HOSTING A FAMILY MATH GAME NIGHT

JANE FELLING

PALLISER TEACHERS CONVENTION 2019

FEBRUARY 21-22, 2019

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BoxCarsEduc
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For electronic copy send an email to:
handouts@boxcarsandoneeyedjacks.com

Please include the conference/workshop title
Putting together a

Family Math Night

The purpose of a Family Math Night is to bring parents and students together to play a variety of games that review and strengthen math concepts. Games are a fun way to provide homework support to your parents and build success and self esteem for your students.

Getting Started:
✓ Set a date and time
✓ Send home an initial invitation
✓ Get an early head count
✓ Determine format: whole group v. centers
✓ Choose games
✓ Enlist faculty members
✓ Gather materials
✓ Send out a second invitation
✓ Organize materials, rooms, staff

Suggested Game Concepts:
- Number Recognition
- Place Value
- Operations
- Probabilities

Materials:
- Dice, cards, dominoes
- Chips
- Number lines
- Game boards
- Paper plates
- Paper, pencils
- Signs on entry, doors

Remember: Your PTA can be a great resource for food and funding! Invite them to participate!

Notes:
Math Games for Kids Using Cards and Dice

For Kids:

• A fun way to review and strengthen basic math skills!

For Parents:

• Motivating, simple and economical homework support
• Children who feel secure in their math skills, have greater self-esteem and greater success in math
• Strategies, tips and tricks to help your child with math!

Games Reinforce:

• Counting
• Basic Facts: +, −, x, ÷
• Problem Solving
• Place Value

Where: __________________________________________________
When: ________________________________________________
RSVP To: ______________________________________________
RSVP By: ______________________________________________

If your school has requested:
Math resources for your home will be available for purchase

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Let The Games Begin

All the Box Cars games are written using the same format. As a sample, we've chosen one of our basic games to familiarize you with our style.

LEVEL: Grade 1 - 7
SKILLS: addition facts 1 - 10, 1 - 18 combinations
PLAYERS: 2
EQUIPMENT: Cards (Ace = 1) - 5, or (Ace = 1) - 9
GETTING STARTED: Players divide cards evenly between themselves. Each player turns over two cards and adds them together. The highest sum gets all the cards. In the event of a tie; (ie: each player has the same sum), WAR is declared. Each player deals out three more cards face down and then turns over two more cards. These two cards are added together. The highest sum wins all of the cars. Play continues until one player has collected all of the cards.

Cards 1 - 5 Grade 1 - 2 Sums to 10
Cards 1 - 9 Grade 2 - 3 Sums to 18

<table>
<thead>
<tr>
<th>Player 1</th>
<th>Player 2</th>
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<tbody>
<tr>
<td>2 + 3</td>
<td>4 + 1</td>
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</table>

**War is declared**

| 2 + 3    | 4 + 1    |

3 cards are turned upside down.

| 4 + 3    | 6 + 2    |

Player 2 collects all of the cards

Try these Variations:
Place Value War
Subtraction War
3 Addend War
Multiplication War Integer
War Fraction War
Mixed Operations

Remember: War is a traditional game. However, due to the negative connotation you may want to change the term "war" to one of your own choice. We often call these our Buzz Games (ie. Three Card Buzz).

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**Salute**

Box Cars "All Hands On Deck" Mystery Number (adapted)

Concepts: Missing Addend, Factor
Equipment: Cards 0-12 (J=11 Q=12 K=0)
Goal/Object: Figure Out value of the card on your head

Usually 3 players with one player taking the role of "General". The General says "salute". The other two players take the card from the top of their deck and WITHOUT LOOKING AT IT place it on their forehead so everyone else can see what the card on their forehead is. The General adds the two cards together and says "The sum of your two cards is...." The two players then use the sum and the card they can see on their opponent's forehead to try and figure out their own card.

Variations: (1) Multiplication (take out 0s)
(2) 4 Players (one General, 3 soldiers)
(3) Red = neg integers / Black = pos integers

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ADDITION FACE OFF

LEVEL: Kindergarten - Grade 1

SKILLS: solve and add within 10, understand addition as putting together and adding to, fact families

PLAYERS: 2

EQUIPMENT: cards (Ace=1) - 5

GOAL: to have the highest sum of two cards

GETTING STARTED:
Players divide cards evenly between themselves. Each player turns over two cards and adds them together. The highest sum gets all of the cards. In the event of a tie (ie: each player has the same sum), Face Off is declared. Each player deals out three more cards face down and then turns over two more cards. These two cards are added together. The highest sum wins all of the cards. Play continues until one player has collected all of the cards.

EXAMPLE

Player 1  
2 + 3 = 5

Player 2  
4 + 1 = 5

FACE OFF IS DECLARED

4 + 2 = 6  5 + 2 = 7

Player 2 collects all of the cards.

MATH TALK

Students who are having difficulty adding the numbers can use the strategy of using the symbols on the cards (ie. hearts, spades, diamonds or clubs) to count on from the higher numbered card. For example, if a 4 of hearts and 2 of diamonds are turned over, students start at 4, saying “4” and then touch the symbols on the second card counting on “5”, “6” (see page 17).

