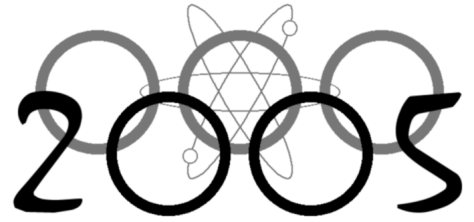


# LIVERPOOL PHYSICS OLYMPICS



*Team*

*Rank*

## *Fermi Questions*

- |    |   |                      |     |
|----|---|----------------------|-----|
| 1  | How many nanoseconds are there before Liverpool becomes the European Capital of Culture?                              | <input type="text"/> | ns  |
| 2  | As seen from the Earth the Sun and Moon appear the same size, but what is the ratio of their diameters (Sun/Moon)?    | <input type="text"/> |     |
| 3  | At what temperature does nitrogen boil (at atmospheric pressure)?   | <input type="text"/> | K   |
| 4  | What is the temperature at the core of the Sun?   | <input type="text"/> | K   |
| 5  | How long will it take for a relativistic particle to do a circuit of the Large Hadron Collider (circumference 27 km)? | <input type="text"/> | s   |
| 6  | What is the typical mass of an asteroid 100 m in diameter?  | <input type="text"/> | kg  |
| 7  | How many atoms would it take to cover an area of one square cm?   | <input type="text"/> |     |
| 8  | What would be the mass of a film of copper one square cm in area and one atom thick                                   | <input type="text"/> | kg  |
| 9  | What is the distance from the Sun to the nearest star?  | <input type="text"/> | m   |
| 10 | How much energy is released when an electron and positron (anti-electron) annihilate?                                 | <input type="text"/> | J   |
| 11 | How many stars are there in our galaxy?   | <input type="text"/> |     |
| 12 | What is the maximum speed of electrons moving in a metal?   | <input type="text"/> | m/s |
| 13 | How many protons are there in your team?  | <input type="text"/> |     |
| 14 | How many people were in The Beatles?  | <input type="text"/> |     |