Guesstimate

What is a Guess Estimate?

A guess estimate is an informed guess where there is enough information to **eliminate** the need of a **wild guess** but not enough information to make a **statistically sound estimate.**

A guesstimate is an estimate more greatly shaped by guesswork than an ordinary estimate would be (because many estimates can be made in a more scientific manner).

Numbers are thrown at us all the time.

* They are frequently used to scare us:
  + “Shark attacks doubled this year!”
  + “Dozens of lives could be saved by using infant car seats on airplanes!”
* They are needed to understand the world around us:
  + “The average American produces 100 cubic feet of garbage every year!”
  + “Nuclear power plants produce tons of high-level radioactive waste!”

You can make sense of these often confusing and sometimes contradictory numbers with just two tools:

1. An understanding of the meaning of large numbers.
2. An ability to make rough, common-sense, estimates starting from just a few basic facts.

What are Guesstimates relevant to Interviews?

* Interview questions based on guesstimates ask the candidate to estimate a number based on very limited information (hence “guess”).
* Successfully answering these questions relies on a combination of mental math, logical thinking, problem-solving skills, and background knowledge.

Approach for Solving Guesstimates :

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1. **Clarify the problem**

Guess estimate questions can sometimes be extremely vague and ambiguous. It is always advisable to clarify all your doubts about the question.

Let’s take an example :

You might be asked to find the number of flights that depart from Delhi. Now this question can have multiple interpretations.

* Is the interviewer concerned about passenger flights or cargo flights, or both?
* Is he talking about local flights or international flights?
* Is he only talking about IGI Airport or other airports in Delhi like Safdarjung, Hindon AF Station?

1. **Breakdown the problem**

Break down the actual problem into subproblems if possible. Estimating parameters on a segment level is far more accurate than making guesses on the overall.

Let's continue on the same example of the departing flights. Break it down into

* Local flights / international flights / layover flights
* Passenger flights / cargo flights
* Peak hours / normal hours / non operational hours
* Weekdays and Weekends

1. **Make assumptions**

* There are various approaches to solve guesstimates, but robust assumptions should back each of them.
* Problems like market sizing are based on many assumptions, and a wrong one can lead to a huge negative impact.

**For example, finding the number of toothbrushes sold in India in a year is heavily dependent on the average life of a toothbrush. Assuming it to be six months instead of four can completely change your solution.**

* So it is always advised to take buy-in from the interviewer while assuming any number but be prepared to defend your assumptions with logic and rationale.

Apply your general awareness of the environment you’re dealing with to come up with numbers.

The golden rule is to use beautiful numbers.

* Sure, you may get the exact population of Delhi as 18,686,902 with a simple Google search but it sure doesn’t sound as pretty as 20,000,000.
* How many people to assign to different age groups? Work in percentages.
* We’re a young country, so the maximum weightage goes to the 15–40 year group.

1. **Consolidate the pieces**

* Use calculations to consolidate the pieces into a final answer.
* Add all the assumptions and numbers that you have come up with.
* If you have sub problems you can adjust the numbers and check if additional cases are to be checked.
* It is always a good idea to keep on validating intermediate numbers using your experience and sense checks.
* At this point you can check or think about any edge case or any additional scenario related to the problem and account for it.

Additional points :

* There’s no correct answer or correct approach to a guesstimate question.
* Make defendable, fact-based estimations. Reasons for your assumptions are important.
* When answering a guesstimate, you want to showcase your ability to analyze a situation and form conclusions by thinking out loud. You’ll drive toward a conclusion through a series of increasingly specific analyses.
* Always take buy-in from the interviewer for your assumptions, avoiding asking questions leading to the direct answer.
* Round up the numbers for easy calculations. Answer in terms of ranges instead of absolute figures.