VARIATION:
1. Increase the value of cards used
   Ace=1 - 6  addition to 12.
   Ace=1 - 9  addition to 18.
WHAT TIME IS IT MR WOLF?

- Roll 2 regular dice and add them together.
- Use the result to fill in a time on their clock by crossing off the number on the clock, or, if playing with cards, turn over the card with the corresponding number.
- Players alternate turns until only 1 o’clock remains.
SALUTE

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4 Players (one General, 3 soldiers)
Red = neg integers / Black = pos integers

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HORSE RACE

Each player takes 18 dice of own color.
Each player rolls two dice and adds.
Player with the greatest sum places them into their side of the tray, least sum places in lid.
Player with the most dice on their side of the tray at the end of the game wins.

WARP 18

» Explore Associative Property of Addition.
» Each player takes 18 dice of their own color.
» Each player rolls 3 dice and adds.
» Player with the greatest sum places them into their side of the tray, least sum places in lid.
» Players need to verbalize how they calculated sums.
» Player with the most dice in their side of the tray at the end of the game wins.
Each player takes 18 dice of own color.
FOR 36 SLAM DUNK: Each player rolls 2 dice and multiplies them for a product.
FOR 72 SLAM DUNK: Each player rolls 3 dice, adds 2 of the dice for a sum and multiplies the sum by the third die for a product.
Player with greatest product places them into their side of the tray, least product places in lid.
Player with the most dice in their side of the tray at the end of the game wins.
Adapted From Dice Works page 44. Use cards 0 (K) through 9. Mix the cards up. Players take turns flipping over two cards at a time. One card is located at the top, the other is located at the left side. Players trace their fingers from the two numbers to the sum (answer) on the board. For example 3 and 7 are flipped over. 3 is placed on the top and 7 is placed on the left. The player runs their left finger along the "7" row and runs their right finger down the "3" column until they meet at the "10". They place a chip at that location. The player then switches the cards and places the 7 at the top and the 3 on the left side. The player runs their left finger along the "3" row and runs their right finger down the "7" column until they meet at "10". They place a chip at that location. Most turns will have players place two chips. Players continue to alternate turns until one player places a chip that completes 3-in-a-row, 4-in-a-row or 5-in-row Tic Tac Toe. When this happens, the player removes the chips for that Tic Tac Toe and places them into their "point pile". Tic Tac Toes usually occur two at a time. Stealing points - If a player has a turn where an answer already has a chip on it, the player removes that chip, places it into their point pile and then places a new chip on the answer. For example, if a player flipped a 3 and 7 and the 10 answer already has a chip on it.
# Multiplication Board

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**Box Cars & One-Eyed Jacks inc**

**Multiplication Tic Tac Toe**
- Player one rolls 2 x 0-9 or 2 x 1-12 dice and finds the product (eg 4x6=24; 6x4=24)
- Cover spaces with bingo chips (one space only would be covered if doubles are rolled)
- Player Two takes their turn. Players continue to alternate turns
- Build Tic Tac Toe, three or more in a row horizontally, vertically or diagonally
- One point per chip and remove from board so spaces are open again
- Roll your partner's space and capture for 2 points per chip
- Play for a set period of time

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Object of the Game: Get all the dice into the tray with no dice leftover.

Preparation: Partners "Super Mush" the dice for about 10-15 seconds, thoroughly mixing them. Next, partners choose a "Target Number" (randomly / by rolling a die / flipping over a card).

How to Play: Partners work together and use 2, 3, 4 or 5 dice to create a math sentence that equals the target number. They put the dice into the tray. Partners again use between 2 to 5 dice to create another math sentence that equals the target number and place those dice into the tray as well. Partners continue to select dice to make math sentences until all the dice are in the tray or until they can't make a math sentence that equals the target.
PATTERN PUT AWAY

LEVEL: 3 – 8

SKILLS: developing and describing patterns, pre-algebra, operations

PLAYERS: 2 (cooperative team)

EQUIPMENT: 36 dice, tray, recording sheet

GOAL: to create mathematical patterns using all 36 dice

GETTING STARTED:
In this activity, students will work in pairs to fill up their trays with patterns. Students can set their dice to any number and use any combination of number and color to create their patterns. As students discuss and plan their patterns they can slot their dice into the slots of the tray to begin arranging their ideas. This activity generates a lot of opportunity for discussion, planning, and playing with patterns.

The following is an example and description of a primary pattern. The initial description is fairly basic, but as the student analyzed it more deeply, they noticed that by creating a diagonal pattern, they created others. In discussion, it was noted:

“I see 1 through 6 on all 4 sides, flipped and reversed”

“I can add diagonally like

\[1 + 1 + 1 + 1 + 1 + 1 = 6\]
\[2 + 2 + 2 + 2 + 2 = 10\]
\[3 + 3 + 3 + 3 = 12\]

This led to an exploration of multiples and introducing multiplication: 6 x 1, 5 x 2, 4 x 3.

This sample is from a 7 year old, beginning of grade 2.
Partners Names:
__________________________________
__________________________________
__________________________________
__________________________________

The name for our pattern is:
__________________________________

The way we would describe our pattern is:

We think our pattern is interesting because: