

Driven by Math

Every morning, Michael Pease drives his daughters to school. It's a seven-minute drive and Michael makes sure the minutes are used well by playing mental math games with Maddy, 7, and Jessie, 11.

"Who wants a head problem?" he asks, turning out of the driveway. Both girls shout, "I do!" He starts with Maddy.

"Take the number of sides of a hexagon ... double it ... take two from that ... take half of that. What do you get?"

"Five," blurts out Maddy.

"Give me five!" he says, extending a hand over his shoulder to the backseat. Now it's Jessie's turn. She's older, so the math gets harder.

"Take the number of people in the car (three) ... Raise it to the fourth power ... Add the digits ... Take the square root ... Multiply by 13. What do you get?" Jessie pauses about two seconds.

"Thirty-nine!"

Michael believes that turning mental math into an enjoyable daily game helps both girls excel in math. "My goal is to help them feel confident and successful," he explains, "and to see math as fun, useful and meaningful."

Any family can invent games that transform car trips into math-rich



For Jessie, 11, and Maddy, 7, Pease, even routine car rides are an opportunity to create games using math skills. PHOTO BY MICHAEL PEASE

experiences. The Pease girls came up with "Target Number." They pick a number (like 100) and then add and subtract the numbers they find on road signs until one player hits the target exactly.

Beth Hook's family gets mileage out of the rising price of gas.

"On our drive to school, my kids and I write down the price," says Beth. "The next day, we find out how much it has gone up. Next week, we'll figure out the seven-day rise."

To do the math, Beth taught her children some mental math techniques. When gas cost \$1.99 per gallon, you have to "count on" by one cent to get to \$2. When it rose to \$2.07 per gallon, it was 7 cents above \$2. To get the total price increase, just add 1 plus 7.

Easy! Taking it another step, a parent

might ask, "If the price keeps rising this fast, what will it be a year from now?" Banish the thought!

Howie and Marcy Black have turned "Twenty Questions" into a family math game. "Who has a number between one and 100?"

"I do," comes a voice from the backseat.

"Is it less than 50?" asks another child.

"Yes."

"Is it odd?"

Yes.

"A prime number?"

"A what?" asks 7-year-old

Tania. Her older brother, Paul, explains that a prime number is divisible only by one and itself.

"No."

"Is it divisible by three?"

And so on. The kids are entertained, they are learning math ... and they get to their destination without once asking "Are we there yet?"

Math Moments™ creator David Schwartz spends much of his time finding unusual, whimsical ways to make math and science come alive for kids and teachers, both through writing and through speaking at schools and conferences. He has written nearly 50 books for kids, including *How Much Is a Million?* and the "Look Once, Look Again" series. For more information about David's math and science adventures, check out his Web site, www.davidschwartz.com. To read previous installments of our Math Moments column, visit

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