UNBC UNIVERSITY OF NORTHERN BRITISH COLUMBIA

EDUC 391 LESSON PLAN

Candidate's name: Joni Hesselgrave

Grade/Class/Subject:	Grade 6 Mathematics	School:	Lakeview Elementary
Date:	Friday, February 25, 2022	Allotted Time:	35 minutes
Topic/Title:	**Quiz** (covering material from Unit 8, Lesson 1 – **Equivalent Fractions & Simplifying Fractions**)		

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 feedback** from students to gauge overall understanding of the material covered in Unit 8, Lesson 1: **Equivalent Fractions** (i.e., fractions that describe the same amount) and **Fractions in Simplest Form** (i.e., fractions with no common factor other than 1 in their numerator and denominator).

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.*
☒ COMMUNICATION – Communicating ☐ COMMUNICATION – Collaborating ☐ THINKING – Creative Thinking ☒ THINKING – Critical Thinking ☒ THINKING – Reflective Thinking ☐ PERSONAL AND SOCIAL – Personal Awareness and Responsibility ☐ PERSONAL AND SOCIAL – Positive Personal and Cultural Identity ☐ PERSONAL AND SOCIAL – Social Awareness and Responsibility	C **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. • Students will communicate their understanding of mathematical vocabulary and language as they engage wih mathematical problems (i.e., when creating equivalent fractions and putting fractions in simplest form). T **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 make, identify, and simplify equivalent fractions.

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):*	*How will you embed Indigenous worldviews, 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 involves patience and time. ☐ 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 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

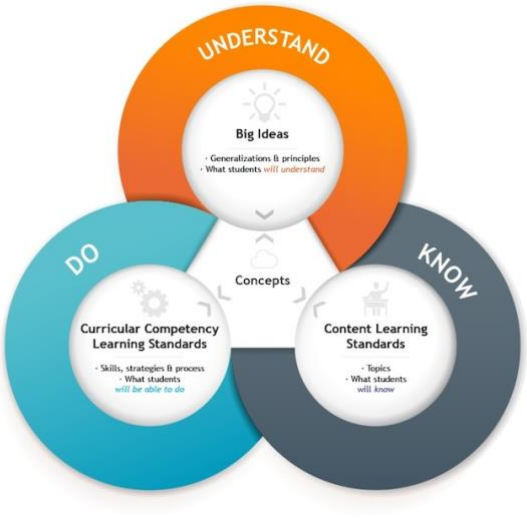
Key resources: https://curriculum.gov.bc.ca/ (choose course under Curriculum, match lesson to one or more Big Ideas)

*What are students expected to **UNDERSTAND**? How is this lesson connected to Big Idea/s or an essential question?*
Big Idea: M*ixed numbers and decimal numbers represent quantities that can be decomposed into **parts** and wholes.* **Elaboration**: How many ways can you represent a given fraction?
1. Equivalent fractions use different-sized fractional parts to describe the same amount. 2. To find an equivalent fraction, multiply or divide the numerator and denominator by the same non-zero number. Since this is equivalent to multiplying by 1, the value of the fraction is not changed. 3. A fraction can have an unlimited number of equivalent fractions.

5. LEARNING STANDARDS/INTENTIONS

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

Curricular Competencies: *What are students expected to **DO**?*	**Content:** *What are students expected to learn (**KNOW**)?*
Students will use multiplication to create equivalent fractions and division to simplify fractions using division. That is, students are expected to **DO** the following: **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.	Students will know that equivalent fractions represent the same part of a whole; that by multiplying or dividing the numerator and denominator by the same non-zero number, they are not changing the value of the fraction; and, that a fraction in simplest form has no common factor other than 1 in their numerator and denominator. Students will know that "what you do to the top you do the bottom." That is, 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.

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 thinking. • Connect mathematical concepts to each other and to other areas and personal interests. • Use mathematical arguments to support personal choices.	

