Interactive White Board Project

Smart Notebook

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To ensure that my students meet and exceed math standards, I try to incorporate as many manipulatives as I possibly can within my instruction. I created a Notebook file to provide independent practice for my students while teaching subtraction in the second quarter of first grade. This file is titled “Subtraction!” and is designed for first grade students. It addresses the following mathematics standards: MCC1.OA. 7,8; MCC1NBT 4,5; MCC1.OA.1,2,6. Students will practice solving equations using subtraction as well as solving word problems and adding and subtracting within 20.

Within the fifteen page Notebook file, eleven pages are interactive and designed for student use. The first page is a title page that gives me credit for creating the file. The next page shows the subject, topic, grade level, and standards addressed within the file. It gives teachers information about the file, stating that the unit was designed to serve as independent practice in Math Workshop. The third page lists student objectives and a rubric to grade student work. The structure of the file is independent practice. Students can use this file daily following whole group lessons to strengthen their learning.

The third page begins with an interactive song about subtraction. It reviews the basic concept before the students need to work at a higher level. After listening to this song, students will proceed to the next page, which prompts students to click a picture that will redirect to the web and allow them to play an interactive subtraction game. The sixth page asks students to independently problem solve using a particular strategy that is explicitly taught in class. In this situation, students are asked to use a number line to subtract. The next two pages address word problems involving subtraction, but ask students to create a picture as they solve the problem, using infinitely cloned objects. The pages allow students to check their answer at the end to see if they are correct.

The ninth and tenth page are inteactive in nature and have students crossing out as they subtract by rolling dice to generate numbers. The ninth page prepares students for the tenth, where students will roll two dice to help them generate numbers that they are to subtract. Generally when we use dice to subtract or add in our class, I have students who need a “challenge” create larger numbers with the dice. This allows for differentiation within this particular page. Page eleven requires students to find missing numbers in equations, using the “part-part-whole” mentality. This page was created in activity builder and is formulated to reject or accept the missing “pieces” to the puzzle. Page twelve and thirteen ask students to roll the dice to generate subtraction equations and to solve them on the “part-part-whole” mat. The difficulty increases from one slide to the next, so students can build their knowledge as they progress.

The standard changes and the concepts increase in difficulty as students reach slide 9. Students are directed to determine if the equations that are listed are true or false. They are to use the scale to help them balance the equation. This promotes higher level thinking, for it makes them analyze/compare equations and in addition to solving them. The next page asks students to practice the same standard, but they are required to determine if equations are true or false by sorting it in the correct column.

The notebook was designed to be used as independent practice with students. The concepts in the pages additionally make excellent whole group mini-lessons because they require students to practice the skill. Each page can be used as a form of assessment, for students are directly being asked to perform work and record answers. Teachers can save individual files as students complete the assigned work to assess standard mastery.

Students are required to use higher order thinking skills through this lesson or series of lessons. Being that the students using this file are in first grade, they are expected to master basic mathematical concepts. Beyond asking students to practice subtraction in one way, students are expected to show how they can subtract in multiple ways in this Notebook file. When students are relating subtraction to addition and finding the “missing part” on page 11, they are required to analyze the situation and determine which pictures apply. As students are balancing equations, they are expected to analyze and synthesize, combining multiple strategies at once. This file naturally allows students to work at their own level, providing supports if necessary. It also promotes critical thinking.

I have always been an advocate for technology integration within the classroom setting, primarily through using Interactive White Boards. I rely on my Smart Board each and every day to enrich the learning in my classroom and challenge my students to the highest level possible. Students are living in an interactive, technology filled world and Interactive White Boards are excellent tools that engage learners. This particular project required me to think critically about the designs of my Notebook files. Generally the files I create are for teacher use *with* students, but I created the file with the intent of student independent practice. The subtraction unit required some modeling with students initially, but students were able to use technology to learn. I now am more confident creating files for student use and implementation within the classroom setting.