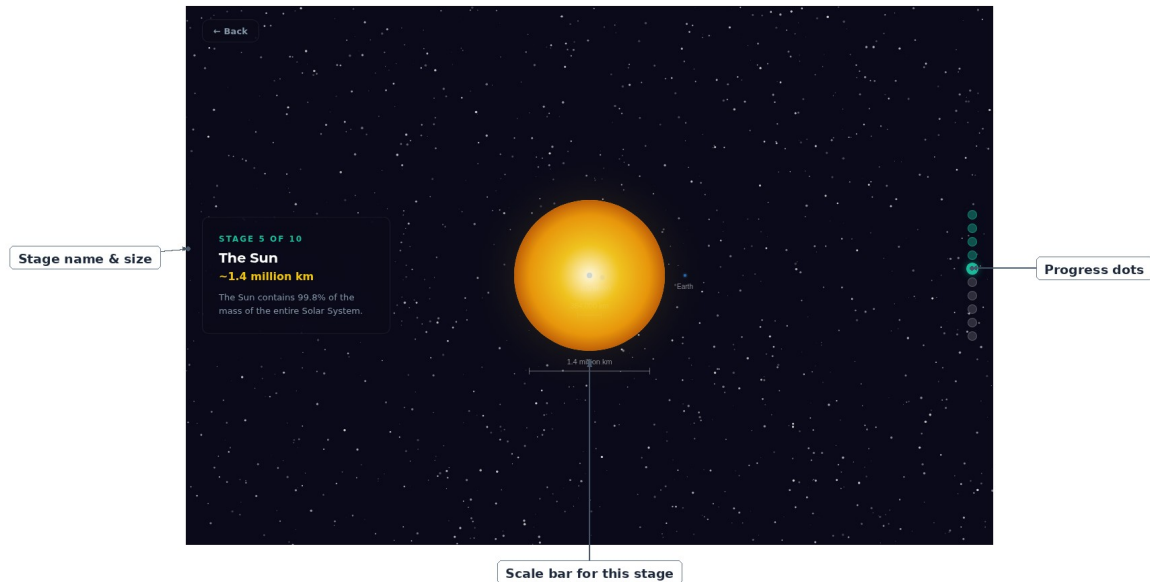


Investigating the Scale of the Universe

From a Human to the Observable Universe

Aim:

You are exploring how the sizes of objects in the universe compare, from a human being to the observable universe.



Method:

1. Scroll down slowly from the start of the page. Pause on each of the ten stages and read the stage name, its size, and the note shown in the panel.
2. Record the name and size of each stage in your first results table, converting every size to metres.
3. Continue scrolling until you reach the Scale Comparisons table at the end of the journey.
4. Record the factor given for each of the five named jumps in your second results table.

Prediction:

Look at the first jump in the journey: from a human (~1.8 m) to Mount Everest (~8,800 m). Do you predict later jumps in the journey will be roughly the same size, or much bigger?

Now scroll through the full journey to test your prediction.

Results:

Record the size of each stage as you scroll, converting every value to metres:

Stage name	Size (m)

Now copy the factor for each jump from the Scale Comparisons table at the end of the journey:

Comparison	Factor

Analysis:

Which single jump has the largest factor? Which has the smallest?

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Roughly how many powers of ten (multiples of $\times 10$) does the size increase overall, from a human to the observable universe? Show how you estimated this from your table.

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Pick the two consecutive stages whose jump in scale surprised you the most. Explain in your own words why that jump is so much bigger than the others.

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