

Physics booklet # 4

Sep 16, 2015

AMS || Teacher: Mr Bari || Use Scientific notation to express physical values efficiently.

Name/Period:

Topic : Scientific Notation

Scientific Notation is a convenient way to write large/small numbers

1	Do Now				
	<table border="1"><thead><tr><th>Energy above ground state</th></tr></thead><tbody><tr><td>$E_4 = 7 \text{ eV}$</td></tr><tr><td>$E_3 = 6 \text{ eV}$</td></tr><tr><td>$E_2 = 4 \text{ eV}$</td></tr><tr><td>$E_1 = 0 \text{ eV}$</td></tr></tbody></table> <p>a. An electron begins in ground state (E_1) of this atom. How much energy must be absorbed by the electron to reach the 4th energy level?</p> <p style="text-align: center;">$E_4 - E_1 = 7 \text{ eV} - 0 \text{ eV} = 7 \text{ eV}$</p> <p>b. How much possible ways can this atom emit a photon if electron starts in the 4th energy level?</p> <p style="text-align: center;">6 Ways</p>	Energy above ground state	$E_4 = 7 \text{ eV}$	$E_3 = 6 \text{ eV}$	$E_2 = 4 \text{ eV}$
Energy above ground state					
$E_4 = 7 \text{ eV}$					
$E_3 = 6 \text{ eV}$					
$E_2 = 4 \text{ eV}$					
$E_1 = 0 \text{ eV}$					

	$(7.97 \times 10^4) - (2.62 \times 10^3) =$
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4	$(3.215 \times 10^{-2}) + (3.2 \times 10^{-4}) =$
	$(7.97 \times 10^4) - (2.62 \times 10^3) =$

5	$(3.4 \times 10^6)(4.2 \times 10^3)$ $= (3.4)(4.2) \times 10^{(6+3)}$ $= 14.28 \times 10^9 = 1.4 \times 10^{10}$
	$(3.2 \times 10^4)/(5.7 \times 10^{-3}) =$

6	$(6.4 \times 10^6)/(8.9 \times 10^2) =$ $(6.4)/(8.9) \times 10^{(6-2)}$ $= 0.719 \times 10^4$ $= 7.2 \times 10^3$
	$(3.2 \times 10^4)/(5.7 \times 10^{-3}) =$

7	$\sqrt{\sqrt{3.6 \times 10^5}} =$ <p>$= 6 \times 10^2$</p>
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8	<p>Write the main idea of the video...</p> <p>N/A</p>
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9	<p>Assessment</p>
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Express each number in scientific notation.	
1) 625 = _____	2) 4,216 = _____
3) 49,603 = _____	4) 25 = _____
5) 18,569 = _____	6) 836 = _____
7) 9,364 = _____	8) 34,121 = _____
9) 22 = _____	10) 912 = _____
11) 7,350 = _____	12) 4,874 = _____
13) 62,503 = _____	14) 13,058 = _____

HOMEWORK

10	Question: How many meters does light travel in 1 days? The speed of light is 300,000,000 m/s. Convert the answer to miles/s. (Final answer should be in SN). Due: 9/17/15
	<p>Answer:</p> $V = d/t$ $d = Vt$ $d = (3 \times 10^8) \times (1 \times 24 \times 60 \times 60)$ $2.6 \times 10^{13} \text{ meters}$

