**CHAPTER 4 INTRODUCTION – PERCENTS**

**URL Link:** <https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-decimal-conversions/v/representing-a-number-as-a-decimal-percent-and-fraction>

**Description of Lesson:** In this lesson, the students will be completing a quick review of what they should have learned before in previous grades. They will remember how to convert between fractions, decimals, and percents.

**Activities:**

1. Write ¼ on the board and ask the students convert the fraction into a percent and a decimal. Review quickly equivalent fractions and ¼ = 25/100.
2. Introduce the 7th graders to Khan Academy. Remind them of the Khan Academy lesson completed as a whole group the previous week. Have students log on to their new account and watch the tutorial “Representing a Number As a Decimal, Percent, and Fraction.” Make sure each student is in the right place and understands what is expected.
3. Allow students 20 minutes to watch videos as needed to remind them of the process and then complete the accompanying activities.
4. Have students complete the Fair Game Review, located on pages 87 and 88 of the Review and Practice Journal (workbook that accompanies our Math curriculum).

**Method of Assessment:** Fair Game Review pg. 87 and 88.

**Expected Outcome:** Students will complete the Fair Game Review with at least 90% accuracy.

**Follow-up Learning:** During the next class period we will go over the percent equation and how to use it in order to solve for “x” in any given percent question.

* 1. **– PERCENTS OF INCREASE AND DECREASE**

**URL Link:** <https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates/pre-algebra-percent-word-problems/v/growing-by-a-percentage>

**Description of Lesson:** In this lesson, students will explore percent increase and decrease by working with real-life situations. Students will learn a percent change formula in order to solve problems.

**Activities:**

1. Have students watch the Khan Academy “Growing by a Percentage” video while I work with the 8th graders and get them started on their assignment. Students may complete activities as they finish the video and have time. Provide 20 minutes for Khan Academy time.
2. Provide a scenario to discuss: “Fluorescent light bulbs use 75% less energy than incandescent light bulbs (percent decrease) and last up to 900% longer (percent increase). If our school replaced incandescent light bulbs with fluorescent light bulbs, what would be the potential savings?” (Motivation discussion comes from math textbook, pg T-164.)
3. Complete Activities 1 and 2 located on pages 164-165 of the textbook and pages 73-75 of the Record and Practice Journal. Discuss how to solve each problem and work through each step together. Make sure every student has the correct answer and understands how it was achieved. (Note: I have 3 students in 7th grade math, so this individualized attention is possible.)
4. Have students write notes in their Math notebooks. They should write down the formulas needed to show percents of increase and decrease. Remind students to refer to their notes when completing their homework assignment.

**percent of increase = new amount—original amount**

 **original amount**

**percent of decrease = original amount—new amount**

 **original amount**

1. Assign the individual assignment as homework.

**Method of Assessment:**

1. Group Assignment: Record and Practice Journal pg. 73-75.
2. Individual Assignment:

Day 1: Record and Practice Journal pg. 76.

Day 2: Textbook pg. 168-169 #1-3, 5-11 odd, 12-22, 28

1. Log on to Khan Academy to see how the activities went and how the program’s recording features work.

**Expected Outcome:**

1. Students will receive 100% on their group assignment, which will demonstrate participation in the group lesson and discussion.
2. Students will complete the individual assignments (Days 1 and 2) with at least 90% accuracy.

**Follow-up Learning:** IXL – L.9: Percent of change and L.10: Percent of change, word problems

**4.4 – SIMPLE INTEREST**

**URL Link:** <https://www.khanacademy.org/economics-finance-domain/core-finance/interest-tutorial/interest-basics-tutorial/v/introduction-to-interest>

**Descriptions of Lesson:** In this lesson, students will learn what simple interest is and will use the simple interest formula to determine the amount of interest earned in a savings account.

**Activities:**

1. As a whole group, have the students watch the “Introduction to Interest” video (no activities provided on Khan Academy) while I work with 8th grade.
2. Discuss with students what they learned. What is interest? What is simple interest versus compound interest? Could you give me an example of simple or compound interest?
3. Have students write the simple interest equation in their math notebooks.

**Simple Interest**

**Principal**

**Annual Interest Rate**

**Time**

=

x

x

**($)**

**($)**

**(% per year)**

**(Years)**

1. Complete Activities 1 and 2 located in the Review and Practice Journal, pg. 76-78.
2. Assign the individual assignment as homework.

**Method of Assessment:**

1. Group Assignment: Record and Practice Journal pg. 76-79.
2. Individual Assignment:

Day 1: Record and Practice Journal pg. 80.

Day 2: Textbook pg. 182-183 #1-7, 9-27 OFF, 12, 22

**Expected Outcome:**

1. Students will receive 100% on their group assignment, which will demonstrate participation in the group lesson and discussion.
2. Students will complete the individual assignments (Days 1 and 2) with at least 90% accuracy.

**Follow-up Learning:** IXL M.11: Simple Interest

So far, I’ve taught two of the three lessons in this unit. The first lesson was the students’ first try at using Khan Academy solo, and overall it went well. I had one student who couldn’t get her computer to work properly, so she wasn’t able to complete the practice problems, though she was able to watch the videos assigned. It gave the students a change to quickly review previously learned material before I started introducing the new chapter, which was helpful.

The second lesson was taught this morning. Unfortunately, I planned this lesson to be taught smack in the middle of ISTEP testing week, and unbeknownst to me we weren’t to have any students online, due to bandwidth issues. Oops! So, we did a quick change of plans and I got permission to use just one computer, and my three 7th graders did the video tutorial and practice problems together on my personal computer.

For this particular group of students, this couldn’t have been a better scenario! These girls really work well together, and I’ve been surprised at how interactive they are whenever I show them a video or put them on the computer together. They watched the videos as a group and then started working on the practice problems. I came over to check on them mid-way to see how they were doing, and all three had out their calculators and they were reading through the steps to see why they had missed a problem.

When I called them to the front table to complete the direct instruction portion of the lesson, they felt they hadn’t done well because they didn’t get all the questions right, but when I questioned them further, they were able to tell me what they had done wrong, and which of them had given the right directions, but that they couldn’t understand her (speaking through a tissue being held to a runny nose).

As their teacher, I feel they received more benefit through discussing and working through the sample problems together than they would have individually. I may not have the same stats to look at afterwards as their teacher, but with having such a small group and meeting and discussing the results with them immediately after their computer time, I think this was a perfectly fine scenario.