Lesson Title: Movie Revenues: Percent of Change
Course: Common Core 7

Date: ___________  Teacher(s): ____________________  Start/end times: ______________

Lesson Objective(s): What mathematical skill(s) and understanding(s) will be developed?

7.RP.3: Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error.

Lesson Launch Notes: Exactly how will you use the first five minutes of the lesson?

Before class begins, hang the 4 corner posters around the room. Explain the 4 corners activity to students. “I will ask you several questions and you will show me your answer by standing near that poster. My questions are going to relate to the movie series you see around the room and about the amount of money these movies made in the box office; their revenues.”

Lesson Closure Notes: Exactly what summary activity, questions, and discussion will close the lesson and provide a foreshadowing of tomorrow? List the questions.

1. What does a percent of increase mean?
2. If there was a –25% change in revenue from one movie to the next, what does that mean?
3. How do you determine the percent of change?

Lesson Tasks, Problems, and Activities (attach resource sheets): What specific activities, investigations, problems, questions, or tasks will students be working on during the lesson?

1. Once students understand the activity, begin asking the questions listed below. Every other question is an opinion question so that students are redistributed around the room. Encourage student discussion, especially with questions relating to the movie revenues.
   a. “Which movie was your favorite?”
   b. “Which of these movie series made the most money on the original movie?” (Jurassic Park)
   c. “Which movie would you definitely want to see again?”
   d. “Which series made the most money on the second movie (sequel)?” (New Moon)
   e. “Which movie would you like to play a part in?”
   f. “Which series made more money on the sequel than the original?” (Twilight)
   g. “Which movie would you definitely not want to see?”
   h. “In which series did the third movie make about 50% (or ½) of the revenue of the original movie?” (Jurassic Park series)
      i. “Which movie do you think would be the most fun to make?”

2. After all of the questions have been asked, have the students return to their seats. “How did you know which poster to stand by when I asked which series the third movie made 50% of the revenue made on the original movie?” Have students share some of their ideas about where to stand. If students are getting stuck, have them think about what 50% means.

3. After debriefing about the beginning activity, put the Toy Story data under the document camera and have students examine the data. Then have students share their observations. Encourage students to make comparison statements about the revenues for the three movies.

4. “If I wanted to find the percent of revenue a sequel has compared to the original movie, how would I do that? How can I compare the revenue generated from Toy Story and the revenue generated from Toy Story 2?” Give students a few minutes to think about how they would solve this problem and allow them to discuss it with the people sitting around them. Then regroup the class and use the following series of questions to help guide their thinking. Use (or eliminate) questions as you see fit.
   a. “Is there an increase or a decrease in revenue from Toy Story to Toy Story 2?” (Increase) “So, if we are finding the percent of change, would we expect it to be a positive change or a negative change?” (Positive)
   b. “Since we are looking for a percent, we need a part and a whole, right? What would we use for the part and what would we use for the whole?” Give students some think time and allow them to share ideas with the people sitting near them. If students have difficulty, continue with questioning. “If I want to know the percent of the original amount of revenue – would I use the original revenue as the part or the whole?”

Lesson Title: __Movie Reve__

inues: Percent of Change _______

Course: ____

Common Core 7____

Date: _____________

Teacher(s): ____________________

Start/end times: ____________________

---

**Evidence of Success:** What exactly do I expect students to be able to do by the end of the lesson, and how will I measure student mastery? That is, deliberate consideration of what performances will convince you (and any outside observer) that your students have developed a deepened (and conceptual) understanding.

Students will be able to articulate how to find the percent of change. That is, they will be able to say that the original amount is the “whole” and should be the denominator of the fraction, and the difference between the two amounts is the numerator, or “the part.”

Students will be able to accurately interpret a positive or negative percent of change. Students will also be able to articulate that a percent of increase of 28% is not just 28% of the original, but the original PLUS 28% of the original (128% in total).

**Notes and Nuances:** Vocabulary, connections, common mistakes, typical misconceptions, etc.

**Vocabulary:** percent of change, percent of increase, percent of decrease, part, whole

**Common mistakes/misconceptions:** Students may misinterpret what the denominator should be in the fraction to find the percent of change. Students may also misinterpret what their “answer” or final percent means within the context of the problem.

**Resources:** What materials or resources are essential for students to successfully complete the lesson tasks or activities?

**Homework:** Exactly what follow-up homework tasks, problems, and/or exercises will be assigned upon the completion of the lesson?

---

Lesson Title: Movie Revenues: Percent of Change
Course: Common Core 7
Date: _____________
Teacher(s): ____________________
Start/end times: ____________________

| Four corners posters (included), resource sheet (included), station posters (included), pencil, calculators |

**Lesson Reflections:** What questions, connected to the lesson objectives and evidence of success, will you use to reflect on the effectiveness of this lesson?

Can students accurately articulate how to determine the percent of change? Can they explain where each of the numbers they are using came from and why they chose those numbers?

Can students accurately articulate that an increase of 116% is actually 216% of the original OR the original plus an additional 116% of the original?
