

# Scrambled Digits

3rd - 6th Grade

## OBJECTIVE

To solve mental math problems.

## MATERIALS

- Duct tape

**From the *Math Can Take You Places After-School Kit***

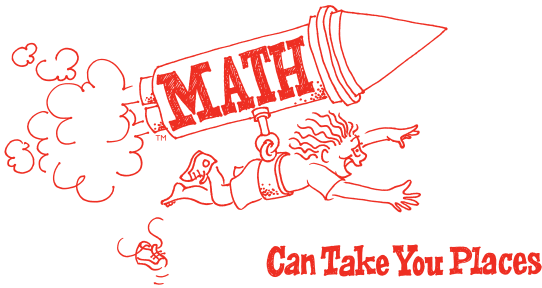
- Scrambled Digits Cards (3rd-4th grade set and 5th-6th grade set)
- Scrambled Digits Number Mats (five 25's, five 40's, five 50's, five 80's and five 100's for a total of 25 number cards)

## BEFORE YOU START

- There are two sets of Scrambled Digits Cards, one for 3rd-4th grades and one for 5th-6th grades. Choose which level of difficulty is more appropriate for your group of students.
- Prepare the Scrambled Digits Cards - if you want to do so, cut out and shuffle the cards.
- Find a large playing area so that you have room to tape the numbers down to the floor in like rows from least to greatest. For example, all of the 25's would be in the first row, all of the 40's in the next row, etc. Ask the students to help before you begin if needed. (See the diagram for a visual)

## HOW TO START

Say: "Does anyone know what a contortionist is?" (Answer: "A person who is able to twist his body into abnormal postures and shapes.") "Today you will get to see what it is like to be a contortionist, but first we are going to need to practice math in our heads, otherwise known as "mental math." Take this time to review the group's ability to do math mentally by asking them a few math problems. Now ask, "How many of you have played the game Twister®?" Let the group know that Scrambled Digits is very much like Twister® but uses mental math.



### FOCUS AREA

Problem Solving

### ACTIVITY TYPE

Active

### MATH GOAL

To mentally practice addition, subtraction, multiplication and division

### RECOMMENDED NUMBER OF STUDENTS

Up to six students can play the game at one time. Other students can help make sure players do not fall or put their hands or feet on incorrect numbers. (Keep total group small or use more than one game mat.)

### TIME NEEDED

30 minutes



A KERA educational project funded by Travelocity

## STEPS

### Step 1

Gather the students in the area where you will be playing the game. Five students will be the players and one student will be the caller. The players will need to take their shoes off and stand on the outside of the playing area.

### Step 2

The caller will read a Scrambled Digits Card. The players must mentally solve the Scrambled Digits Card and then place their hand or foot on the number that is the solution to the problem. The caller will then check to make sure everyone solved the problem accurately. (The answer will be on the card.)

For example, the caller reads a Scrambled Digits Card, “ $10 \times 10$ .” Players will scramble to place either one of their hands or feet on one of the “100” places.

### Step 3

Only one player can have a hand or foot on a number at one time. The first player on the number wins the right to place his/her hand or foot on that number. The slower player must reach for the solution somewhere else on the mat. Once the player uses a hand or foot for an answer, his/her hands and feet must continue to touch the number until the caller calls the next problem. If a player moves his/her hand/foot or falls between “calls,” that player is out. Players can only move their hands/feet in order to reach the next answer once the caller announces the next problem.

### Step 4

The last player left standing on the mat wins.

## WRAP UP

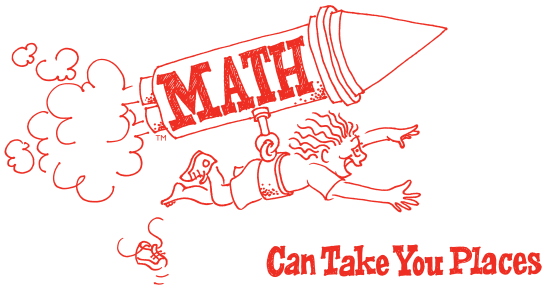
Have students create their own mental math problems, then use those new problems to make additional Scrambled Digits Cards

## **OPTIONAL ACTIVITIES**

- Do the Mental Math Conga! <http://www.teachingideas.co.uk/maths/dotheconga.htm> Make chanting multiplication facts fun.
- Students can research mental math tricks on the Web. Let them share the strategies that they learned with each other. (See Web Resources.)

