# Helping Your Child with Mathematics

**Be a Learner Yourself**

- Learn to play with numbers using mental arithmetic.
- Play mathematical games at home that involve problem solving.
- Notice when you use mathematics in your everyday life and share this with your child.
- Demonstrate that you value persistence.
- Get to know the research on math education.

**Be a Researcher**

- Become a question poser.
- Be curious about your child's thinking when he or she is doing math.
- Be a thoughtful listener.
- Ask questions that help you understand your child's thinking.
- Know that teaching by telling is not how people learn mathematics.

**Be a Communicator**

- Recognize how important talking and writing are to learning mathematics.
- Talk with your child about the many ways to think about a math problem.
- Encourage diverse ways of solving problems.

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**Kindergarten**

Patterns are everywhere! Your child will use objects and pictures to describe quantities of things up to 10. They'll explore creative ways to solve problems involving numbers, patterns and 3-D objects, and they'll connect numbers to their everyday life.

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*My Child's Learning; A Parent Resource*
*http://www.learnalberta.ca/content/mychildslearning/kindergarten.html*

## Clockominoes

**Level:** Kindergarten-Grade 2

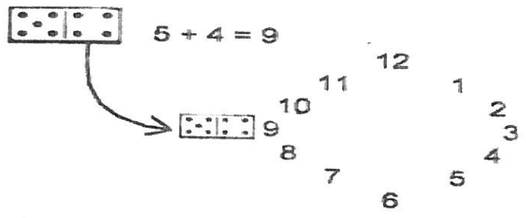
**Skills:** recognizing numbers 1-12, patterns, recognizing positions of numbers in a clock, adding to 12, subtracting from 6

**Equipment:** one set of dominoes per player (remove double blank), one gameboard per player (on right side of this page)

**Goal:** To be the first to fill in all the "times" on their clock

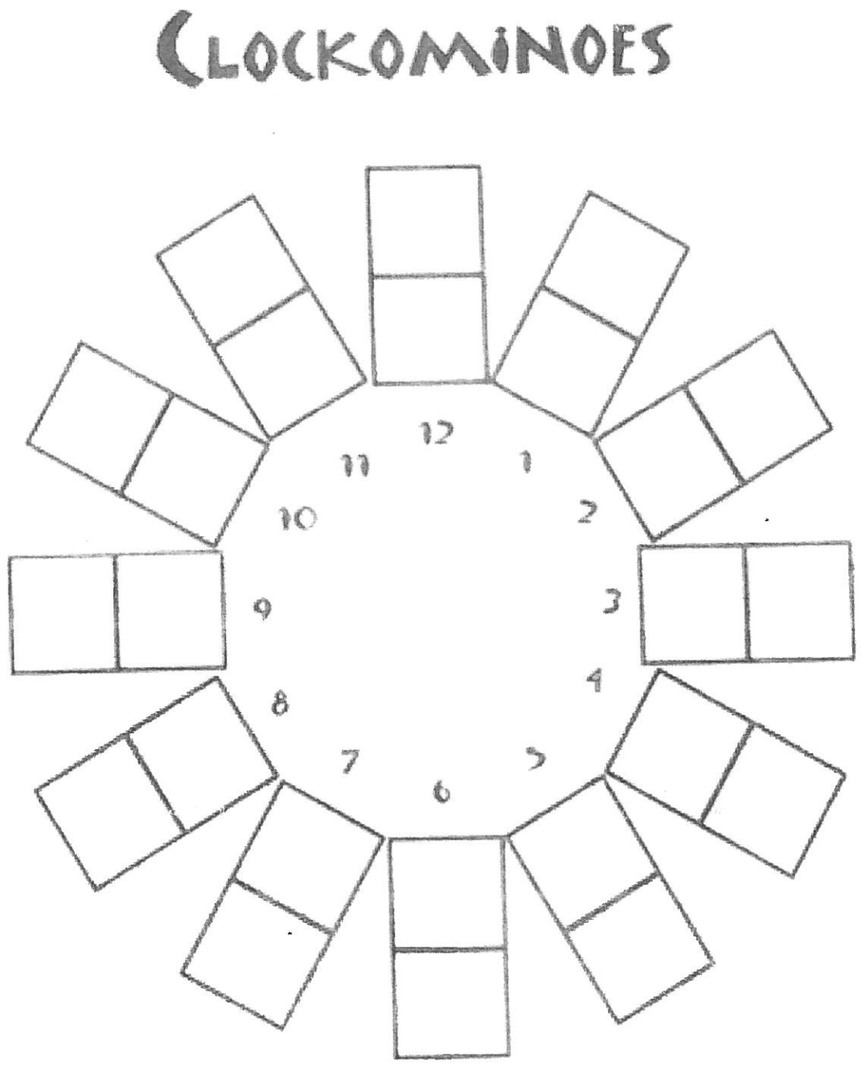
**Getting started:** Each player turns their set of dominoes face down and shuffles them. To begin, Player One draws a domino, counts the total number of pips (dots) and finds the corresponding place in their clock

