

Standard Form

Name:

Date:

INQUIRY

The distance from Earth to the Sun is 149,600,000 km. There must be an easier way to write this!

Discuss with your partner. Write your initial ideas below:

Key Vocabulary

Term	Definition
Standard form	$A \times 10^n$ where $1 \leq A < 10$.
Large numbers	Positive power of 10.
Small numbers	Negative power of 10.

Part A — Converting

1. Write in standard form: (a) 149,600,000 (b) 3,500 (c) 0.00045 (d) 0.0071. [4 marks]

Show your working:

2. Write as ordinary numbers: (a) 3.7×10^5 (b) 8.1×10^{-3} . [2 marks]

Show your working:

Part B — Calculating

3. $(3 \times 10^4) \times (2 \times 10^3)$. [2 marks]

Show your working:

4. Earth-Sun: 1.496×10^8 km. Earth-Moon: 3.844×10^5 km. How many times further is the Sun? [2 marks]

Show your working:

Part C — Context

5. Chinese national debt: 2.7×10^{13} yuan. German: 2.4×10^{12} euros. Which is larger in absolute terms? (Ignore exchange rate.) [2 marks]