet needs of your students for: differentiation, especially for known exceptionalities, learning differences or barriers, and language abilities; inclusion of diverse needs, interests, cultural safety and relevance; higher order thinking; motivations and specific adaptations or modifications 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 **quiz** will be delivered to students who have spent the past week learning about, practicing, and reviewing the processes involved in comparing and ordering fractions of different type.

Students have received instruction on comparing and ordering fractions of **like numerator, like denominator** and **unlike denominator** (i.e., adding the extra step of determining a common denominator and then performing calculations to make equivalent fractions with that common denominator before comparing or ordering), and those that include **fractions of proper, improper, and mixed number form** (i.e., adding the extra step of converting any mixed numbers to improper fractions before determining a common denominator and then performing calculations to make equivalent fractions with that denominator before comparing or ordering).

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.

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) Photocopy sufficient copies of each levelled quiz (level 1/2 and 3/4) and have ready for students.
- (2) Have reminders and expectations on the board.
- (3) Have answer keys ready for marking.

8. LESSON OUTLINE

Instructional Steps	Student Does/Teacher Does (<i>learning activities to target learning intentions</i>)	Pacing
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>	<p>Cue all students (6s and 7s) that it is time for their Math quiz, referring to the visual schedule, and direct them to get a pencil, their multiplication tables, and calculators before settling in at their assigned tables. Remind them that there should only be two students per table.</p> <p>Say “if anyone needs to sharpen their pencils or use the washroom, now is the time to do that.”</p> <p>When students are organized, ready, quiet, and “eyes on”, draw their attention to the board where I will have written several helpful rules and reminders.</p>	Quick transition to lesson; interactive and lively pace. (5 min)

<p>BODY:</p> <ul style="list-style-type: none"> • <i>Best order of activities to maximize learning -- each task moves students towards learning intentions</i> • <i>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</i> • <i>Teacher uses learning resources and strategic opportunities for guided practice, direct instruction, and/or modelling</i> • <i>Can include: transitions, sample questions, student choices, assessment notes (formative or otherwise), and other applications of design considerations</i> 	<p>I DO: Review the helpful rules and reminders. Tell students that, if they get stuck or freeze up, to consult these helpful pieces of information or they can raise their hand and ask me a question—I will give yes/no responses to let them know if they are on the right track but will not tell them how to do the questions. Let them know that if they do not do well on the quiz, they will have the option to do corrections to improve their score (except on the “compare” questions since it is like true or false – it is either right or wrong, so there is no room to apply new understanding).</p> <p>I DO: Inform students that they will have the next 30 minutes to complete the quiz. If they finish early, they are to hand in their quiz (with name clearly indicated) and QUIETLY proceed to their unfinished work (reference the list of tasks on visual schedule) or read quietly.</p> <p>I DO: Tell students that I will give them time reminders so that they can keep track of how much longer they have.</p> <p>I DO: Inform students of quiz protocol (working quietly and independently with eyes on own paper). Remind students that they can use their calculators, but they must convert to fractions (not decimals). Ask students if they have any questions or concerns. Address questions and concerns.</p> <p>I DO: Tell students that it is time to start and that they will have until ____.</p> <p>STUDENTS DO: Collect quizzes from front table, return to seats, and begin.</p> <p>I DO: Give time reminders.</p> <p>STUDENTS DO: Continue working quietly until finished. When done, ensure that their name is on the quiz and put it in the hand-in bin. Return to seats to work on unfinished work (quietly).</p>	<p>Interactive, Responsive and lively pace. Redirect students who go off-task as needed. 5 min instruction, followed by 30 minutes for the quiz.</p>
<p>CLOSING:</p> <ul style="list-style-type: none"> • <i>Closure tasks or plans to gather, solidify, deepen or reflect on the learning</i> • <i>review or summary if applicable</i> • <i>anticipate what’s next in learning</i> • <i>“housekeeping” items (e.g. due dates, next day requirements)</i> 	<p>When there is one minute left, cue students that they should wrap up the question they are working on and hand in (with their name clearly indicated).</p> <p>Let students know that I will score the quizzes and return with feedback. If anyone does not do well, they can practice and re-take to improve their score.</p> <p>Cue ALL students to move on to the next activity/ scheduled task.</p>	<p>5 minutes or less to wrap up.</p>

9. REFLECTION

<ul style="list-style-type: none"> • <i>Did any reflection <u>in</u> learning occur, e.g. that shifted the lesson in progress?</i> • <i>What went well in the lesson (reflection <u>on</u> learning)?</i> • <i>What would you revise if you taught the lesson again?</i> • <i>How do the lesson and learners inform you about necessary next steps?</i> • <i>Comment on any ways you modelled and acted within the Professional Standards of BC Educators and BCTF Code of Ethics?</i> • <i>If this lesson is being observed, do you have a specific observation focus in mind?</i>
<p>*To be completed at the end of the lesson.</p>

Name:

Level 1/2 Quiz Comparing & Ordering Fractions

* Write fractions in order from from greatest to least

① $\frac{2}{6}$, $\frac{5}{6}$, $\frac{4}{6}$

② $\frac{17}{21}$, $\frac{9}{21}$, $\frac{13}{21}$

③ $\frac{7}{8}$, $\frac{7}{10}$, $\frac{7}{9}$

④ $\frac{19}{12}$, $\frac{19}{17}$, $\frac{19}{13}$

⑤ $\frac{7}{5}$, $\frac{11}{4}$, $\frac{2}{7}$

⑥ $2\frac{1}{5}$, $\frac{13}{6}$, $\frac{1}{7}$

Level 1/2 Quiz *Compare each fraction*
Using <, > or = sign

⑦ $\frac{3}{4} \square \frac{2}{8}$

⑧ $\frac{2}{5} \square \frac{3}{7}$

⑨ $\frac{3}{5} \square \frac{1}{2}$

⑩ $\frac{5}{7} \square \frac{6}{10}$

⑪ $\frac{1}{4} \square \frac{2}{9}$

⑫ $\frac{2}{3} \square \frac{9}{12}$

Name: _____

Level 3/4 Quiz Comparing & Ordering Fractions

(A) * Write fractions in order from greatest to least:

① $\frac{13}{14}$, $\frac{13}{16}$, $\frac{13}{15}$ ② $\frac{4}{15}$, $\frac{2}{3}$, $\frac{7}{6}$

③ $\frac{13}{5}$, $\frac{13}{6}$, $\frac{5}{7}$ ④ $\frac{17}{4}$, $\frac{2}{3}$, $3\frac{1}{2}$

⑤ $\frac{1}{12}$, $\frac{1}{4}$, $\frac{8}{9}$, $\frac{4}{6}$, $\frac{2}{3}$

⑥ $\frac{75}{100}$, $\frac{1}{4}$, $\frac{1}{10}$, $\frac{1}{9}$, $\frac{8}{50}$

(B) Write fractions in

Order from least to greatest:

(7) $\frac{1}{3}, \frac{2}{50}, \frac{22}{25}, \frac{2}{6}, \frac{4}{12}$

(8) $\frac{5}{9}, \frac{13}{20}, \frac{3}{10}, \frac{2}{6}, \frac{2}{4}$

(9) $\frac{105}{100}, \frac{3}{8}, \frac{4}{2}, \frac{25}{10}, \frac{4}{5}$

(10) $\frac{2}{2}, \frac{7}{9}, 2\frac{95}{100}, 1, 1\frac{1}{12}$

(11) $\frac{2}{8}, \frac{2}{3}, 1, 1\frac{11}{20}, \frac{2}{9}$