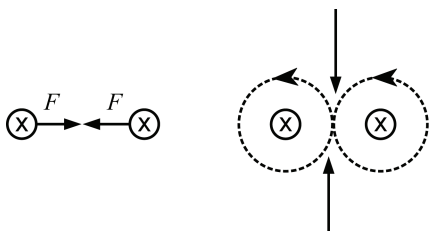


AB Physics 30 SNAP Errata

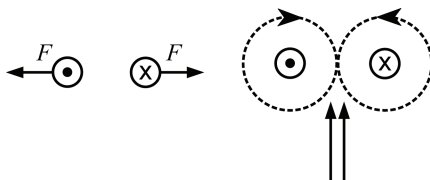
Errata 1

Two graphics are incorrect.

On page 112, the graphic at the bottom of the page should appear as:



On page 113, the first graphic should appear as:



Errata 2

On page 52 in the section on charging by induction, the sentence

“An electroscope is an instrument used to detect the presence and nature (+ or –) of a charge.”

Has been changed to appear as

“An electroscope is an instrument *with a known charge*, used to detect the presence and nature (+ or –) of another charge.”

Errata 3

On page 90 the equation for voltage was changed from $V = \frac{\Delta \vec{E}}{q}$ to $V = \frac{\Delta E}{q}$ since V is not a vector quantity.

Errata 4

On page 180 and 194 the equation for magnification in terms of the image and object distances was changed from $M = \frac{d_i}{d_o}$ to $M = \frac{-d_i}{d_o}$. The negative sign was previously missed. The

equation comparing the image and object heights to the image and object distances was changed from $\frac{h_i}{h_o} = \frac{d_i}{d_o}$ to $\frac{h_i}{h_o} = \frac{-d_i}{d_o}$, again to include the negative sign.

Errata 5

On page 216 in the section describing different wave types, the sentence

“Transverse waves vibrate the particles of a medium *vibrates* to the direction of energy flow.”

Has been changed to appear as

“Transverse waves vibrate the particles of a medium *perpendicular* to the direction of energy flow.”

Errata 6

On page 293, both occurrences of the formula $r_n = r_1 n_2$ were changed to $r_n = r_1 n^2$ since the “2” was incorrectly subscripted instead of being entered as an exponent.

Errata 7

On page 318, question #1 was changed from

“The first line in the Lyman series has a wavelength of 121 nm. What is the wavelength of the *second* line in this series?”

To now correctly appear as

“The first line in the Lyman series has a wavelength of 121 nm. What is the wavelength of the *third* line in this series?”

Errata 8

On page 240 *the following information was added* to allow the student to perform the example calculations.

Wavelength (m)	Frequency (Hz)	Stopping Voltage(V)	E_{kmax} (J)
4.05×10^{-7}	7.41×10^{14} Hz	1.67V	2.67×10^{-19} J
4.36×10^{-7}	6.88×10^{14} Hz	1.45V	2.32×10^{-19} J
5.46×10^{-7}	5.49×10^{14} Hz	0.875V	1.40×10^{-19} J
5.78×10^{-7}	5.19×10^{14} Hz	0.750V	1.20×10^{-19} J

Errata 9

On page 359, in question #4 the masses for ${}^2\text{H}$ and n were adjusted to appear correctly as ${}^2\text{H} = 3.3444 \times 10^{-27}$ kg and $n = 1.6749 \times 10^{-27}$ kg .

Errata 10

On page 401, the solution for the question #11 should state that *the correct answer is A*.

Errata 11

On page 404, the solutions for practice questions #3 and #4 from the lesson on reflection in the electromagnetic radiation unit have been combined into a single solution. The solution for #3 includes everything up until the final solution of 64° . The solution for question #4 follows from there.

Errata 12

On page 421, the solutions for questions #9 and #10 from the practice quiz for the unit on atomic structure have been combined into a single solution. The solution for question #9 includes everything up until the final solution of 3.31×10^{-10} m . The solution for question #10 follows from there.

Errata 13

On page 422, the solutions for questions #12 and #13 from the practice quiz for the unit on atomic structure have been combined into a single solution under the heading of question #13. However, the solution for question #12 is incorrect and should appear as:

Note: 654 nm is visible.

\therefore it is in the Balmer series ($n_1 = 2$)

$$\frac{1}{\lambda} = R_{\text{H}} \left(\frac{1}{n_1^2} - \frac{1}{n_u^2} \right)$$
$$\frac{1}{6.54 \times 10^{-7} \text{ m}} = (1.10 \times 10^7 / \text{m}) \left(\frac{1}{2^2} - \frac{1}{n_u^2} \right)$$
$$n_u = 3$$

Therefore, the transition is from 3 to 2.

And the solution for question #13 is correct and starts at the point where $\lambda = 1.87 \times 10^{-6}$ m .