**Example:** Player Two draws a domino from their own set, counts the pips (dots) and places it onto their gameboard. If a player draws a domino that cannot be used, it is set aside. Players continue to alternate turns until one player has completed their clock.




This game could also be played as a solitaire activity. Players could be asked, "how many draws to complete your clock?" Instead of setting repeated numbers aside, players can stack on a number (domino), if it is repeated. For example, there may be several dominoes played on 6 and 7. Players count the total number of dominoes on their clock (when all numbers are finally covered) to answer this question.
**Variation:** Grade 1-2: Players may either add or subtract their pips on any domino.
**Example:** 6+4=10 OR 6-4=2
Players choose one operation (+or-) and play one domino.

Source: Domino Math Games: Connecting the Dots for Kids" by Joanne Currah & Jane Felling



## GRADE ONE

Your child can count and work with patterns, shapes and objects! Your child will explore their surroundings to find geometric shapes and will learn to count to 100 in different ways. They will use objects, pictures and numbers to describe quantities to 20 and will create their own ways to add and subtract facts to 18. Your child will connect numbers to their everyday life and will explore ways to solve problems involving numbers, patterns and measurement.

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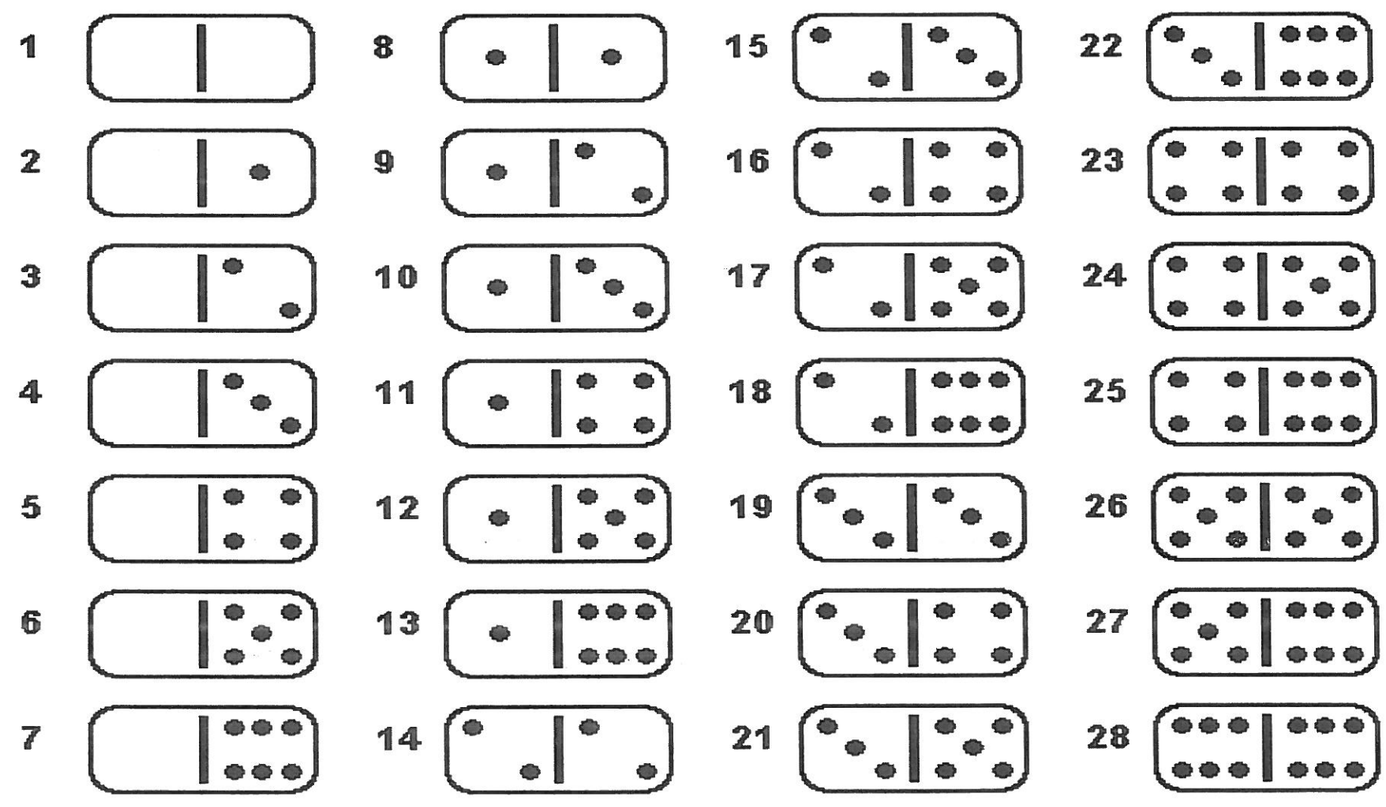
### Domino Match

**Materials:**
1 set of dominoes (you can print them off online)
2 players

**Instructions:**

- Turn all of the dominoes face up
- Youngest player goes first
- Begin by choosing any domino
- Lay the domino face up in the center of the table
