

Curiosity: Why Do Neon Signs Glow?

Curiosity Reading | CheAI Research Inc.

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Connection: technology and art

Reading time: 4 minutes

Gas-discharge lights give visible evidence that atoms have quantized energy differences. In a grade-appropriate shell model, rings help organize electron counts and valence patterns. They do not show electrons travelling on colored circular tracks. Modern electron models use probability and energy ideas that are more complex than the drawing. A model is still valuable when it correctly organizes useful predictions while stating what it leaves out.

Think like a chemist

1. What does a shell drawing help predict?
2. What does it not show literally?
3. Why can a model be useful and incomplete at once?

Word	Meaning	Packet
valence	outer electrons in this model	1, 6–8
shell	grade-appropriate electron-count region	3–5, 9–17
model limit	feature the representation cannot claim	10, 16, 20