

# EVERYDAY MATH GAMES

**Practicing Skills through Play**

# WHAT IS THE ROLE OF EVERYDAY MATH GAMES?

Everyday Mathematics uses games as an engaging way for students to get the frequent practice required to build strong mental arithmetic skills and fact power. Games are used as a way to augment, not replace, activities that focus on rote practice of specific skills and facts, such the **Mental Math and Reflexes exercises** that begin every Everyday Mathematics lesson.

# WHAT IS THE DIFFERENCE BETWEEN DRILLS AND GAMES?

Drills aim primarily at building fact recall and procedural skills. Practice through games shares these objectives, but also reinforces other skills and understandings, including:

- calculator skills
- money exchange and shopping skills
- logic and reasoning
- geometric intuition
- intuition about probability and chance

Drills and games should not be viewed as competitors for class time, nor should games be thought of as time-fillers or rewards. In fact, games satisfy many standard drill objectives – and with many built-in options. Drill tends to become tedious and, therefore, gradually loses its effectiveness. Games relieve the tedium because children enjoy them. Indeed, children often want to play Everyday Mathematics games during their free time, including during lunch and recess.

# WILL STUDENTS GET BORED OF THE GAMES?

Everyday Mathematics games offer an almost unlimited source of problem material. And because the numbers in most games are generated randomly, the games can be played over and over without repeating the same problems. Many of the Everyday Mathematics games come with variations that allow players to progress from easy to more challenging versions.

# HOW DO GAMES SUPPORT THE SPIRAL CURRICULUM?

In the Everyday Mathematics curriculum, games are spread throughout the program and are to be used by teachers on a regular basis. For parents wishing to strengthen their child's math skills, games are a great way to engage your child at home.

# EXAMPLE GAME: ADDITION TOP-IT

Basic Game

**Materials:** A set of number cards with four cards each of the numbers 0-10, a penny (optional)

**Number of Players:** 2 or 3

A player shuffles the cards and places the deck number-side down on the playing surface. Each player turns over two cards and calls out their sum. The player with the highest sum wins the round and takes all the cards. In the case of a tie, each player turns over two more cards and calls out their sum. The player with the highest sum then takes all the cards from both plays. Play ends when not enough cards are left for each player to have another turn. The player with the most cards wins.

**Option:** Children toss a penny to determine whether the player with the most or the fewest cards wins.

**Game Variations:** Use a set of double-nine dominoes instead of a set of number cards to generate addition problems. Place the dominoes facedown on the playing surface. Each player turns over a domino and calls out the sum of the dots on the two halves. The winner of a round takes all the dominoes then in play.

# EXAMPLE GAME: NAME THAT NUMBER

**Materials:** 4 cards each of numbers 0-10 and 1 card each of numbers 11-20

**Number of Players:** 3 or 4

A player shuffles the deck and places five cards face-up on the playing surface. This player leaves the rest of the deck facedown and then turns over and lays down the top card from the deck. The number on this card is the number to be named.

In turn, players try to (re)name the number on the set-apart top card by adding or subtracting the numbers on two of the five face-up cards.

A successful player takes both the two face-up cards and the number-named top card. A successful player also replaces those three cards by drawing from the top of the facedown deck. Unsuccessful players lose their turns. But they turn over and lay down the top card from the facedown deck, and the number on this card becomes the new number to be named.

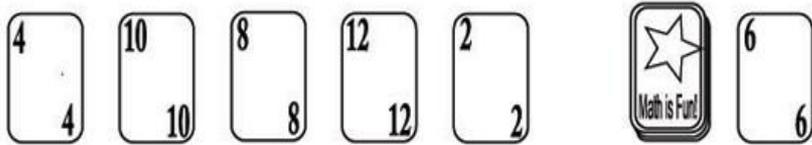
Play continues until all facedown cards have been turned over. The player who has taken the most cards at the end wins.

# NAME THAT NUMBER (CONT'D): SAMPLE

Mae's turn:

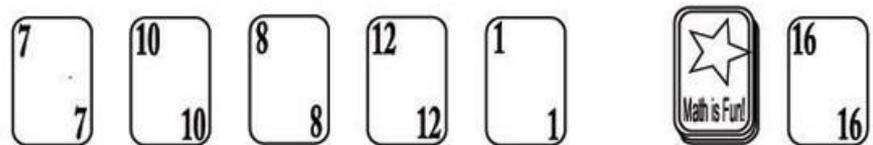
The number to be named is 6. It may be named with  $4+2$ ,  $8-2$ , or  $10-4$ .

Mae selects  $4+2$ . She takes the 4, 2, and 6 cards. She replaces the 4 and 2 cards with the top two cards from the facedown deck and then turns over and lays down the next card to replace the 6.



Mike's Turn:

The new number to be named is 16. Mike can't find two cards with which to name 16, so he loses his turn. He also turns over the next card from the facedown deck and places it on top of 16, and the number on this card becomes the new number to be named. Play continues.



**Game Variations:** If children are finding the game difficult, increase the number of face-up cards. Use any combinations of two or more numbers and all operations. For example, Mike could have named 16 as follows:  $10+7-1$ ;  $10+12-7+1$ ;  $8+12-10+7-1$ ; Children can experiment by using different numbers of face-up cards.

# TWO-FISTED PENNIES

**Materials:** 10 pennies for each player

**Number of Players:** 2 or more

Players count out 10 pennies, and then split them between their two hands. (Help children identify their left and right hands.) Call on several children to share their amounts. For example: My left hand has 1 and my right hand has 9; left hand 3 and right hand 7; left hand 4 and right hand 6; left hand 5 and right hand 5.

Record the various splits for any given number on the chalkboard. Partners continue to play using different total numbers of pennies—for example, 9, 12, 20.

**Option:** Partners take turns grabbing one part of a pile of 20 pennies. The other partner takes the remainder of the pile. Both players count their pennies, secretly. The partner making the grab uses the count to say how many pennies must be in the partner's hand. (I have 12, so you must have 8.) The eventual result is many addition names for 20.

Change the number of pennies in the pile to practice addition names for other numbers.

# BEAT THE CALCULATOR

**Materials:** a calculator; a penny or a random-number generator (optional); 1 Fact Power Table (optional)

**Number of Players:** 3

One player is the "Caller," a second player is the "Calculator," and the third is the "Brain."

The "Caller" selects a fact problem by dropping a penny on Game Master 7 or by using a random-number generator to create an addition-fact problem. The "Calculator" then solves the problem with a calculator while the "Brain" solves it without a calculator. The "Caller" decides who got the answer first.

Players trade roles every 10 turns or so.

# HOW CAN I SUPPORT MY CHILD AT HOME?

If your child's classroom or district purchases the *Everyday Mathematics Online* component from McGraw-Hill Education, you can access many games to practice at home. Contact your child's teacher to get log-in information.