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Instructional Game

Multiplication Island

Subject:

Math

Grade Level:

4th grade

Common Core Standards:

CCSS.Math.Content.4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Objective:

The student will be able to correctly multiply a whole number of up to four digits by a one-digit whole number, and multiply two-digit numbers, using strategies based on place value and the properties of operations.

Materials:

- Game Board decorated like a treasure map, with red “X’s” and palm tree stickers as the spaces, a treasure chest sticker as the finish line, a treasure map sticker as the starting point, and the words “Multiplication Island” in the middle of the board with stickers.
- Dice per pair
- Construction paper marker per pair
- Multiplication cards with 2 by 1, 3 by 1, 4 by 1, 2 by 2, and 3 by 2 problems and the answers written on the back
- Direction cards with directions: move two more spaces, move back 3 spaces, and move to the last palm tree on the back of the card
- Directions sheet
- Notebook paper per pair
- Clipboard per pair
- Pencil per pair

Set Up:

Ahead of time I will prepare the game as described above in the materials section. Also, I will not need to rearrange the room because the students will be on the floor playing the game in the open area in front of the board. I will put the game board in the middle of the area with the multiplication cards, the direction cards, the dice, and the construction paper markers on the

board, and I will put the directions sheet beside the board. I will also group the students into pairs based on their mathematical ability. I will place a low ability student with either a high or middle level student, so there will not be two low level students together.

Introduction:

To introduce the game, I will first get the students' attention by saying, "1,2,3 eyes on me." Then I will tell them that we are going to play a multiplication game to review the multiplication they have been working on so far, and that first I am going to put them into pairs. Once I have paired the students I will give one student in each pair a clipboard with a piece of notebook paper on it and a pencil, and explain to the class that the partner with the clipboard will be player #1. Then I will explain to the class that the other partner is going to be player #2. After I have given those instructions to the class, I will have each pair sit together around the game board and choose a construction paper marker, which will be their game piece. Finally, I will read the directions and explain the rules.

Rules and Directions:

1. Each pair of partners will place their game piece on the treasure map, which is the starting line.
2. Each player #2 will draw a multiplication card and read the problem to their partner.
3. Each player #1 will write the multiplication fact on their piece of notebook paper.
4. Each player #1 will solve their multiplication fact, and show their work on their notebook paper. If player #1 gets stuck and needs help, they are permitted to ask their partner for help. If player #2 can't help player #1 then the pairs are allowed to come ask me for help.
5. After their partner has solved the problem, each player #2 will check their partner's answer, and place the multiplication card back in the stack on the bottom.
6. If player #1 gets the answer correct, they get to roll the dice and move the number of spaces.
7. If player #1 gets the answer wrong, player #2 must check their work, and show them where they went wrong. Player #2 is not permitted to just give them the answer. Player #1 must correct their work as well as change their answer on their paper. Then player #1 is able to roll the dice, and move the number of spaces.
8. If player #1 lands on a palm tree, they must pick a direction card, follow the directions on the card, and place the card back in the stack on the bottom. If player #1 lands on a red "X" they move directly to step #9.
9. After player #1 has moved the number of spaces, player #1 and player #2 switch roles. Player #2 becomes player #1 and now solves the next problem, and player #1 becomes player #2 and now reads the problem and checks the answer. This switching of players happens after each roll of the dice.
10. The object of the game is to be the first pair to reach the treasure chest, the finish line. With that being said, each pair doesn't have to take turns playing the game with all the other pairs

in the class. When a pair moves the number of spaces, they are allowed to switch roles and begin the next problem. So, the strategy of the game is to be quick and accurate in solving the problems.

11. After a pair reaches the treasure box, they will have to bring their notebook paper up to me. I will check the pair's paper to make sure they have the correct answers, they showed their work for each problem, and their work makes sense. If they didn't have the correct answers and/or didn't show their work, then they must correct their answers and/or complete their work. The game will continue until the pair has fixed their work or another pair has reached the treasure box, and their answers and work is correct.
12. After the winning team is declared, all pairs must write their names on the notebook paper, and turn it in to the me.
 - Throughout the game I will remind the students that they need to stay quiet so each partner #1 will be able to solve the problem. I will remind each player #2 that when they are helping their partner, they only need to speak loud enough for their partner, who is sitting right next to them, to hear them.
 - Students might be tempted to run in order to be the first pair to give their paper to me, but if they run, they will have to sit back down and then walk over to me.
 - The winner of the game will be the first pair that reaches the treasure box, gives their paper to me, and has all the correct answers and work on their paper. The reward will be one Linden Lion ticket for each member of the winning pair.
 - If more than one pair reaches me at the same time, then each pair will win. Each partner of the winning pairs will receive one Linden Lion ticket.
 - If a pair or a member of a pair decides to show poor sportsmanship, then that pair or that member of a pair and their partner will still be able to play the game, but will be disqualified from winning.
 - If a dispute arises then I will step in to resolve the dispute, and the game will continue. If the dispute continues, all members involved will be disqualified, and will return to their desk.

Conclusion:

I will end the game by collecting the pairs' notebook papers, and instructing the students to clean up the game. To clean up the game, the students will put all the multiplication cards in one sandwich bag, all the direction cards in one sandwich bag, all construction paper markers in one sandwich bag, bring the sandwich bags, directions sheet, and game board to me, and put the clipboards and pencils away. After the game is cleaned up, I will instruct the students to quietly walk back to their desks, have a seat, and remain quiet while the next instructions are given by my mentor.

Reflection:

When I was implementing the game, overall it went pretty well. The students were very excited to play the game because they loved how the game board looked, and they were excited about the opportunity to play a game. First I explained the directions, which went well because there were very few questions, and the students were able to start the game very quickly. Also, grouping the students into partners really helped because there were many discussions about the problems, and students who had problems with multiplication began to understand it more. Also, students who normally get discouraged with multiplication got the encouragement from their partners that they needed to stay in the game. In addition, having different levels of multiplication problems went well because everyone was able to play the game and be challenged. The students who are advanced in math didn't get bored with the game because they got the opportunity to receive harder problems during some of their turns, and work on the harder problems when their partners drew them.

Now that I have implemented the game, there are some things I would change. If I was going to have the students play the game again, I would have multiple game boards. Since I only had one game board, all the groups were playing together, which got stressful for some students. I saw some students getting frustrated because they were too focused on everybody else, and how far each group was on the game board. So if I were to present the game again, I would have enough game boards so one group would just play against one other group. This way the environment would be less stressful, and there would be less competition. Also, I would spread the groups out across the room to lower the stressful environment. Overall, implementing this game was a learning experience because I got to see cooperative learning in action, the different strategies for multiplication in action, and how students take advantage of the strategies.