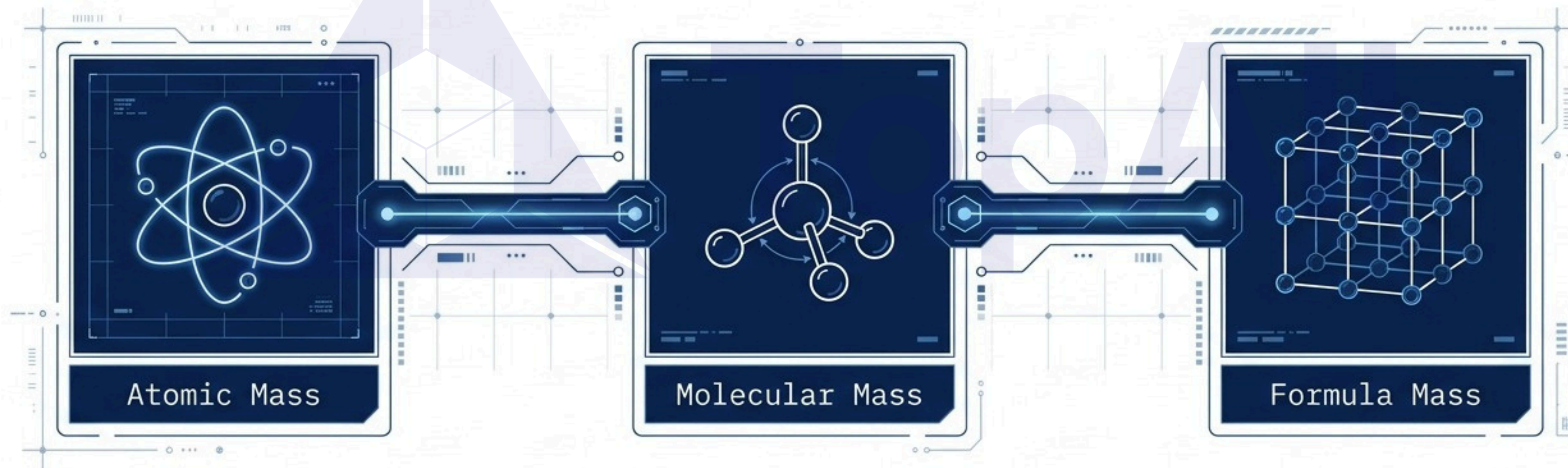
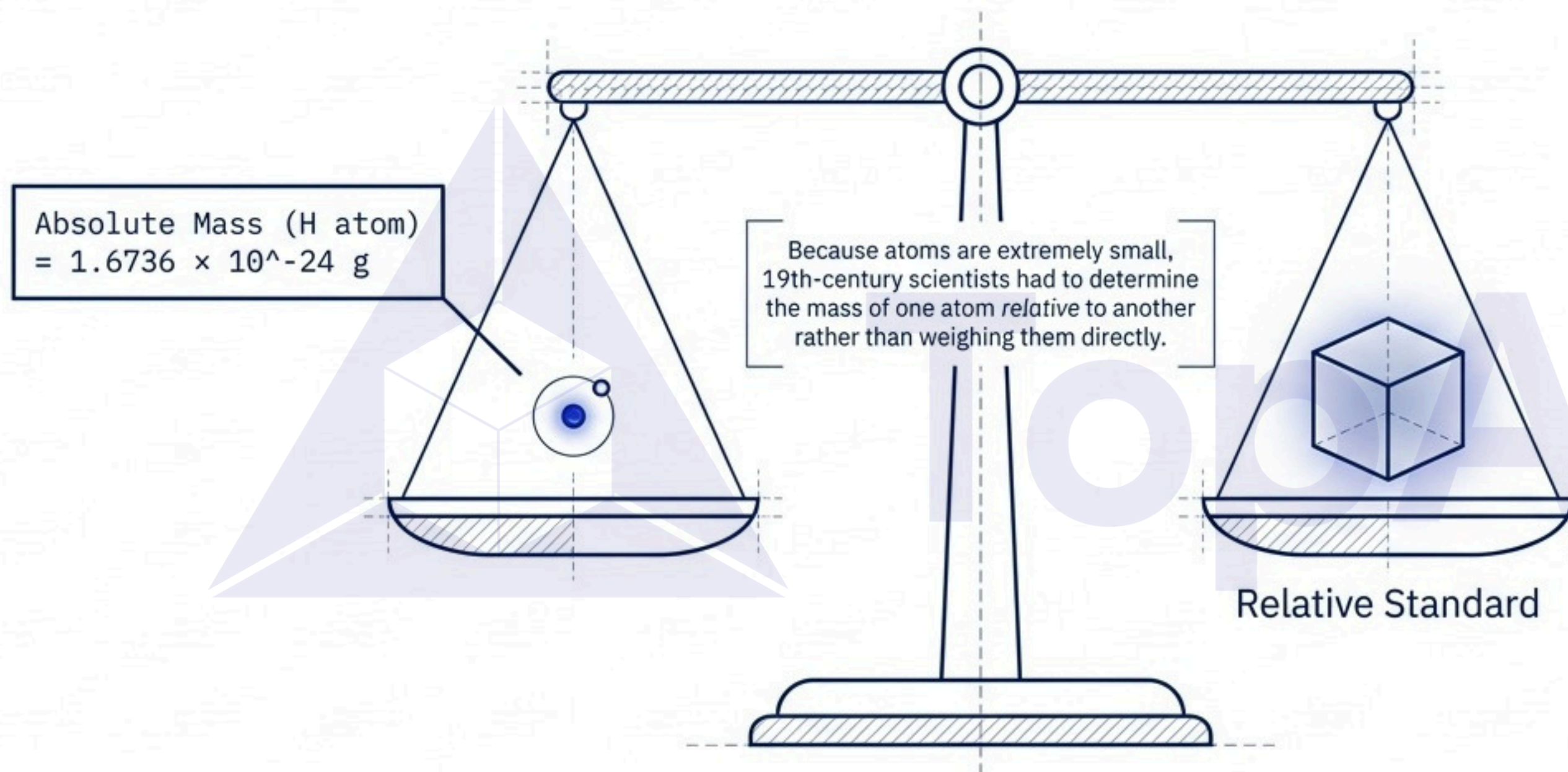


