## Application Exercise 1



PART A What do you notice about the screenshot above? What questions do you have? e.g. What...? Who...? Why...? Which...? How...?

PART B For the following question, what are your estimates? What numbers would be too high or too low?

A student forgot to charge their phone and asked their advisor if they could charge it in the office. When should they pick it up?

PART C Which strategies could you use to answer the question?


Do I know a similar problem?


Guess, check and improve


Try all possibilities
Break the problem into smaller parts


Try a simpler problem


Act it out

Draw a picture or graph or table


○ $\triangle$ ロ
Look for a pattern


Write an equation


Work backwards


Seek an exception

What information or equipment do you need?

The student checked on the phone during advisory:


PART D Decide which option best answers the question:
When should they pick it up?
(A) 10:00
(B) 10:24
(C) 10:30
(D) 11:40

## Application Exercise 2

At the 2016 Rio Olympics, Australia ranked 10th in the medal table:

| Rank | Country | Gold | Silver | Bronze | Weighted <br> Medals* | Population |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: |
| 10 | Australia | 8 | 11 | 10 | 64 | $23,781,169$ |
| 11 | Netherlands | 8 | 7 | 4 | 50 | $16,936,520$ |
| 18 | Cuba | 5 | 2 | 4 | 28 | $11,389,562$ |
| 24 | Switzerland | 3 | 2 | 2 | 18 | $8,286,976$ |
| 29 | Sweden | 2 | 6 | 3 | 23 | $9,798,871$ |
| 32 | Serbia | 2 | 4 | 2 | 18 | $7,098,247$ |
| 37 | Slovakia | 2 | 2 | 0 | 12 | $5,424,050$ |
| 39 | Azerbaijan | 1 | 7 | 10 | 28 | $9,651,349$ |
| 42 | Armenia | 1 | 3 | 0 | 10 | $3,017,712$ |
| 54 | Kosovo | 1 | 0 | 0 | 4 | $1,859,203$ |
|  |  |  |  | *gold = 4, silver = 2, bronze = 1 |  |  |

PART A What do you notice about the table of data above? What questions do you have?
e.g. What...? Who...? Why...? Which...? How...?

PART B For the following question, what are your estimates? What numbers would be too high or too low?

Can you predict the medals won by a country with a population of $65,138,232$ ?

PART C Which strategies could you use to answer the question?


Dol know a similar problem?


Guess, check and improve


Try all possibilities


Break the problem into smaller parts


Try a simpler problem


Make a list or table


Draw a picture or graph
$0 \triangle \square \circ \Delta$
Look for a pattern


Write an equation


Work backwards


Act it out
Make a model
Act it out


Seek an exception

What information or equipment do you need?

PART D Decide which option best answers the question:
Can you predict the medals won by a country with a population of $65,138,232$ ?
(A) 27 gold, 26 silver, 24 bronze
(B) 27 gold, 23 silver, 22 bronze
(C) 27 gold, 23 silver, 17 bronze
(D) 27 gold, 20 silver, 17 bronze

EXTRA Which country in the table had the best medal result?

