



# Fall 2015 Family Science Night



# Do More, Win More!

## All Grades \* Keep using what you learned tonight!

- Answer questions to enter a raffle to win a Science Kit.
- *The more questions you answer, the more chances you have to win!*
- You can write your answers on paper and put them in the envelope in the office,
- Or you can post your answers on iSchool for the Future's Facebook page. Check with your parents before going online.
- Be sure to include your name or your parent's name (online).
- You can find hints: <http://ischoolforthefuture.org/forestville-science-night-hints/>



Question 1:

Describe what is under Forestville's large field. This website might help:  
<http://www.curtisseptic.com/flash/yoursystem.html>.

Question 2:

The Soil Type that is under Forestville's field is called a Clay Loam. Draw a Pie Chart/Circle Chart to describe the proportion of sand, silt, and clay that is found in this soil. In addition to inorganic rock particles, what else is in soil?

Question 3:

How well does liquid PERCOLATE in soil that has a lot of clay in it? Describe. Forestville's soil is becoming SATURATED. What does this mean?

Question 4:

Why isn't Forestville installing a larger Septic Tank? Why is Forestville installing pipes to connect the school to the community Sewer Line?

Question 5:

- The sewer pipe will be 3344 feet long. It will descend at a slope of 1%. What will the change in depth be from the starting point?
- The existing sewer line is 40 feet underground, at a spot that is downhill from Forestville. Will Forestville need to install a pump to get the sewage into the pipe, or can it rely on gravity alone? Why?

Question 6:

Forestville has 340 shelves of hardback books. Each shelf is 3 feet long.

- Each shelf weighs about 165 pounds. What is the weight of Forestville's books?
- Each shelf holds around 50 books. How many books are in Forestville's collection?
- How many feet of bookshelves are there? How many miles is this?
- What are some things that weigh the same as Forestville's library collection?

Question 7:

Which of these steps is important when sampling?

- Increasing the total number of samples
- Random sampling; samples that are not all the same
- Having larger rather than smaller samples
- All of them!

Question 8:

Compare the size of the new library (5000 square feet) to your room at home. How many bedrooms can you fit into the library?

Question 9:

Forestville's library will need around 100,000 Lumens. This is how much power is required to produce these many lumens, per bulb type:

LED = 1 Kilowatt      Incandescent = 10 Kilowatts      CFL = 2 Kilowatts

We must provide 3000 hours of lighting per year at an average cost of \$0.10/ Kilowatt-Hours (the cost of electricity). How much will the electricity cost be for each type of bulb?

Compare how much bulbs costs to buy, how long they last, and the electricity cost. Which bulb type do you think Forestville should use?