- The next player must choose a domino that is one less than any one side on the existing domino
- Play continues, players in turn may choose any domino to attach to any given available side

**Variations:**
Choose a domino that is one more than the existing dominoes
Choose a domino that is two more or two less than the existing dominoes



## GRADE TWO

I can use mathematics to solve problems. Your child will learn that mathematics can be expressed through graphs and charts. They will count to 100 in a variety of ways and use objects, pictures and numbers to describe quantities to 100. Using mental mathematics, your child will add and subtract numbers to 100 and create strategies for adding and subtracting facts to 18. They will connect numbers to their everyday life and explore ways to solve problems using numbers, patterns, measurement and data collection.

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# *Chip Drop*

Drop two BINGO chips onto the game board. Use personal strategies to add the two numbers. A sum less than 30 earns 3 points, 31-70 earns 1 point, 71 or higher earns 2 points. First player with 15 points wins.

| | | | | |
|---|---|---|---|---|
| 16 | 54 | 62 | 21 | 33 |
| 80 | 45 | 39 | 50 | 14 |
| 26 | 11 | 55 | 24 | 8 |
| 43 | 19 | 73 | 30 | 66 |
| 15 | 52 | 6 | 48 | 25 |

| | | | | |
|---|---|---|---|---|
| 12 | 36 | 63 | 27 | 9 |
| 5 | 37 | 40 | 16 | 15 |
| 11 | 72 | 71 | 2 | 47 |
| 51 | 22 | 21 | 12 | 58 |
| 10 | 19 | 39 | 19 | 3 |

## GRADE THREE

I'm learning how to multiply and divide! Your child will explore numbers to 1000, using place value and counting in different ways. They'll use their own strategies to add and subtract 2-digit numbers, and they'll learn how to multiply and divide. Your child will solve problems involving number, patterns, measurement and data collection.