Atomic, Molecular and Formula Mass

24. 1.7 Defining the Mass Scale from Atoms to Compounds

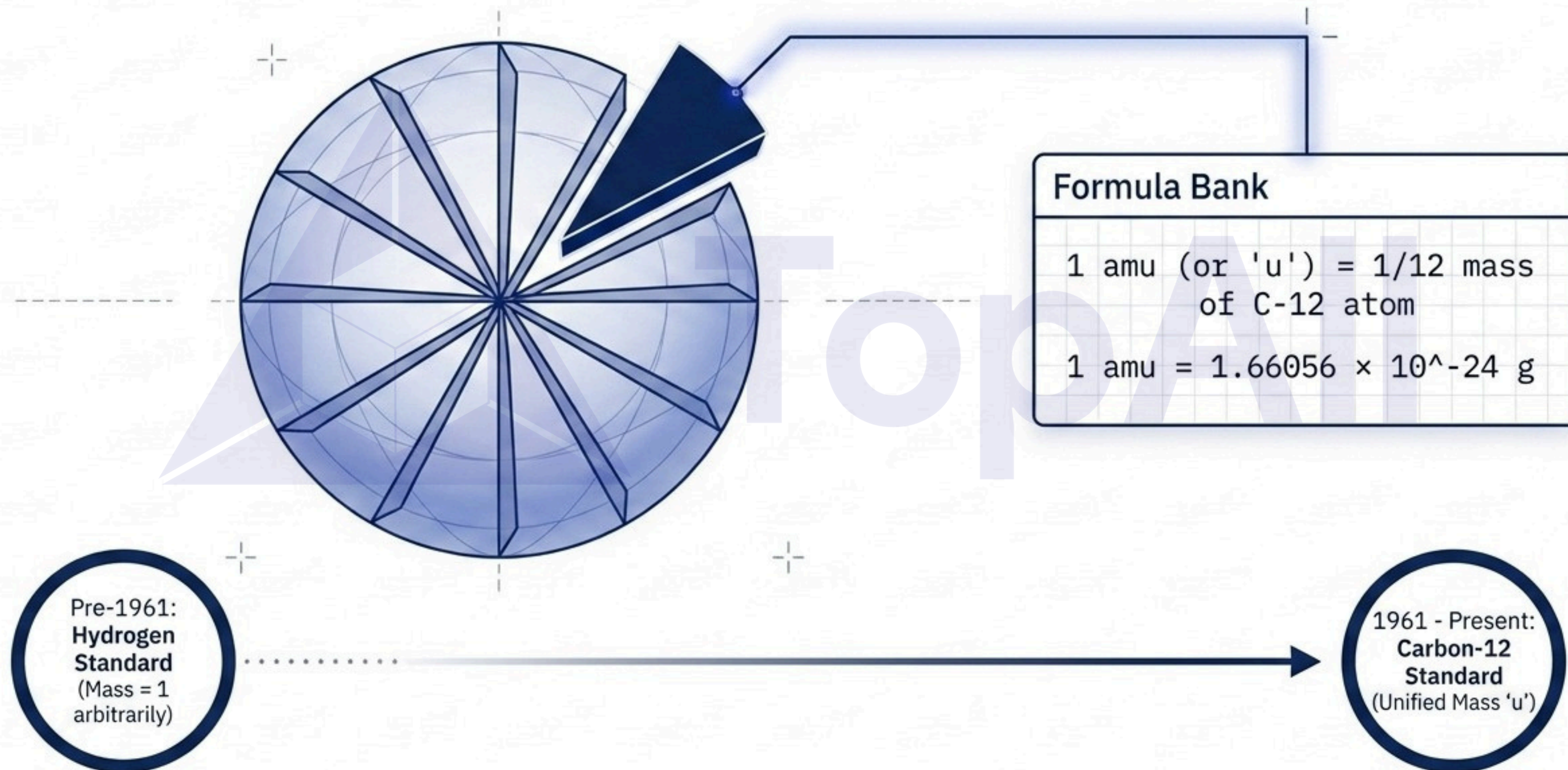


The Problem: Why Relative Masses?



Absolute mass is impractical. We use relative masses to make microscopic calculations manageable at a macroscopic scale.

The Standard: Carbon-12 Roadmap





You've Learned the Theory. Let's Test Them Now.

$$E=mc^2$$



Turn theory into marks with **unlimited MCQs, smart analysis, and focused revision.**

Practice Now



At prep.topall.app

Key Highlights

- » Free Study Material, Videos & Infographics
- » Push Your Limits with Level-Based Challenges
- » Climb the Leaderboard Among Fellow Aspirants
- » Practice Unlimited MCQs for NEET & JEE
- » Get Clear Explanations, Not Just Marks
- » Track Your Performance Smarter

