Math Games

One fun way to teach math skills is to incorporate them into a game. This also helps to pass the time in a positive way.

What You Can Find

You can make almost anything into a game in the car by starting with."Who can find..." or "Let's see if we can find..." Here are some ideas of how to use *what you can find* to teach or reinforce math concepts.

Ways to keep track of counted items.

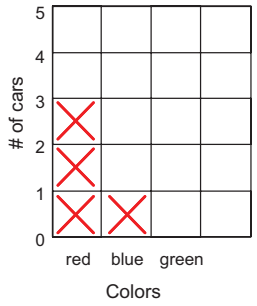
Keeping track

The simplest way to keep track of items in a counting game is to have each participant simply count and remember his or her own score. However, for non-driving participants, you can add other methods that will reinforce additional skills. Here are some ideas using as an example counting different colors of cars.

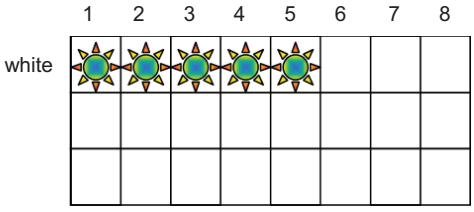
- On a piece of paper, use tally marks to keep track. 𝍸 ||
- Give each participant graph paper and have him or her use a bar graph to keep track counting different colors of cars.

Color	# of Cars				
red	X	X	X		
blue	X				
green					

or



- You can have younger children put one sticker on a paper each time they see the right color of car. This can either be done anywhere on the paper, or else on a row of graph paper using one sticker per square (which makes it a form of graphing).



For more ideas to use with graph paper, see the last section, Charting and Graphing, page Adv:52.

Make up creative rules for counting games.

Creative Rules

In this variation of the *What can you find?* game, first decide on an object to count, such as barns. Then let everyone make up a new rule involving some math operation. For example:

- Let *red* barns count two points.
- If it starts to rain, then everyone with an even score has to cut it in half.
- A barn with no roof or a broken roof doubles your score.
- If you go over a bridge, then everybody loses 3 barns.

The game rules can involve any math operation.

You should play for a certain time period or for a certain distance, and then stop the game, choose a new object to count, and make new rules. Of course, parents should have veto power on the rules.

Estimate times or distances and check your estimation to see how close it was.

Guess and Check

This game involves making predictions and then checking them. Here are some ideas to use with *Guess and Check*:

- If your car has a thermometer, have each person guess the outside temperature. If it displays in metric and standard units, look at the temperature in ºF and guess what it will be in ºC.
- Estimate short distances to the nearest tenth of a mile, and check with the odometer or tripometer. You can estimate the length of a city block, the distance between stop signs, telephone poles, gates, or billboards, etc.
- Estimate long distances to the nearest mile. For example, estimate the distance to the next gas station, bridge, town, or windmill. For these, either use the tripometer, or have at least one child write down the initial odometer reading and the final odometer reading and subtract the two to get the actual mileage.
- Estimate how much time it will take to get to certain locations. This can either be how many hours/minutes/seconds will pass, or the time it will be when the location is reached.

Calculate the percentage of different colors of cars observed on the road.

Popularity Percentages

This is a car-counting game. Everyone playing needs to count a different color of car for a specific time or distance. At the end of the set time or distance, add the total number of cars counted and calculate the percentage of each color. (For older children who find cars of blended colors like blue-green, you can give the blue and the green car counters each a "half car.")

$$\frac{\text{number of red cars counted}}{\text{total number of cars counted}} \times 100\% = \%\ \text{red cars}$$

There are many things that could be done with this type of activity. Here are some variations to consider.

- Repeat the activity a second time and see if the percentages are consistent.
- Try this activity for several weeks in a row when traveling on the same road at the same time of day. Are the results consistent?
- Compare the results obtained in different types of areas — are the colors the same in rural areas as in cities?
- Compare on the results obtained on different days. Is there a difference between weekends and weekdays?
- Compare different times of the day. Do mornings have a different result than afternoons?