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### Five for Ten

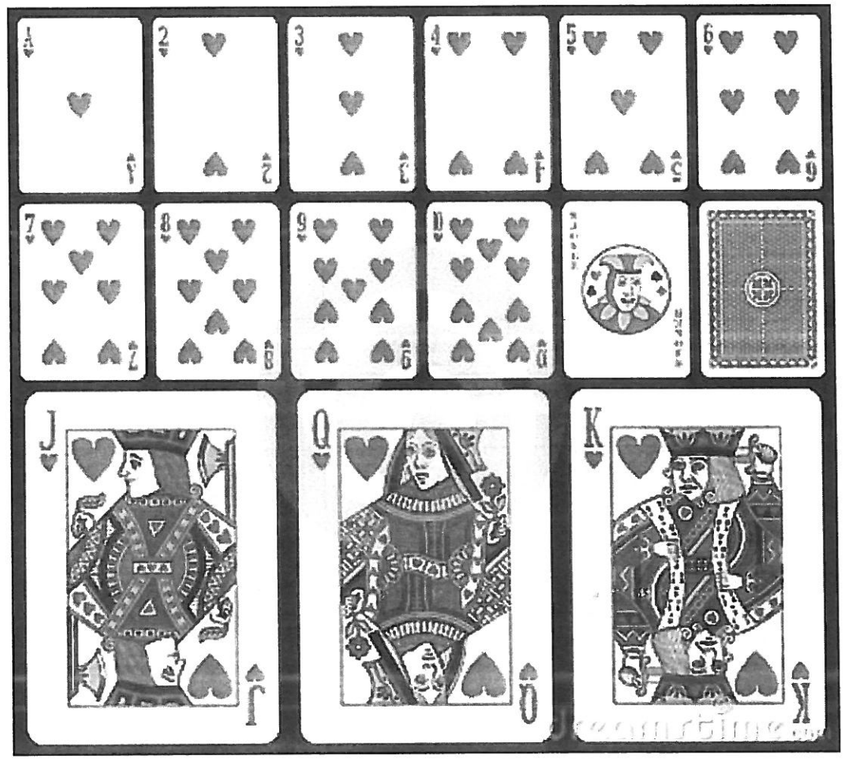
**Players:** 2-4
**Similar to:** Memory
**Materials:** deck of cards, face cards removed (aces=1)
**Object:** collect combinations of 10 and acquire the most points
**Points:** 1 point earned for each addend of 10
5 points earned when a 10 card is turned over as first card of a turn
**Getting Started:**
Arrange cards face down in a five-by-eight array/rectangle.

Each player takes a turn. On a turn, the player may turn over any number of cards to make the sum of 10.

* If the cards total 10, the player takes all of them, puts them in a stack in front of him/herself, and records the combination. Ten cards must be turned up alone and are recorded as 10 + 0. The turn continues until the player cannot make another sun of 10. If the cards total more than 10, the player turns them back over, and his/her turn ends.

* The game is finished when no more groupings of ten can be made.

**Variations:** Include the Jack cards to be used as wild cards (any number in the deck). Play *Three for Six*. Remove all cards seven and above, make a four-by-six array, and have students collect combinations of six.



## GRADE FOUR

I know how to tell time! Your child will explore the mathematics of symmetry and will use pictures and numbers to describe quantities to 10 000. They'll use their own strategies to add and subtract numbers, they'll apply mental mathematics to multiply 9 x 9 and do related division, and they'll use personal strategies to multiply and divide by 1 digit numbers. Your child will connect numbers and shapes to their everyday life and will explore ways to solve problems involving numbers, patterns, measurement and data collection