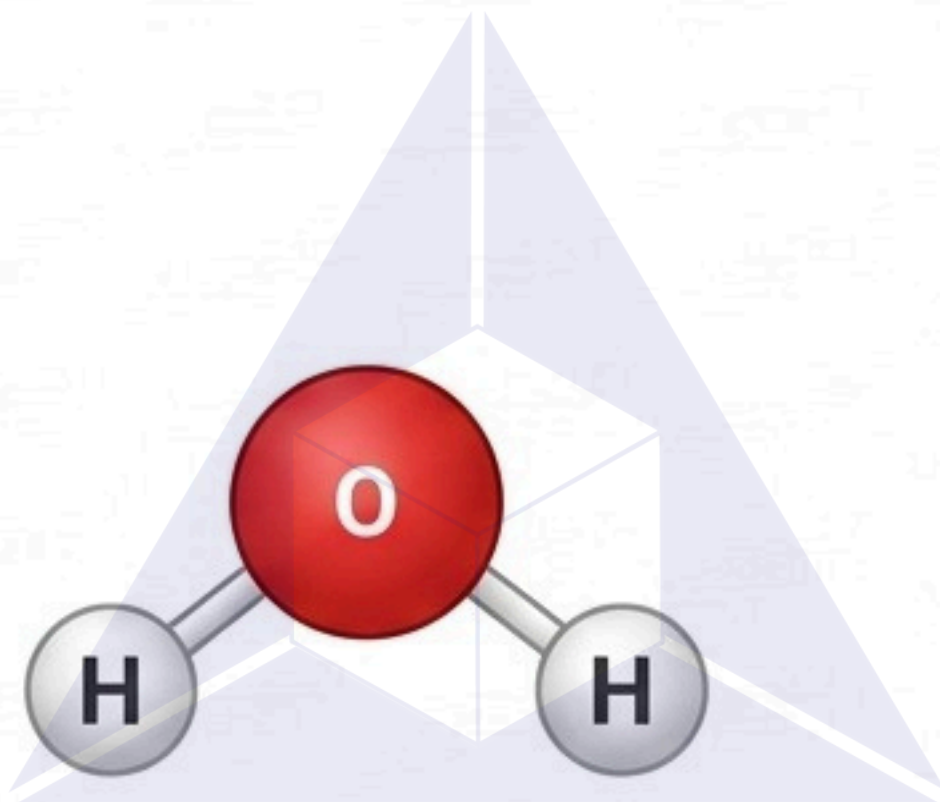


Taxonomy of Chemical Mass

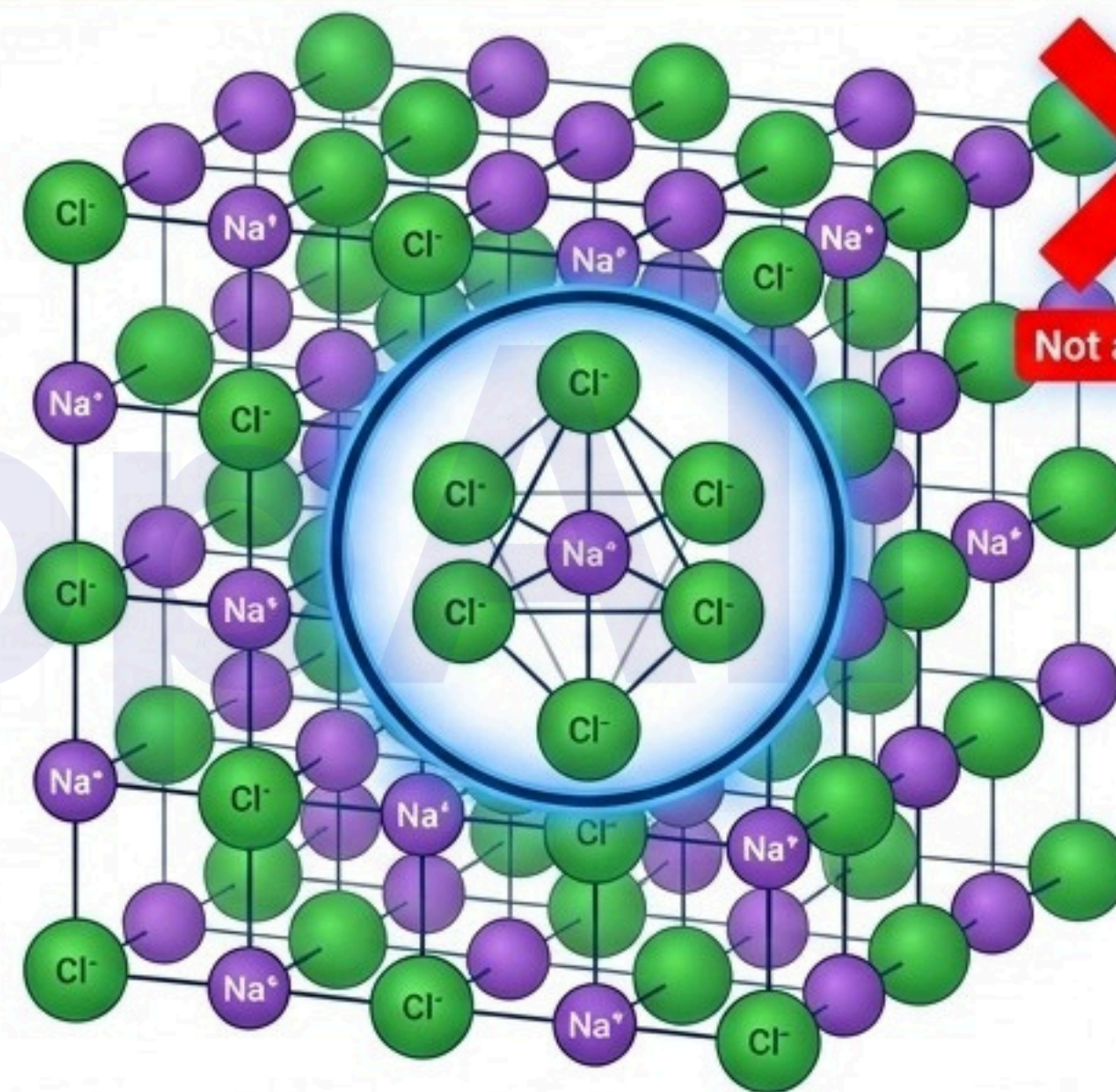
	Atomic Mass	Average Atomic Mass	Molecular Mass	Formula Mass
Entity Type	Single atom	Element with isotopes	Discrete covalent molecules	3D Ionic Lattices
Calculation Method	Relative to $1/12$ C-12	Sum of (Isotope Mass $\times$ Fractional Abundance)	Sum of atomic masses in molecule	Sum of atomic masses in simplest ratio (empirical formula)
Example	$^{12}\text{C} = 12 \text{ u}$ (exact)	C (natural) = 12.011 u	$\text{CH}_4 = 16.043 \text{ u}$	$\text{NaCl} = 58.5 \text{ u}$

