

EDUCATION WITH ALTITUDE

ESTIMATIONS AT MELBOURNE SKYDECK

As you enter level 1 of Melbourne Skydeck, watch the visual presentation of the construction and features of the building. Use this information and your visitors guided to fill in the missing information about each fact before you start your calculations.

For some activities you will be required to estimate multiplication. This may be done by rounding. When calculating your solution, explain your method of estimation.

Show all your working for each question below.

Fact 1: The Eureka Tower is _____ metres high and has _____ levels/stories. That's the same as 20 trams end to end.

a. List 5 other comparisons and show your calculations. E.g. the numbers of cars end to end (lengthwise)

- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____

b. How does it compare with your height? How many of you would it take to reach the height of the Eureka Tower?

Fact 2: Eureka's lifts travel at _____ metres per second – just as fast as an Olympic sprinter.

a. Investigate something with a similar travel speed.

Fact 3: The façade consists of glass and aluminium panels covering an area of _____ square metres. This would cover the MCG twice!

a. How many times would it cover your school oval? (NOTE: You will need to first calculate the area of your school oval. This could be done by drawing a diagram stating all the dimensions. Then show how you calculate the area).

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- b. The block of land your house is on? (NOTE: You will need to first calculate the area of your block of land. This could be done by drawing a diagram stating all the dimensions. Then show how you calculate the area).

Fact 4: There are 1,642 stairs from level 1 to level 88. It would take the average person about 30 minutes to walk up them.

- a. If there are a total of 1,642 steps from level 1 to 88, how many steps are on each level?

- b. Find the height of the tower from level 1 and 88.

Height of the Skydeck _____

If there are 1,642 steps how high is each step?

Back at school.

- c. Walk up one flight of stairs timing this using a stopwatch. Assuming you are able to walk at the same pace, estimate how long it would take you to walk the 88 flights?

Fact 5: The building weighs _____ tonnes which is equivalent to 40,000 elephants.

- a. List 5 comparative weights. E.g. how many of you would it take to weigh this much? E.g. dogs, rhinoceros

- i. _____
- ii. _____
- iii. _____
- iv. _____
- v. _____