

## FERMI QUESTIONS C 2012

Study hints from the event captain:

1. There will be 30 questions.
2. Participants are not allowed to bring anything except pencils to the event.
3. Answers will be written on an answer sheet as a number. If the number is negative, put a (-) sign in front of the number.
4. “Round up” to the nearest power if your estimate is 5 or greater. For example, if your estimate is  $6 \times 10^2$ , round up to  $10^3$  and put down 3 for the answer. If the answer is  $6 \times 10^{-2}$ , rounding up because the answer is 5 or greater to the next power of ten, the answer is  $-1$ .  
There is more discussion of this in the event description 3.d.
5. All answers will be in **metric units**. Questions may be asked in non-metric units, for example, pounds, gallons, miles, inches, tons or handfuls. Students should know how to convert non-metric units to metric units.
6. Questions will assume that students know some basic science constants such as the speed of light, speed of sound, diameter of the earth, etc.
7. Estimate and then verifying by measuring, the size of a golf ball, basketball, and other common objects, including kitchen items.
8. Estimate and then verify by measuring the length of a wall in a room and height of a room.
9. Learn the range of size of a few unusual objects, like snowflakes.
10. There will a question about population.
11. Study the physical properties of common natural phenomena like volcanoes and lightning.