Structural Reality Dictates the Term

TRAP: Asking for the 'molecular mass' of NaCl. NaCl does not exist as discrete molecules!



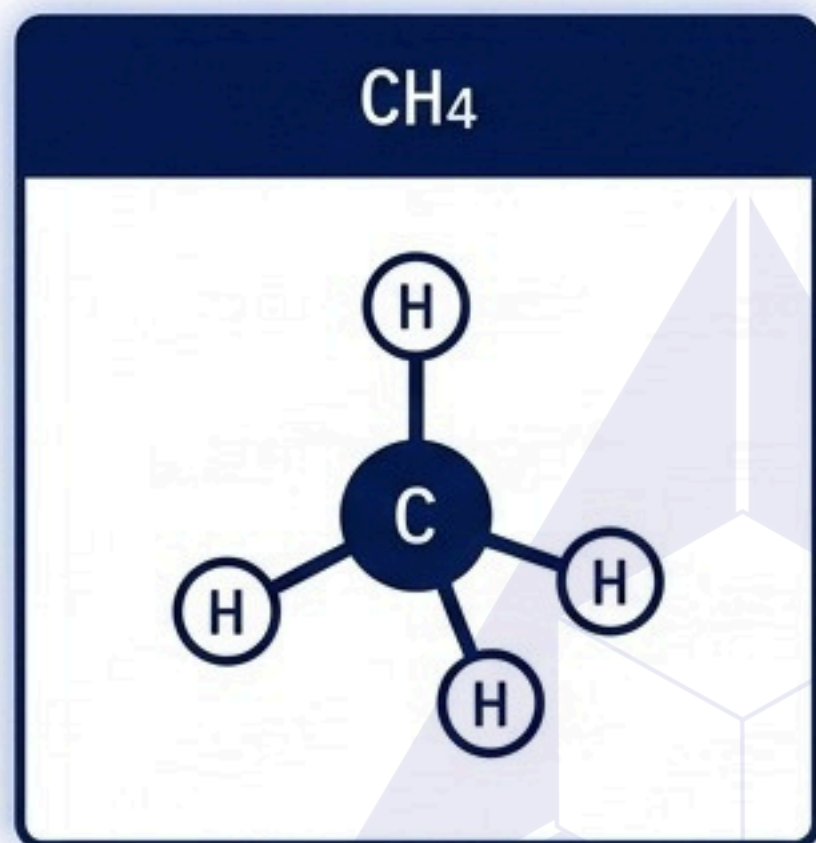
Discrete Entity → Molecular Mass (18.02 u)



