

# MATH

## Can Take You Places

## LESSON 18

### “Math Game Night”

by Monica Abrams

**CONCEPT AREA** Problem Solving

**GRADE LEVEL** 4-6

**TIME ALLOTMENT** 60 minutes

**LESSON OVERVIEW** Plan the room arrangement for Family Game Night.

**LESSON ACTIVITIES OVERVIEW** Students will find out how many games and tables will be used at Family Game Night and then use that information to make a diagram of the room. They will use base-ten blocks to show arrangement and evaluate the arrangement.

**LEARNING OBJECTIVES** Students will be able to:

- Use a problem-solving model to complete the problem.
- Draw and make a diagram to show completion of the problem.
- Evaluate arrangement.

**STANDARDS (TEKS)** From the Texas Essential Knowledge and Skills for Math for grades 4-6:

Grade 4

4.1A, B, C, G

Grade 5

5.1A, B, C, G

Grade 6.

6.11B, C

**MEDIA COMPONENTS** Video: *Math Can Take You Places #004 “Problem Solving”*

**MATERIALS**

- Tens from base-ten blocks
- Paper for diagram

**PREP FOR TEACHERS**

- Decide which room could be used for Family Game Night.
- Have an idea of how many tables are in the room and how many games will be played.

**Note:**

If your class includes students who are acquiring English as a second language (ESL), you may also need to brainstorm problem-solving strategies or offer a list of possible strategies for students to refer to while completing the activities.

**INTRODUCTORY ACTIVITY: SETTING THE STAGE**

1. Say, “The principal has asked this class to help plan the room arrangements for a Family Game Night.”
2. Take the class on a tour of the room in which Game Night will be held. Let the students brainstorm to decide what games they would like to play.

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3. Ask, “Now that we’ve compiled a list of games we may want to include in our Game Night, what else will we need to know to be able to arrange the room?” Talk about tables, the number of games that will be played and other things the students need in order to arrange the tables.

#### LEARNING ACTIVITIES

1. Students need to find out how many classes there are and how many games each class or grade level will have. Tell the students how many tables will be available to use that night. With this information, divide the students into groups. Each group will take the information and decide the best way to solve the problem of how to arrange the tables.

2. **Cue** the *Math Can Take You Places* video #004 “Problem Solving” to when Ms. Garcia says, “On our map, we have ...” and walks towards the map on the board. Ask students to listen carefully to the problem-solving strategies that the students suggest. **Play** the video until Laura Stanforth says, “OK, never mind. Now, I’ve got it. Thanks.” Ask students whether any of the strategies listed could possibly help them solve their room arrangement problem. Guide them to select the problem-solving model of making and drawing a diagram or picture to complete this problem. Give each group base-ten blocks, the same number of tens as tables. Use the tens of the base-ten blocks to show the arrangement of the room. This needs to be done on the desks.

3. Have the group members walk around to look at other groups’ arrangements to evaluate which one would be the most useful. Using that group’s arrangement, draw a diagram showing the arrangement. Then decide on the number of games that will be on each table.

4. Will this arrangement still work with this number of games? If not, work on another arrangement that may work.

#### CULMINATING ACTIVITY

1. Have a Family Game Night and use the arrangement the class developed.

2. As an extension, have students use yardsticks to measure the area of the intended Game Night room. Use one-inch grid paper, where one square inch equals one square foot. Also, allow students to measure the area of the tables they will be using. Use one-inch color tiles to represent the area of the tables. Work with students to create a scale model of the game-room area.

#### CROSS- CURRICULAR EXTENSIONS

Language Arts/Art  
Make advertisements for Family Game Night.

Encourage students to use the library and the Internet to research the origins of different games that students are familiar with, such as video games and pinball machines. Have students present their findings to the class.

#### REAL-WORLD CONNECTIONS

Using the class’s arrangement for Family Game Night.

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**ASSESSMENT** Did the arrangement work with the dimensions of the room and the number of games used? Was there enough room to walk around and play all of the games? How many people were able to walk around and play the games?

**STUDENT  
HANDOUTS** None