**Summarizing and Note Taking Applied- Strategy #11**

**Title:** Day 2- Rational Numbers 2: Decimals to Fractions (simple version only)

**Subject:** Math

**Grade Level:** 8th  **Time Allotted:** 57 minutes

**Materials Required:** Warm-up sheets, objectives and schedule posted on board, exploration packets, decimal to fraction practice sheet, doc cam for modeling, “Simplifying” youtube video, simplifying practice sheet, small ball.

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**Michigan Curriculum Framework:**

[CCSS.MATH.CONTENT.8.NS.A.1](http://www.corestandards.org/Math/Content/8/NS/A/1/)  
…for rational numbers show that the decimal expansion repeats eventually Convert a decimal expansion that repeats eventually into a rational number.

**Objective(s):**

The students will…

1. Convert terminating decimals into fractions
2. Simplify fractions using relative primes

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**Instructional Procedure: What information do students need to accomplish the objective(s)?**

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| **Time**  **Allotted** | **Essential Element** |
| 7 min. | **1. Anticipatory Set:**  Greet Students at the door  Warm up- reviews Day 1. See attached document.  As students work on their warm up, have them place what they have done so far of their homework on the corner of their desk so that as the teacher circulates she can informally assess where students may be at in their progress, understanding, and needs.  Stating purpose, objectives and schedule |
| 1 min. | **2. State Purpose and Objective(s) of Lesson:**  (Have objectives and Schedule posted on board. Review objectives, purpose, and schedule orally.  Objectives:  The students will…   1. Show that the decimal expansion of rational numbers repeats eventually. 2. Convert terminating decimals into fractions 3. Simplify fractions using relative primes   Purpose: These are the building blocks for solving equations which we will be doing in a couple of days.  Schedule:   1. Warm up 2. Exploration 3. Simplifying 4. Review and Reminders 5. Have a good day! |
| 44 min. | **3. Plan for Instruction:**  **Objective 2**  **Strategy #11-** Students will work in groups of 4 on the discovery packet to discover how to convert decimals to fractions (see attached document). As groups finish they will be given practice problems to work on until the majority of the class has finished (see attached document). (15 min.)  After 20 minutes or the majority of the class is finished with the discovery, share out the rules as a class. Practice 3 problems together. (7 min.)  **Objective 3**  Model simplifying fractions on doc cam. (5 min.)  Watch youtube video at <https://www.youtube.com/watch?v=AtBUQH8Tkqc> explaining how to simplify fractions (first four minutes) to offer an additional version of explanation for those students who did not get it completely the first time that I explained. (4 min.)  Guided and Independent Practice—Practice simplifying problems together. Do two problems teacher-led and one problem in partners, then turn students loose who understand to begin practice on their own (independent practice). Invite students who need additional practice to the back table to see more examples, have specific questions answered, and receive more individualized instruction. Once they understand they are free to return to their seat and begin independent work. (13 min.) |
| N/A | **4. Differentiation Considerations (accommodations):**  During the group activity accommodations are made for students who might finish faster by allowing them to begin working on independent practice while giving the other students the necessary time to finish all their work.  During modeling of simplifying the use of both teacher-explanation and video explanation allows for students to be exposed to the material in multiple ways, allowing those who need multiple exposure to see the material several times and in different ways.  The teacher offers small group instruction time for students needing additional help while the other students complete independent practice on their own.  Multiple grouping configurations are used throughout the class (groups of four, partners, teacher-led instruction, small group lesson based on need).  By not making homework due the following day, students who need additional practice or who have not yet gotten through independent practice do not have to stress about completing the homework on their own without understanding and they will have more time to learn/process the concepts before being asked to do them alone. |
| Embedded | **5. Assessment:** Informative, as I walk around and see student progress. Self-assessment at the end on sticky notes allows the teacher to see how confident students feel in the processes. |
| 5 min. | **6. Closure:** Have students restate the rules for turning a decimal into a fraction and the rules for simplifying (throw a ball around to the speaker as we do this review). Then, on a sticky note each student will self-assess themselves by writing how confident they feel about each objective (1=I’ve got this!, 2=I kind of understand but still need more help, 3= I do not understand and need more help). Students should stick these on the board before leaving (they can fold them up so that no one sees what they wrote. Reminder that yesterday’s homework is due tomorrow. Assign practice problems from today and encourage all to try, but they are not due for two days to help students who need additional time and practice not feel stressed by the homework. |

**Explanation of Identified Instructional Strategy:**

I chose to use a guided exploration form of note-taking and summarizing for this lesson for several reasons. First, unlike a guided note type of lay out where students receive notes and copy down information as the teacher relays it to them, I felt that this allowed them to be more actively engaged in the process of discovering the answer, enabling them to better remember and understand the rules they will eventually develop fluency in. This method also asks students to summarize the patterns they see to eventually develop a rule. I believe this form of written summary will be helpful both for guiding them in their thinking as well as recording important information. Whereas other strategies that include verbally summarizing to other students or recording the notes in visually scaffolded ways are also valuable, I felt that this form of summary would be the best since it is easy to reference without having the pressure of appearing to be very final, allowing them to make observations and potentially make mistakes, but ultimately think and discover for themselves.

A con to this type of summarizing and note taking is that if a student is not understanding the instructions or catching on to the process within the exploration, they might become lost and feel very alone since it is a highly student-centered activity. This of course could be remedied by a teacher who is actively circulating the room at ALL times, looking for students who need help and constantly gauging the temperature of the class to see if perhaps the instructions simply are not communicating well to the students’ brains and need to be more fully explained to the entire class.