STANDARD FORM

MTH 4-06b.
Within real-life contexts, I can use scientific notation to express large or small numbers in a more efficient way and can understand and work with numbers written in this form.

Pupils should be able to:

- Convert large and small numbers to standard form, and vice versa.
- Carry out calculations with numbers in standard form using a calculator.
- Solve problems involving numbers written in standard form.

PUPILS SHOULD COMPLETE THE FOLLOWING EXERCISE AND ASSESS THEIR PROGRESS BY TICKING ONE OF THE OPTIONS FOR EACH TOPIC IN THE TABLE BELOW

	DEVELOPING	CONSOLIDATING	SECURE
Convert to and from Standard Form - large numbers Q 1 – Q2			
Convert to and from Standard Form- small numbers Q 3- Q4			
Calculator calculations Q5			
Solve problems using Standard Form Q6 – Q7			

mymaths lessons: library/number/standard form/standard form large
/standard form small
/standard form calcs

SELF EVALUATION EXERCISE DATE DUE_____

1. Write these numbers in full.

   a) 4.543×10^4 b) 9.382×10^2 c) 6.665×10^6

   d) 1.951×10^2 e) 1.905×10^5 f) 6.005×10^3

2. Convert these numbers into standard form.

   a) 28748 b) 548454 c) 486856

   d) 70241 e) 65865758 f) 765

3. Write these numbers in full.

   a) 8.34×10^{-3} b) 2.541×10^{-8} c) 1.01×10^{-5}

   d) 8.88×10^{-1} e) 9×10^{-2} f) 5.05×10^{-9}

4. Convert these numbers to standard form.

   a) 0.000567 b) 0.987 c) 0.0052

   d) 0.0000605 e) 0.008 f) 0.0040302

5. Calculate, giving answers in standard form,

   a) $3.45 \times 10^{-5} + 9.5 \times 10^{-6}$

   b) $2.31 \times 10^5 \times 3.98 \times 10^{-3}$

   c) $1.905 \times 10^5 - 5.239 \times 10^3$

6. The total mass of argon gas in a canister is 4.23×10^{-2}gms. Given that the mass of a single atom is 5.67×10^{-22}, find to 3 significant figures the number of argon atoms in the flask. Give your answer in standard form notation

7. A cyclotron produces high speed particles. A particle moving inside the cyclotron takes 9.5×10^{-10} seconds to travel 2.1×10^{-1} meters. Calculate the speed of the particle in meters per second. Give your answer in standard form notation.