1. Some powers of 10 are known by a prefix name.
   Complete the table by filling in the blanks:

Prefix	Power of 10	Number
Tera	10^{12}	
	10^{9}	1,000,000,000
		1,000,000
Kilo		
Micro	10^{-6}	
	10^{-9}	

2. How many times bigger is:
   i) a megabyte than a kilobyte
   ii) a gigagram than a kilogram
   iii) a kilometre than a nanometre
3. The average size of a smartphone photograph is 4MB.
   If your smartphone's memory is 256GB, how many photographs could you save on it?

Answers:

1.

Prefix	Power of 10	Number
Tera	10^{12}	1,000,000,000,000
Giga	10^{9}	1,000,000,000
Mega	10^{6}	1,000,000
Kilo	10^{3}	1,000
Micro	10^{-6}	0.000,001
Nano	10^{-9}	0.000,000,001

2. i) 1,000 megabyte = 10^{6} and kilobyte = 10^{3}

   From your work last week: $\frac{10^{6}}{10^{3}} = 10^{3} = 1,000$

   ii) 1,000,000 gigagram = 10^{9} and kilogram = 10^{3}

   $\frac{10^{9}}{10^{3}} = 10^{6} = 1,000,000$

   iii) 1,000,000,000,000 kilometre = 10^{6} and nanometre = 10^{-9}

   $\frac{10^{6}}{10^{-9}} = 10^{15} = 1,000,000,000,000,000$

3. 64000 pictures gigabyte = 10^{9} and megabyte = 10^{6}

   $\frac{256}{4} \times \frac{10^{9}}{10^{6}} = 64 \times 10^{3} = 64 \times 1000 = 64,000$