

## Games You Can Play While Driving

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It is amazing how much time parents and children spend in cars driving from place to place. Some of the trips are long ones, and many are short, but all driving trips represent an opportunity for families to happily pass the time by doing mathematics together. The family automobile is an especially good place to play a mathematics game since it is to a parent's advantage to keep the children busy, rather than listening to "Are we there yet?" Why not make use of that time by playing a mathematics game, having a bit of fun, and exercising the children's young minds? Here is a selection of simple mathematics games that children and adults of all ages can play using their voices, eyes, and minds while the miles roll along.

### Guess How Far

Many of the driving trips families make are within fifty miles of home and often by freeway. When setting out for a location, start by setting the trip meter on your auto's odometer to zero. Then ask every child and adult to make an estimate of the total miles to that exact location. If the location is one that your children haven't been to yet, it is best to give them a frame of reference. For instance, you might say, "Remember that the trips we take to Grandma's house are 52 miles and this place is farther than that." (Other possible hints might be "not nearly as far" or "at least twice as far.") If you want to encourage your children to read the distance signs on the highway, tell them what city your destination is in and let them change their estimates as they get closer and closer. Make a rule that there will be no new estimates after leaving the freeway. Of course, the winner is the person with the closest estimate to the final odometer reading!

### Guess How Long

This is a variation of the "Guess How Far" game, but is all about the time the trip will take, not miles traveled. This game works great for places you have already driven to with your children, which gives them a frame of reference. When you first get to the highway, announce the current

time (as read on your auto's clock) and ask each person in the car to estimate to the nearest minute what time it will be when you arrive. If you know the distance in miles, by all means tell everyone that number before they make their estimates. The more information they have, the better their estimates will be. You want them to become better at estimating the more they play this game. The winner is the person with the closest estimate of the arrival time, either plus or minus minutes from the actual time on the car's clock.

### The Counting Game

The Counting Game is so simple it can be played by anyone who can count because it only requires voices and minds! In this game, two people take turns counting aloud. The first person starts by saying "one" and the game is over when either player, counting in order, says "twenty." Each player counts out loud by saying one, two, or three numbers in order from where the last player stopped counting. No player can pass or say more than 3 numbers. Whoever says the number "twenty," by itself or in the last group of numbers, is the winner. For example:

Player One	Player Two
1, 2, 3	4
5, 6	7, 8
9, 10, 11	12
13, 14	15, 16
17	18, 19, 20

*Player Two wins!*

The more often you play, the sooner you and your children will discover the winning strategy. When it becomes too easy to win, try changing the rules of the game by having a different winning number, such as 21. When you change the winning number, the winning strategy also changes and the thinking must begin again!

## The License Plate Game

The License Plate Game is great, even when you leave California, because you can play this game with the license plates of all states. It is a simple game that involves children spotting certain numbers of their choice, while carefully looking at the license plates of cars that pass your car in your direction. This game is all about observation and numbers. Someone in the car yells out a certain kind of number to look for in the three-digit part of a car's license plate. The first person to see a number that fits and points it out to the others in the car wins that round, and a new round begins. For example, an adult may yell out, "Look for an odd number!" Then a child may spot the license plate 6RSD123; 123 is an odd number.

The game is only limited by the mathematics knowledge of the students in the car and the creativity of the "announcer." Here are some examples of numbers to look for: multiples of ten (e.g. 140), numbers that start with 0 (e.g. 092), numbers with two digits the same (e.g. 878), numbers with two adjacent digits that are the same (e.g. 122), numbers with three digits in order (e.g. 678), and a very hard number that is a prime (e.g. 211). Children can also be the announcer and certainly, if you run out of ideas, you can look for the same number characteristics again. You can even use this game to teach mathematics. For example, you could say, "Look for an even number; that is a number that ends in 0, 2, 4, 6, or 8."

## Guess My Number

This number guessing game is ageless; you may have played it when you were a child! An adult or child first thinks of a number (for example, let's say that number is 53—but don't tell them). Then that person says, "I'm thinking of a number between 1 and 100. OK, guess my number." Taking turns, a player might say, "Is your number 12?" You would answer, "No; my number is more than 12." Continue until someone guesses the number 53 correctly. If you want to make it harder, give them only 20 guesses to get the number, and if they don't guess your number in 20 guesses, never tell them what it was!

A variation that is more mathematically interesting, but is also a harder version of this game, is to give all sorts of different mathematical clues, not just "more" or "less" clues. For example, once again using 53 as the secret number, if someone guesses 34, you might say, "No; my number is an odd number." If someone guesses 55, you might say, "No, my number is not a multiple of 5." If someone guesses 43, you might say, "No, my

number has no digit 4 in it." Change the range of numbers, 1–10, 0–100, 500–1000, etc., depending on the age and ability of the children playing the game. (One suggestion to the person who thinks of the number to guess: don't forget your number or change the number in mid-game—players get angry!)

## Notes:

### ► To the drivers

While these simple mathematics games can be great for you and your children to while away the time of driving trips, always keep in mind that safety comes first while driving. In my own family, we had a rule that whenever the driver got to an important junction in the road, an important sign approaching, or an on- or off-ramp, all game playing was temporarily placed on hold until that juncture was passed, and we were "cruising" again. Then the game began again. Help your children understand the importance of this rule and that the driver always says when to stop playing and when to resume the game. Drive safely, and play mathematics games.

### ► To the teachers

The games in this article are a valuable way to encourage families to do mathematics with their children outside of school. Please consider sending copies of this article home with your students or include it in your school newsletter. Parents and guardians playing mathematics games with their children can only have positive effects on students mathematics learning in class! 📦

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