## **SUGGESTED *MATH CAN TAKE YOU PLACES* CONNECTIONS**

From *Math Can Take You Places After-School Kit*, activity “Mental Math Physical Challenge” (Problem Solving)



## Activity Cue Card

- There should be six players per game: one caller and five players.
- The five players will stand around the Scrambled Digits area and wait for the caller to tell them what to do.
- The caller will read the mental math problem from the Scrambled Digits Card.
- Players will then place a hand or foot on the number that solves the problem (only one body part per number.)
- The object of the game is to avoid falling or stepping off the mat. The last player to accomplish this wins.

These cards can be cut apart and shuffled or the caller can choose a random problem from the list and mark through it with a pencil or marker as they call it.

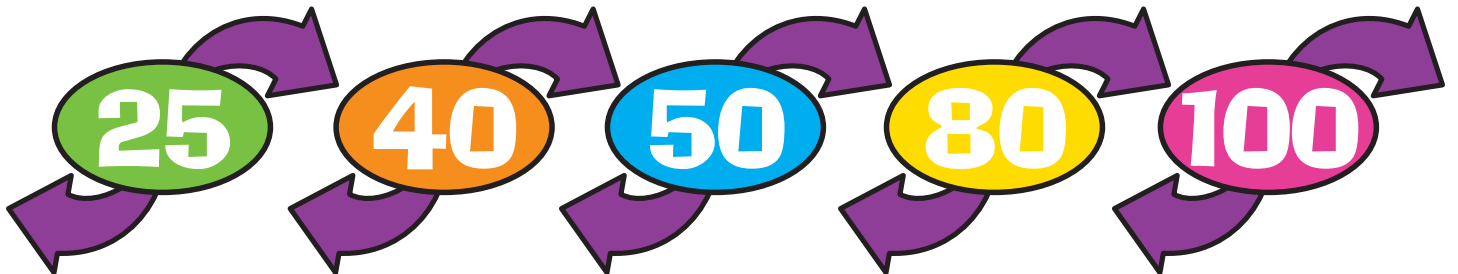
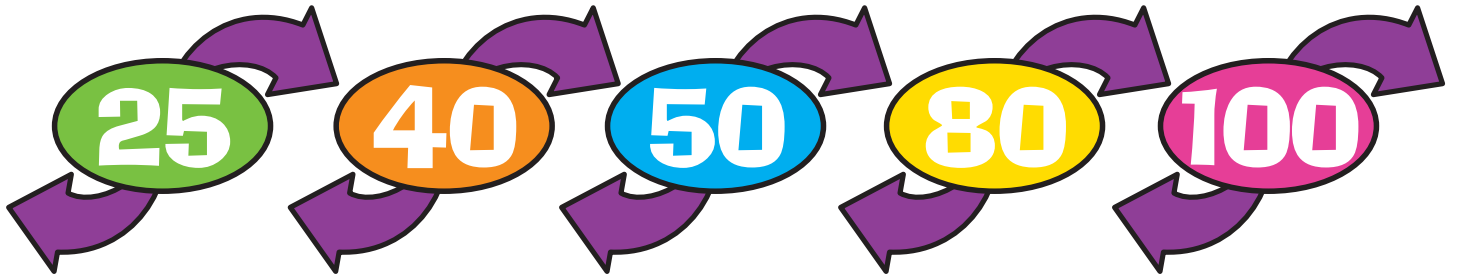
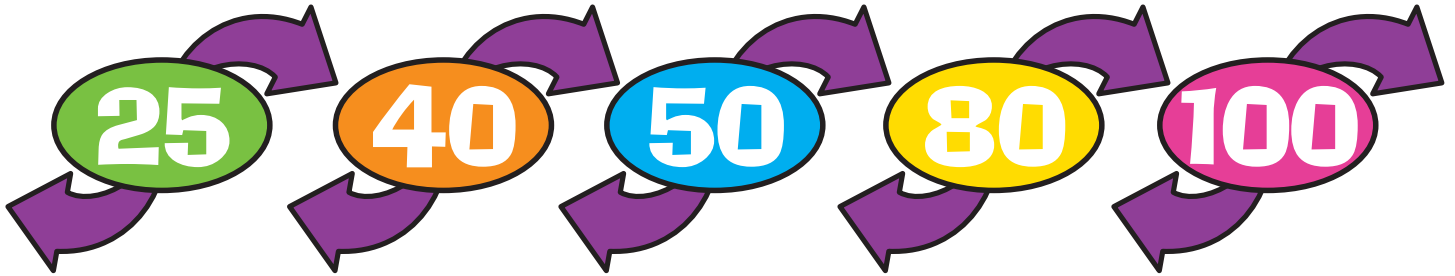
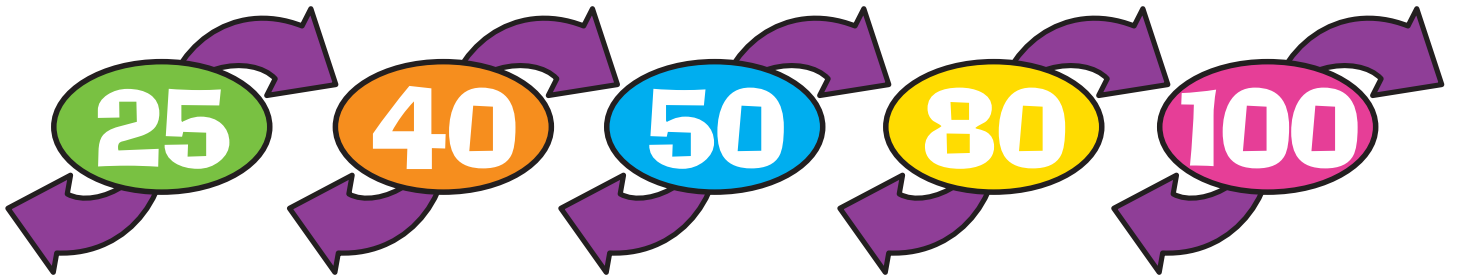
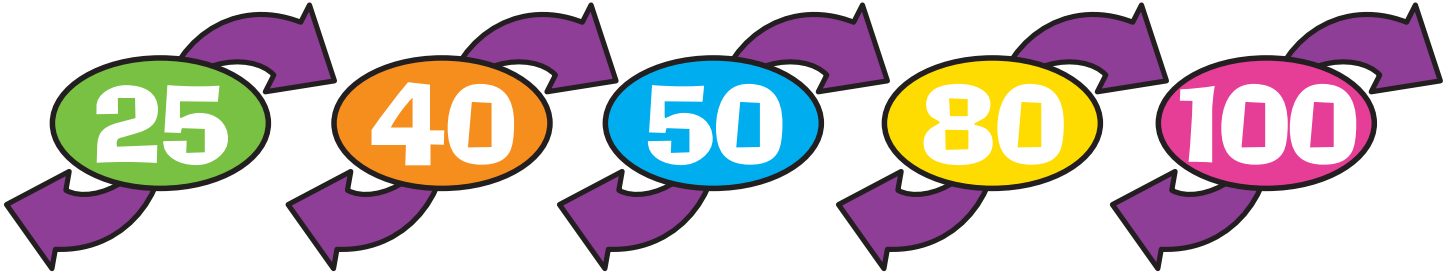
### 3<sup>rd</sup> and 4<sup>th</sup> Grade Scrambled Digits Cards