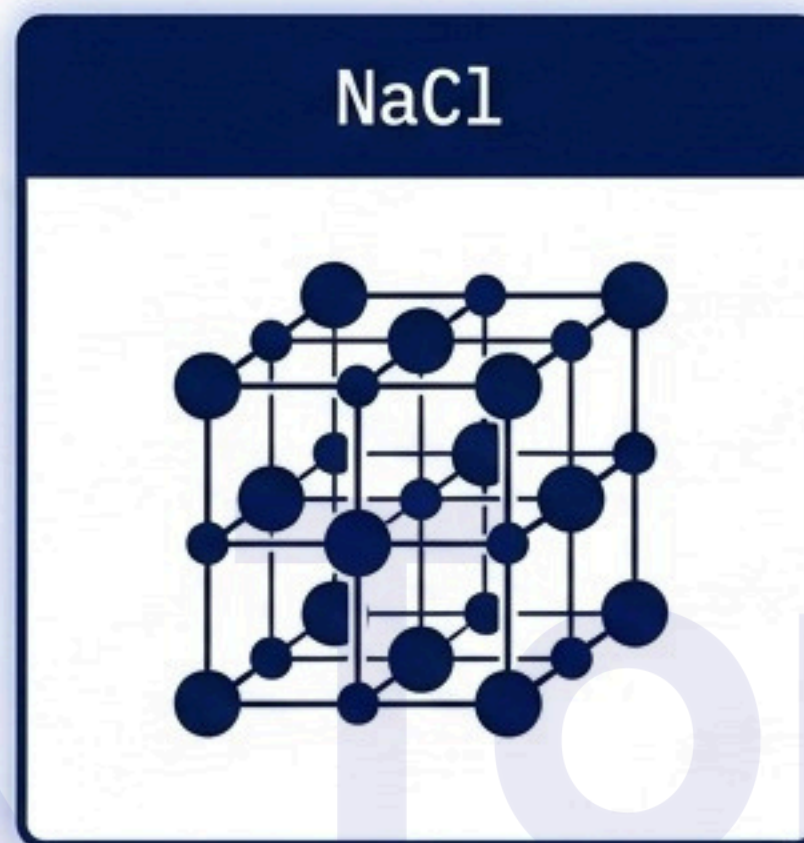
No single discrete molecule exists. We must use the simplest ratio formula → Formula Mass (58.5 u)



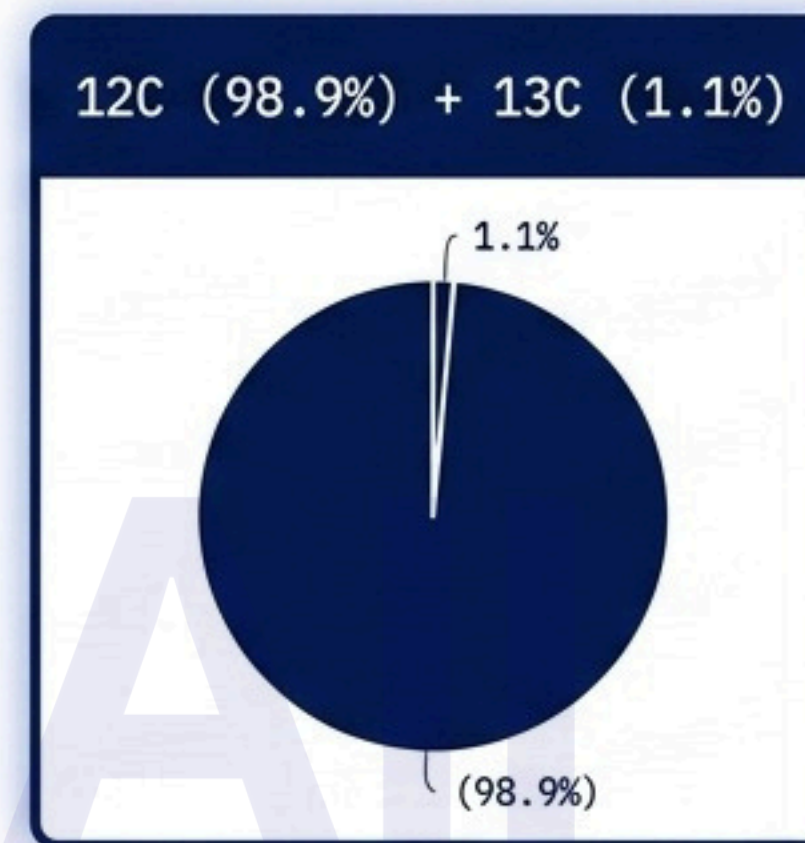
Mini Application: Categorize the Entity



Molecular Mass
(16.043 u)

