## Clue 1-It's all in 3D

$A=1, b=2, c=3$ etc

| 1 | Number of vertices a cone has |  |  |
| :---: | :--- | :--- | :--- |
| 2 | Number of vertices a hexagonal pyramid has |  |  |
| 3 | 3 x the number of faces a cube has |  |  |
| 4 | Number of faces a square based pyramid has |  |  |
| 5 | Number of vertices of a square based pyramid |  |  |
| 6 | Twice the number of faces of a hexagonal pyramid |  |  |
| 7 | Number of vertices of an octagonal prism |  |  |
| 8 | Half the number of vertices of a pentagonal prism |  |  |
| 9 | Number of faces a sphere has |  |  |
| 10 | 1 less than the number of edges a cuboid has |  |  |
| 11 | 1 less than the vertices of a triangular prism |  |  |
| 12 | Number of vertices a tetrahedron has |  |  |
| 13 | Number of faces a hexagonal prism has |  |  |
| 14 | The number of circular faces a cone has |  |  |
| 15 | Twice the number of faces of an octagonal prism |  |  |



## Clue 2 - Divide and Conquer

You have to find out the highest number from 2,3,5,6 \& 10 which will divide into each of the numbers below. How do you know if a number is a multiple of each of those factors ? There is no need for a calculator - for $2,5 \& 10$, you look at the last digit of a number even numbers are divisible by 2 , numbers ending in 0 are divisible by 10 and numbers ending in 5 or 0 are divisible by 5 .
To find out if a number is a multiple of 3 , add up the digits. If the answer is a multiple of 3 , then the number is. eg $258: 2+5+8=15$ ( 15 is a multiple of 3 so 258 is).
Multiples of 6 are even and divisible by 3. eg $72-$ even and $7+2=9$ (divisible by 3 )

| Number of <br> digits in number | Highest factor |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{5}$ | $\mathbf{6}$ | $\mathbf{1 0}$ |
|  | a | e | i | o | u |
| $\mathbf{3}$ | b | c | d | f | g |
| $\mathbf{4}$ | h | j | k | l | m |
| $\mathbf{5}$ | n | p | r | s | t |
| $\mathbf{6}$ | v | w | q | y | z |


| Number | Highest <br> Factor | letter |
| :--- | :--- | :--- |
| 34 |  |  |
| 12845 |  |  |
| 81 |  |  |
| 357 |  |  |
| 27 |  |  |
| 65 |  |  |
| 14637 |  |  |
| 87540 |  |  |
| 348 |  |  |
| 98645 |  |  |
| 78 |  |  |
| 6450 |  |  |
| 26322 |  |  |
| 16803 |  |  |
| 99 |  |  |
| 123 |  |  |


| Number | Highest <br> Factor | letter |
| :--- | :--- | :--- |
| 84642 |  |  |
| 82 |  |  |
| 365848 |  |  |
| 39 |  |  |
| 87625 |  |  |
| 41532 |  |  |
| 654 |  |  |
| 84 |  |  |
| 38475 |  |  |
| 129 |  |  |
| 96 |  |  |
| 87622 |  |  |
| 74160 |  |  |
| 92 |  |  |
| 831 |  |  |
| 45710 |  |  |
| 84132 |  |  |

Clue 3 -A new angle on the case.
Draw 8 lines with perfect accuracy to get 8 words. Rearrange the order to get the clue.

| the | male | iron | female | glasses | freckles |
| :---: | :---: | :---: | :---: | :---: | :---: |
| a | hat | skirt | beard | for | he |
| wears | tights | no | murderer | knife | gun |
| neck | face | escape | she | cigars | case |
| cigarettes | smoke | mobile | inhale | unhealthy | running |
| cold | kill | rope | candlestick | library | kitchen |
| plum | prison | green | mustard | police | white |

$\mathrm{A} \longrightarrow \mathrm{B} \quad \mathrm{C} \longrightarrow \quad \mathrm{D}$

| dead | alive | gun | run | clue | no |
| :---: | :---: | :---: | :---: | :---: | :---: |
| HTC | Samsung | Nokia | iphone | code | Motorola |
| yes | poison | sugar | cheeks | face | DNA |
| a | the | vital | Blackberry | phone | escape |
| charger | treasure | LG | Cookie | text | bury |
| spots | Boots | chest | ink | invisible | new |
| secret | fish | passage | stairs | guilty | old |

н

| BAX | $100^{\circ}$ | AX | 5.7 cm |
| :--- | :--- | :--- | :--- |
| ABY | $128^{\circ}$ | BY | 7.3 cm |
| DCZ | $132^{\circ}$ | CZ | 4.0 cm |
| CDM | $81^{\circ}$ | DM | 3.9 cm |
| GFR | $24^{\circ}$ | FR | 10.0 cm |
| FGW | $34^{\circ}$ | GW | 7.0 cm |
| IHT | $27^{\circ}$ | HT | 4.8 cm |
| HIQ | $29^{\circ}$ | IQ | 12.3 cm |

$\begin{aligned} & \mathrm{A} \\ & \mathrm{C}\end{aligned} \quad-9{ }^{10^{\circ} \mathrm{C}}$ Clue 4-The big freeze

The temperature scale has letters attached. Decipher the message as the temperature rises and falls. Start each question at $0^{\circ} \mathrm{C}$

1) $-5+15$
2) $-1-3$
3) $-4-8$
4) $-6+12$
5) $-3+10$
6) $-3-4$
7) $2-15$
8) $-7-8$
9) $-3+11$
10) $2-11$
11) $-14+5$
12) $-4+7$
13) $8-9$
14) $4-13$
15) $-5+11$
16) $10-3$
17) $-16+9$
18) $-8-5$
19) $-4+12$
20) 6-18
21) $-12-4$

## Clue 5 - Null Points

This clue includes lots of nulls - letters put in to disguise the real message.
Remove the nulls and everything will be clear.

| 21 | 46 | 9 | 97 | 68 | 46 | 81 | 100 | 29 | 6 | 49 | 31 | 33 | 775 | 85 | 39 | 28 | 17 | 19 | 72 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| d | r | e | a | m | y | b | a | b | y | d | o | l | l | p | r | e | t | t | y |


| 87 | 60 | 81 | 8 | 43 | 13 | 24 | 36 | 72 | 45 | 82 | 27 | 1 | 37 | 165 | 64 | 55 | 47 | 58 | 35 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| l | i | t | t | l | e | f | l | u | f | f | y | m | o | u | s | e | f | a | t |


| 2 | 13 | 93 | 76 | 14 | 25 | 69 | 73 | 67 | 215 | 95 | 99 | 79 | 121 | 12 | 86 | 63 | 83 | 9 | 70 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| r | a | t | m | y | s | o | f | t | $\&$ | c | r | e | a | m | y | t | r | u | e |


| 145 | 71 | 23 | 92 | 144 | 15 | 42 | 77 | 16 | 89 | 94 | 26 | 9 | 59 | 57 | 98 | 51 | 4 | 52 | 53 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| a | s | h | i | n | e | g | l | e | a | m | f | a | v | o | u | r | i | t | e |

Cross out these numbers and the letters below them:

1. All square numbers.
2. All multiples of 5
3. All even numbers
4. All multiples of 11
5. All multiples of 3
