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Project #1: Magic Square

Grade Level: 2-6; Subjects Covered: Mathematics (addition, critical thinking)

Magic Square Synopsis:

This project is a great little exercise for a class who is starting to cover addition. It took me about 10 minutes maximum to complete this project. I found it "cute" and basic. I feel the project should be used for a second grade class, but could be used up to sixth depending on what level your students are in math. The project as given in the documentation states children should work in groups or pairs to complete the project. I feel that the students should be able to work on the project individually and then finish the task together as a class. The project requires the students to use their knowledge of addition and the use critical thinking while working with a number line of 1-9. The squares I assume are colorful or would have a design as shown in the spreadsheet. This is beneficial to the student; the use of color will hopefully engage them in the project and help them focus on the task.

The project attempts to facilitate and inspire learning by use of the colors, and group involvement. The technology used is the formulas of excel. The teacher is to describe how to enter formulas. I feel the inspiration to learn would also come from the reward the teacher would promise to the first person (or group) to finish the project correctly. The use of a prize would motivate many elementary students to finish first to get a sticker or extra recess time, or less homework (dare I suggest such a thing).

As stated before I would use this in a second grade class who is beginning addition; or had just finished introducing it, using the exercise as a review. The class would get the hand out during the beginning minutes of class and would give ten minutes to complete after explaining how to enter formulas to see where we need to review. I would also contemplate using the exercise during an art activity. The reasoning behind that is, if every square is colored, perhaps, you could let the students color the squares with colors they choose, then cut them out and post them on a piece of construction paper. This way the student is more involved than just arranging squares on a spreadsheet. I would prefer the activity to be an individual project, not a group task. I feel the student could get more out of the task doing all the work than by working in a group setting. I do feel that the entire class should go over the project after the allotted time. This way you (the teacher) can reinforce the lesson the students just worked on.

Project #2: Pizza Pie Graph

Grade Level: 2-5; Subjects Covered: Math, data analysis, comparison

Pizza Pie Chart Synopsis:

This project to me seemed a little easier than the last one. The project took me more time to decide how I wanted to arrange the pie chart, than it did entering the data information. The project instructed to take listed data from the class about their favorite pizza toppings and then create a pie chart displaying that information. It found it took 10 minutes maximum to complete. I think this project would work for most second graders up to fifth grade. However the higher the grade level, the more complex the project should get. For example instead of just toppings perhaps the data would be manipulated and made more intricate to keep them active on the task.

The technology used is entering the data into excel and creating a pie chart based off of that information. The standard being upheld is that modern digital age work and learning. In this standard, you (the teacher) are to use technology to enhance the work the student has to complete. Also doing a project like this creates that sense of personal information, sharing, and interpreting for the student. In addition the student is learning another form of chart, and how to interpret data in it.

I would use this in a class where we were discussing doing surveys and how to collect data. I would show students how to use the chart to organize their information. After doing this activity I would seek to (in the near future) to get into concepts of fractions. They could see how much a certain group like a certain of pizza compared to the entire class. A simple introduction to fractions is a great tool to utilize. I would also use it to show different types of charts. Since while in excel you are teaching pie charts, it would seem foolish not to teach the rest of the chart types in some type of unit in conjunction with this exercise.

I would also attempt to make the data collecting a group activity. For example, I would ask the children to evaluate subjects or other school activities on a 1-5 basis (1worst-5 best). Then invite them to the SMART board to write their evaluation there (keeping them involved with technology), then after all in the class have done that, let them do the project.

Project #3: Multiplication Chart

Grade Level: 3-5; Subjects Covered: Math (multiplication)

Multiplication Chart Synopsis:

This is a very useful project. I found it more tedious than the prior two. It is still simple (for an adult comfortable with excel). It took me about 10-15 minutes to complete and analyze. I feel the project should be great for 3-5 graders who are learning multiplication tables and simple division. It covers simple math via multiplication tables and division again via the tables.

The technology aspect of this project is being taught to the students when they input the formulas into the spreadsheet. The spreadsheet is a visual representation of the lesson and can be used like the chart in the previous project to show outcomes of the data represented. Students can use the table to help them with multiplication problems and division problems.

I think this project is good for beginning or early stages of a multiplication unit. Students can recreate the chart as a homework aid to assist them with their problems. I would also use this for early division problems, because it is still simple enough where the chart would be handy for an elementary student. I like the analysis part to this project, why are there more even than odd numbers? It makes the table more interactive with the student and promotes critical thinking skills. This project utilizes a standard, assisting the child with modern tools of technology with current problems. Creating a chart will help the students now with their homework and other assignments but also encourage them to create "study guides" as I called them to facilitate easier learning in other disciplines or subjects later in their scholastic career.

The project is more of a learning tool or helping hand for elementary students. And because of that tool, a student might understand their multiplication and division tables easier than reciting and drilling them over and over again. The aspect of asking why more even than odd numbers helps students understand and question why? That simple question is often the hardest one to understand and the one question no one wants to answer. That question might keep them interested math and eventually lead them to become a mathematics teacher or theorist. It keeps the project interactive and more than just an interaction between a student and the excel spreadsheet shown before them. It creates an intrigue or desire to know why, a search for knowledge. I like it; this project is simple enough but can be extracted to get much more out of it for the students.