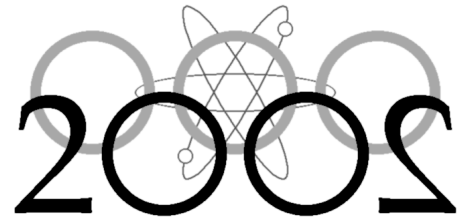Team

Rank

# *Fermi Questions*

1  What is the ratio of the Earth's mass to the Moon's mass?

2  What is the mass of the Earth's atmosphere?   kg

3  What is the temperature of the surface of the Sun?   K

4  How much water is used by the population of the UK?   kg/yr

5  If a signal is transmitted along a transatlantic optic fibre from Liverpool, how long will it take to reach New York?   s

6  How many seconds have passed in this millennium?

7  If one Gbyte of information is printed out as text (using this font size) what mass of paper would be required?   kg

8  If Pluto is the same size as the Moon, but ten thousand times further away, how many times fainter does it appear to be?

9  How many atoms are there in a cup of tea?

10  By how much does the water flowing over a 100 m high waterfall heat up if its potential energy is converted into thermal energy?   K

11  What is the angle subtended by this full stop (.) when viewed from a normal reading distance?   rad

12  What is the mass of a droplet of drizzle?   kg

13  What is the smallest object that the Hubble telescope could resolve on the surface of the Moon?        ( Hint:  $\theta = \lambda / d$ )   m

14  By typing the letters on a keyboard at random, one key per second, how long is it likely to be before the word 'Liverpool' is spelled out?   yr