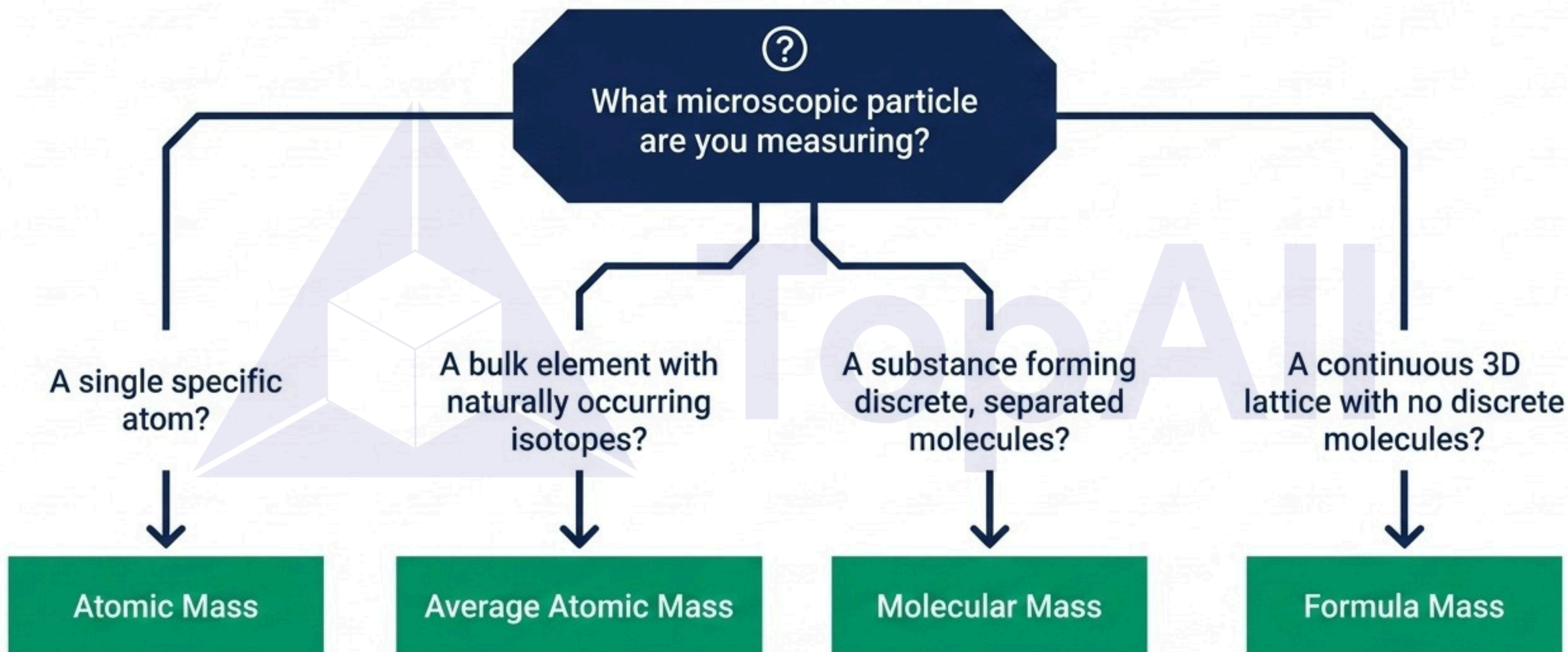


Formula Mass
(58.5 u)



Average Atomic Mass
(12.011 u)

The Ultimate Mass Decision Tree



The term you use is entirely dependent on the physical reality of the particle structure.



You've Learned the Theory.

Now Let's Test It.

Reading notes gets you knowledge.

Practicing MCQs gets you marks.

That's exactly what TopAll Pro is built for.

Try TopAll Pro Now

What TopAll Pro Does Differently

-  **Stuck? Snap it. Solve it. — Doubts AI**
Photo → step-by-step solution in seconds, 24/7
-  **Your AI Coach finds your blind spots**
Concept-level weakness detection — not just chapter-level
-  **4.5 Lakh+ questions. Never run out.**
13× more content than any other prep app in India
-  **Build your own test in 60 seconds**
Pick a chapter, set difficulty — AI does the rest instantly.
-  **AI Recommendation that helps you improve**
AI Recommendation Analysis your Tests and tell you where you need to improve.



Practice the moment you finish studying
Jump in while the concept is still fresh in your head

4.5L+
MCQs

1.5L+
Students

AI Powered
In-Depth Analysis