$10+10+5=25$	$20 \times 2=40$	$2 \times 25=50$	$20 \times 4=80$	$50 \times 2=100$
$5 \times 5=25$	$20+20=40$	$25+25=50$	$40 \times 2=80$	$10 \times 10=100$
$30-5=25$	$30+7+3=40$	$60-10=50$	$20+60=80$	$200/2=100$
$50-25=25$	$8 \times 5=40$	$5 \times 10=50$	$100-20=80$	$50+50=100$
$50/2=25$	$100-60=40$	$30+20=50$	$50+30=80$	$75+25=100$
$15+10=25$	$4 \times 10=40$	$100/2=50$	$90-10=80$	$20 \times 5=100$

### 5<sup>th</sup> and 6<sup>th</sup> Grade Scrambled Digits Cards

$16+10-1=25$	$80/2=40$	$5 \times 5 \times 2=50$	$9 \times 9-1=80$	$9 \times 10+10=100$
$\frac{1}{4}$ of $100=25$	$25 \times 2-10=40$	$8 \times 6+2=50$	$8 \times 5 \times 2=80$	$85+15=100$
$50-25=25$	$25+15=40$	$250/5=50$	$160/2=80$	$1000/10=100$
$10 \times 2+5=25$	$8 \times 4+8=40$	$\frac{1}{2}$ of $100=50$	$95-15=80$	$7 \times 10+30=100$
$100/4=25$	$9 \times 5-5=40$	$11 \times 4+6=50$	$10 \times 8=80$	$250-150=100$
$12 \times 2+1=25$	$160/4=40$	$75-25=50$	$10 \times 5+30=80$	$11 \times 9+1=100$

# SCRAMBLED DIGITS



Materials Needed from the  
Math Can Take You Places After-School Kit for  
Scrambled Digits