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 Equivalent Fractions and Fractions in Simplest Form in several ways: (1) in the responses they provide during class discussion; (2) in the responses they provide during self-assessed thumbs up/down polls; and (3) in their responses to practice questions. Students will receive formative feedback at each of the three stages of learning. 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). Students will have ample opportunity to practice, gain teacher feedback, and receive extra support. At the end of the week (**Friday's**), **students will have a low-stakes, summative quiz to assess understanding of the concepts. Quiz results will help me determine if students need further instruction/review of the concepts or if they are ready to move to new concepts (likely to increase in difficulty).**

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 been provided instruction, practice, and review (over the past three days) on how to form equivalent fractions by multiplying or dividing the numerator and denominator by the same non-zero number, and how to simplify fractions using division (dividing the numerator and denominator by the same number to put in simpler form and by their greatest common factor to put in simplest form). Exceptionalities: One student has a designated EA and needs support to regulate emotions. With the support provided, this student can be successful with this task.

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 quizzes (12 copies - 1 page, double-sided). (2) Have displayed on the board two example problems and how to solve, as well as the following reminders: "what I do to the top, I must do to the bottom" and "Making Equivalent Fractions, I will multiply" and "Simplifying or Reducing Fractions, I will divide." (3) Have the answer key ready for marking.

8. LESSON OUTLINE

Instructional Steps	**Student Does/Teacher Does** *(learning activities to target learning intentions)*	**Pacing**
OPENING: *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*	Cue Grade Six students that it is time for their **Math quiz**, referring them to the visual schedule, and direct them to make sure they have a pencil and their multiplication table before settling in at their assigned tables (relay a similar message to Grade Seven Students, adding that they should have their Helpful Reminders Sheet and a calculator, in addition to a pencil). Say "if anyone needs to use the washroom, now is the time." When students are organized, ready, quiet, and "eyes on", draw their attention to the board and to the sample questions and reminders.	Quick transition to quiz (5 min)
BODY: • *Best order of activities to maximize learning -- each task moves students towards learning intentions* • *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 instruction, and/or modelling* • *Can include: transitions, sample questions, student choices, assessment notes (formative or otherwise), and other applications of design considerations*	I DO: 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 anyone does not do well on the quiz, they will have the option to practice and re-take to improve their score. 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) and then QUIETLY proceed to work on unfinished work (reference the list of tasks on visual schedule). I DO: Tell students that I will give them time reminders so that they can keep track of how much longer they have. I DO: Inform students of quiz protocol (working quietly and independently with eyes on own paper). Ask students if they have any questions or concerns. Address questions and concerns. I DO: Tell them that it is time to start and that they will have until _____. STUDENTS DO: Collect quizzes from front table, return to seats, and begin. I DO: Give time reminders. 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.	30 min

CLOSING: • *Closure tasks or plans to gather, solidify, deepen or reflect on the learning* • *review or summary if applicable* • *anticipate what's next in learning* • *"housekeeping" items (e.g. due dates, next day requirements*	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). 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. Cue ALL students (grade six and seven) to move on to the next activity/ scheduled task.	5 minutes or less to wrap up.

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.

Finding Equivalent Fractions Name:

Find the number that makes an equivalent fraction.

Ex) $\frac{2}{7}=\frac{8}{28}$

1) $\frac{8}{10}=\frac{\quad}{30}$

2) $\frac{2}{9}=\frac{12}{\quad}$

3) $\frac{3}{6}=\frac{\quad}{24}$

4) $\frac{1}{3}=\frac{\quad}{18}$

5) $\frac{3}{10}=\frac{\quad}{50}$

6) $\frac{7}{8}=\frac{14}{\quad}$

7) $\frac{4}{7}=\frac{12}{\quad}$

8) $\frac{3}{7}=\frac{6}{\quad}$

Answers

Ex. 8

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Reducing Fractions

Name:

Reduce each fraction as much as possible.

Ex) $\frac{4}{32} = \frac{1}{8}$

1) $\frac{10}{15} =$

2) $\frac{9}{27} =$

3) $\frac{10}{60} =$

4) $\frac{16}{24} =$

5) $\frac{15}{40} =$

6) $\frac{49}{56} =$

7) $\frac{7}{56} =$

8) $\frac{3}{24} =$

Answers

Ex. $\frac{1}{8}$

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____