Lesson Activity Plan 3

1. Content: Describe ***what*** it is you will teach. What is the content?

Using the Exponent Rummy card games, I will teach students to use exponent rules to identify and create equivalent exponential expressions.

1. Learning Goal(s): Describe what specifically students will ***know*** and ***be able to do*** after the experience of this class.

Students will be able to use exponent rules to determine if multiple exponential expressions are equivalent (i.e. simplify to the same thing). Students will know that although some exponential expressions may appear completely different at first, they can check for equivalence using exponent rules. Students will also be able to create their own equivalent exponential expressions.

1. Rationale: Explain how the content and learning goal(s) relate to your Curriculum Unit Plan learning goals.

As students seek to understand exponent rules, asking them to compare different expressions to each other will force them to think more deeply about those rules. It gives the simplification process a purpose; instead of simplifying expressions in isolation from each other, simplification becomes a means through which students can compare quantities.

1. Assessment: Describe ***how*** you and your students will know they have reached your learning goals.

The exit slip on the last day of the activity will give me a concrete understanding of students’ abilities to create equivalent exponential expressions using different exponent rules (see LAP 3 Day 3 for description of exit slip). If they can do that successfully, then they have reached my learning goals. If they cannot complete the exit slip successfully, I will be able to see what exactly is tripping them up because they are required to show their work.

In addition, if students are able to successfully play the three different Exponent Rummy games, I count that as a good step toward (or even an indication of, in some cases) achieving the learning goals. Even if students struggle while playing, engaging in that struggle with their group will help them move closer to comprehension. Because these games are structured as multi-player games, students will need to confirm or challenge each other’s calculations to ensure a fair game, which will help deepen their understanding.

1. Personalization and equity: Describe how you will provide for individual student strengths and needs. How will you and your lesson consider the needs of each student and scaffold learning? How specifically will ELL students and students with learning disabilities gain access and be supported?

The three different games offer a nice opportunity for scaffolding. The first sorting game will be good for students who are struggling, for it allows them to take the time to think through the different expressions without any pressure of competition. It will also familiarize them with the different cards they will be playing with in the other games. For students who are ready to move on, they can move through the sorting game more quickly and progress to the other games.

This game does not necessitate much talking, so ELL students can access it without being nervous about the language involved. The cards themselves are also great visuals for students to work with. If I see some groups especially struggling, I might even remove some of the more challenging sets from the decks, such as the 1/x5 set.

Furthermore, the exit slip provides a great opportunity for differentiation. I can give students an original expression that meets the level of challenge that they personally need.

1. Activity description and agenda
	1. Describe the activities that will help your students understand the content of your class lesson by creating an agenda with time frames for your class. Be prepared to explain why you think each activity will help students on the path toward understanding.

See attached timed agendas.

* 1. What particular challenges, in terms of student learning or implementing planned activity, do you anticipate and how will you address them?

I anticipate that some students will have a hard time learning the rules of the different card games. Also, some students might not be familiar with card games in general. To address this, I will hand out instructions for each of the games to students, read over the instructions with them, and partially demonstrate how to play each game using the Elmo and student volunteers. I will also circulate around the room as students play and answer any questions they might have.

1. List the Massachusetts Learning Standards this lesson addresses.
2. CCSS.MATH.CONTENT.8.EE.A.1

Know and apply the properties of integer exponents to generate equivalent numerical expressions.