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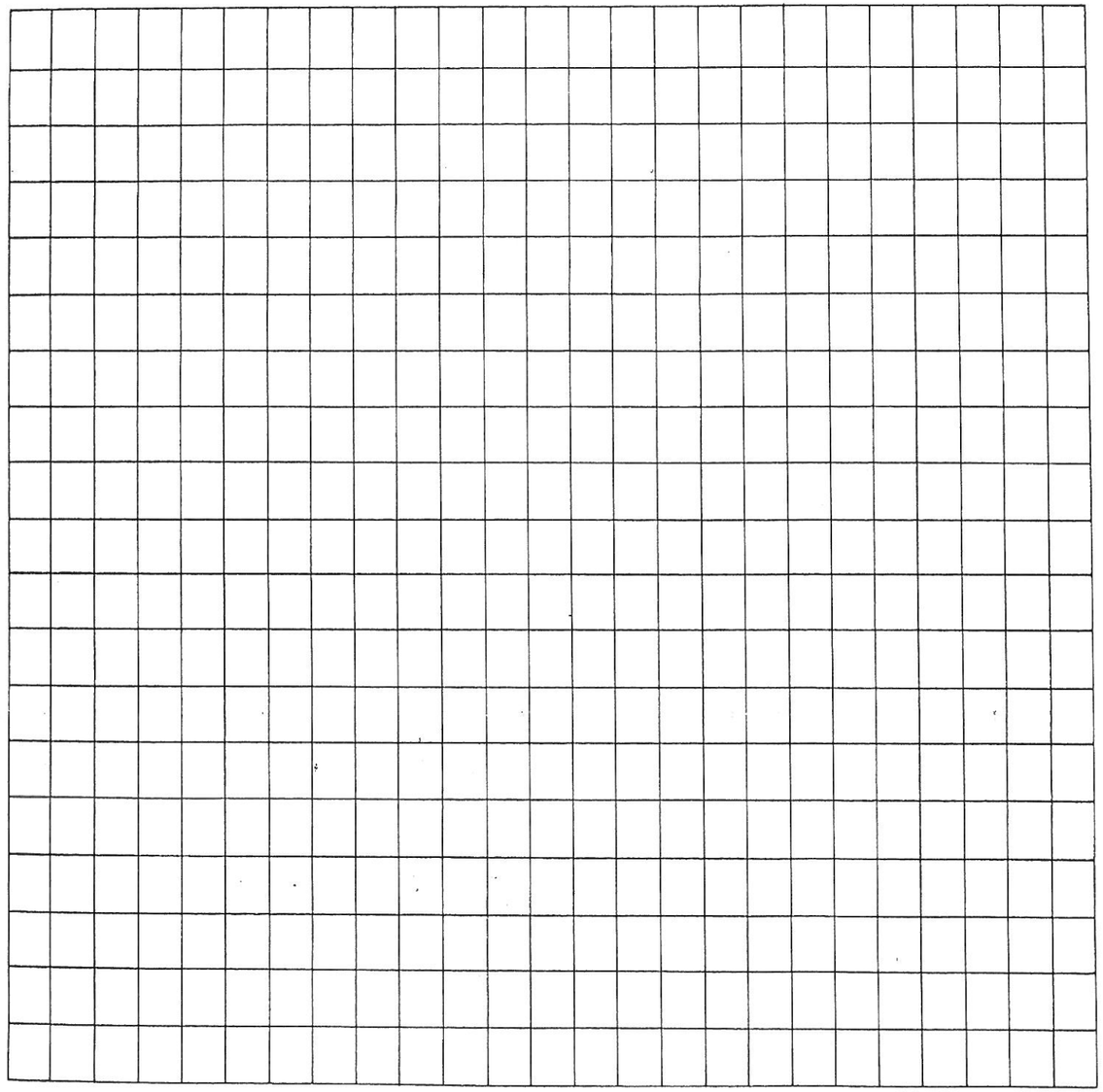
## The Array Game

**Goal:** To be the last player who colours in an array

**Materials:** cm square array, two coloured felts, two dice

**How to Play:** Player 1 rolls the two dice
Player one makes a multiplication sentence with the two dice (e.g. 4X3) and colours in an array (4 by 3 OR 3 by 4) that represents this multiplication anywhere on the grid
Player two then rolls the two dice, makes a multiplication sentence and colours in the array anywhere on the same grid.
Last player who is able to colour in their array is the winner.

**The Twist:** A player can roll a 3 and a 4, which multiplied makes a product of 12, and colour in a 2 by 6 array instead!