**Lesson Plan Idea Format**

**Grade Level & Subject Area: 6th Grade Math**

**Standards/Framework (State Standards, Content Standards, InTASC Standards)**

Arkansas State Standards

AR.Math.Content.6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems.

**Theme/Series of Lessons (if Not applicable, put N/A. If it is part of a series, of lessons, tell me, give a BRIEF description of the overall and tell me where this particular lesson fits):**

This would be a lesson towards the end of a unit discussing ratios. This would have to be after students already understand ratios in terms of distance and speed.

**Time (is this a 1 day 50 minute lesson, 5 day 1 hour lesson, once a week over a month lesson….):**

1 day 50 minute lesson

**What do the students already know? (This could be the Intro or they have learned information before starting this lesson):**

Students will have had previous lesson that prepared them to understand ratios. They will understand ratios in terms of distance and speed.

**Objective (What are the students’ going to accomplish):**

**Students are going to use ratio and proportions to solve real world problems.**

**Materials:**

**iPads with Sector 33 Classroom installed.**

**Procedure:**

* Class will begin by having a warmup word problem that involves a ratio. The problem will focus on airplanes in the word problem as in introduction to our investigation today.
* Students will be given time to solve the problem and can discuss with their neighbors when they have finished.
* After everyone has finished, we will solve the problem together on the board.
* Next, I will instruct students to take out their iPads and place them on their desk. I will section them into group of 3-4 students. Each group will be instructed to use 1 iPad only.
* Students will open Sector 33 Classroom. They will be allowed to go through the level on the app, solving different problems. The goal of the app is to use ratios and proportions to find the right speed and path combination for the planes to successfully land within 3 miles of each other. Students gain points the more levels that they complete.
* While students are collaborating together on that assignment, I will walk the class and listen to the student’s problem-solving skills. I will be available at any point if a group is having difficulty, however in this lesson I am more of a facilitator. I want students to think through these problems on their own and develop their critical thinking skills.
* Halfway through their work time, I will conduct an informal assessment on the students. I will ask them for a quick thumbs up, to the side, or down to express how they are feeling about the app. If students hold up a thumbs down, I will discuss with the group to see what they need.
* For the last 15 minutes of class, I will have student put away their iPads. I want them to for 5 minutes discuss with another group how they thought through the different problems presented. After their discussion, I would ask the students to provide their thoughts and feedback to the class as a whole.

**Assessment (How will the students’ show you that the objective has been met):**

**(Note: the assessment does not have to be a paper and pencil test)**

An informal assessment will be made halfway through the work time to gauge the students progress and provide assistance if anyone needs it. It will be a thumbs up, to the side, or down.

I will be assessing the students mainly by listening to them working together and how they are thinking about the problems presented. I will at the end of class have this discuss their methods to another group as well as to the class as a whole.

**A Brief Description of The Entire Lesson - Plus Any Additional Information to be Included:**

Students are going to use the app Sector 33 Classroom to work with a real-world simulation of problem solving. This will let students see how they will use ratios and proportions in a real-world setting. They will be given a simulated radar screen, just like an air traffic control. Students will be in charge of deciding the different speeds and paths of the airplane on the radar in order to have them safely land within 3 miles of each other. Students will be immersed in the app because whenever they give it a command, it reads it off as one would if they were actually in an air traffic control position. Plus, this app just might trigger an interest in some students, and they want to learn more about a career path that involves airplanes.

I will have students working together using this app. That was they are able to collaborate and bounce ideas off of each other while they are working through these problems. These problems do require students to have critical thinking skill, which enhancing those will always help them

**(I should be able to see and understand your entire lesson by reading this. Remember, Technology is not the lesson. It enhances the lesson)**