Bring: A thin unfitted bed sheet, newspaper, exercise putty (for folding), bicycle gear chart from last week.

7:30 Put warm-ups on the board:
"Did anyone look at their bike's gear ratios?"
Ask why last week's chart curves upward, and not a straight line?

1) Turn in homework, take a sugary brain pill.
2) How many positive 2-digit numbers are there? *A:10 thru 99 = 90*
3) There are 25 fourth graders and 20 fifth graders. What percent of the total are 5^{th} graders? *A: 20/45 = 4/9 = 44%*
4) What is the ratio of 4^{th} graders to 5^{th} graders? *A: 20 : 25 = 4 : 5*
5) How many centimeters in a mile?
   Hint: $2.54\frac{cm}{inch}$, $12\frac{inch}{foot}$, and $5280\frac{feet}{mile}$, $100\frac{cm}{meter}$, $1000\frac{meter}{kilometer}$
   A: 2.54 x 12 x 5280 / 100 / 1000 = 1.609344
6) I am thinking of a number. If you multiply my number by 5 and then subtract 17, you get 8. What is my number? *A: 5x-17=8, 5x=25, x=5*

8:05 Give Sunny Hills Bills to anyone arriving on time!

8:10 Hand out 3-ring binders
Suggest you have one section for handouts, and one for returned homework.
Reminder: Doing well in math is a matter of being careful:
Answer all questions (no blanks).
Read the problem twice (ask questions).
Follow instructions (always reduce).
Check your work (use calculator, and then parent).
When you get homework back, go over everything you missed

8:20 Discuss warm-ups
Circulate attendance sheet
Discuss "the folding problem" – how many times can you fold paper? *This illustrates how quickly the powers of two can grow. Optionally, you can ask how many folds will equal your height.*

8:30 Discuss top 3 homework problems
Look at what they missed on work handed back.
Guess at what was most difficult that they are handing in today.
Make the point: Measurement accuracy is less than 1%, so round to 1%!

8:40 Lecture

9:10 Hand outs and done
Extra time? Try these:
Run the "Likeable Numbers Game"! *Kids love this.*

- I'm improving the efficiency of my car's engine that gets 20 miles/gallon.
  New hybrid engine improves it by 50%.
  Special high-octane fuel improves it by 30%.
  Low-loss tires improves it 20%.
  Special car wax improves it 10%.
  This is 110%! So will it produce gas for each mile driven?
  What is the real percent improvement?
  Write the problem with the % amount in a column, to suggest they add up.
  Of course this is misleading. This problem shows that % improvement from one item is <u>multiplied</u> by the previous item.

  Incorrect: Mileage = 20mpg x 0.5 x 0.3 x 0.2 x 0.1 = $0.06mpg?
  A: No, mileage = 20mpg x (1+0.5) x (1+0.3) x (1+0.2) x (1+0.1) = 51.48mpg

  42.7 percent of all statistics are made up on the spot.
  99 percent of lawyers give the rest a bad name.
  "Math illiteracy strikes 8 out of 5 people."
  5 out of 4 people have trouble with ratios
  When she missed the #44 bus, so she took the #22 bus twice
  If the #2 pencil is the most popular, why is it still #2?

My new work philosophy: Always give 100% at work: 20% on Monday
20% on Tuesday
30% on Wednesday
20% on Thursday
10% on Fridays