Exploring Creation with Physical Science 3rd Edition – Errata File

This file contains the corrections for the 2nd (July 2020) and 3rd (August 2020) Printings of the **Textbook**. The printing for the Textbook, Solutions and Tests Manual, and Student Notebook may not be the same. Corrections for the Solutions and Tests Manual and Student Notebook are in separate files. (Updated 6/18/2021)

Page 34 – At the end of Step 9 – change the last 2 sentences to read: "This gives you the number of swings per minute and is known as the frequency. Now find the period by dividing the frequency into 1 (period=1/frequency). Record the period in your data table."

Page 35 – In the Results section, change the first sentence of Step 1 to read: Find the average period for each mass…

Page 35 – In the first paragraph after the experiment, line 3 – change the words inside the ( ) to read: the time it takes for a full swing.

Page 80 – In the second paragraph under A History of the Atom – Change Figure 2.2 to Figure 3.2.

Page 91 – Add the following sentence to the end of the paragraph right before the definition of Mass number:

"The mass number of an atom is also known as its atomic mass."

Page 103 – In the 2nd to last sentence of the paragraph under Modern Periodic Table – change the word 'period' to 'periodic'. "Figure 3.26 shows a modern periodic table of elements."

Page 109 – In the 3rd paragraph, at the end of the 2nd sentence, add the following so the sentence reads:

"…they emit different colored light, as their excited electrons return to the ground state."

Page 153 – In Table 5.1 Iodine row, Anion Name column:
change the name from iodine to iodide.

Page 179 – You Do Science – between the 3rd and 4th sentences, add this note:

"(If you use a 2 liter bottle, you can double the ingredients for a more exciting result.)"

Page 181 – At the end of 5.2a, Change the $CaCl^2$ to $CaCl_2$.

Page 182 – # 5.7 – Change the 2nd sentence of the answer to:

"During the decomposition of water, the reverse reaction takes place. Water is broken down into its elements, according to the equation"

Page 184 – # 2b. – Change the answer option to calcium (I) chlorine (II).

Page 220 – # 6.11 Step 1A – change v_1 to v_i and v_2 to v_f.

– # 6.11 Step 4 – change the 6s in the denominator to 0.05 min

Page 221 – In # 5, after the comma, reverse 'it is' to be 'is it' so it reads as a question.

Page 222 – Change question # 10 to the following:

"A boat is traveling downstream on a quiet river with a speed of 8.0 m/s, and another boat is traveling with a speed of 10.0 m/s upstream. What is their relative speed?"

Page 237 – In the 4th line on the page; change the first word 'car' to 'friend'.

Page 250 – Problem D. Step 1; add F = ? in N to the list of unknowns.

Page 250 – Steps 3 & 4; in the equation F= change the 1.0 m to 1.0 m/s^2

Page 252 – Example 7.3A Steps 3&4 – This W stands for weight and therefore, it should be italicized and match the W in step 2.

Page 265 – *see end of edits below for the addition of the answer to the 2nd part of question 7.10.

Page 274 – Problem B. in the question, change 25 m/s to 24 m/s

Page 274 – Problem C. in the question, change 42 m/s to 48 m/s

Page 291 – Under the section Calculating Power, in the first sentence, add "of work" after amount so it reads "…simply by dividing the amount of work done by…"

Page 292 – In the first sentence on the page...The SI unit of power is the watt (W). The capital W inside the parentheses should be the same font as the W in Example 8.4 A. Step 1: P = ? in W. This W is a symbol, with no flourishes on the W.

Page 294 – Procedure Part A #6 – change to:

"Calculate the force (in this case it is the weight, use W = mg, where g = 9.8 m/s^2), work, and power (in watts and horsepower) that you produced as you lifted the 1 lb mass and record it in the data table."

Page 295 – Procedure Part B #4 – change to:

"Calculate the force (your weight, use W = mg, where g = 9.8 m/s^2), work, and power (in watts and horsepower) that you produced as you lifted your body up the stairs and record it in the data table."

Page 299 – Example 8.5A – Line 2 and line 10, change "incline" to "inclined"

Page 306 – 3 edits:

1. 8.10 Step 1: P = ? in W. This W is the symbol for watt and should also be the same as above on page 292.

2. 8.10 Step 2: P = *W*/t. This W represents work so it should be italicized.

3. 8.10 Step 3&4: 18.75 W – this W is the symbol for watt and should be the same as above on page 292.

Page 310 – #16 – change '20.0 km/s' to '20.0 m/s' and remove the hint at the end of the question.

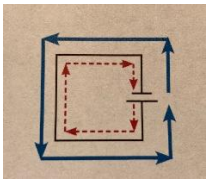
Page 310 – #17 – for clarification, change the beginning of the first sentence to: "Suppose 200.0 kg of…" and the beginning of the 2nd sentence to "How much gravitational potential energy…"

Page 322 – see last page for a pdf of page 322 without the overlapping content.

Page 379 – OYO 10.8 – the A. and B. should be reversed so B. is on the top.

Page 398 – In point #3. Change the following:
- In line 4, (1/22… should be $1/2^2$…)
- In line 6 the 22 should be 2^2

Page 428 – OYO #11.5 image – the red arrow head pointing up to the line for the positive side should point down.



Page 445 – On line 2 of the page, change 12.10 to 12.9.

Page 471 – In Step 12, change the number 5 to 11.

Page 499 – In the third section of Infographic 14.2, change the 'Rings' title in the brown box, from Cyclobutane C_4H_{10} to Cyclobutane $\mathbf{C_4H_8}$.

Pages 508 and 540 – Experiment 14.1 – change 100 mg vitamin C pill to 1000 mg vitamin C pill.

Page 516 – At the end of Study Guide question #9, it should read: "…such as the one shown in Figure 14.7."

Page 536 – The You Do Science listed under Module 3 should be moved to the Module 4 list.

Page 537 – Under Module 6, remove the list for Experiment 6.2.

*Page 265:

7.10 To answer the second part of the question, we need to determine the total force on the block. Since we know the mass and acceleration, we can calculate the total force with Equation 7.2.

Step 1 List the knowns and unknown and check units.

m = 10 kg

a = 1.5 m/s^2 east

F = ? in N

Step 2 Write the equation (7.2).

$F = m \times a$

Steps 3 & 4 Add knowns from step 1 to equation. Double check units and solve.

$F = (10\ \text{kg}) \times (1.5\ \text{m/s}^2) = 15\ \text{N}$

Now remember, this is the total force to which the block is subjected. It is the result of *two* forces: the force applied by the child (*Fa*) and the frictional force (*Ff*). Since friction opposes motion, the total force is the difference between the two. Also, since the block is moving, the frictional force will be the kinetic frictional force which is given in the problem.

Step 1 List the knowns and unknown and check units.

$F = 15\ \text{N}$

$F_{kf} = 20\ \text{N}$

$F_a = ?$

Step 2 Write the equation and rearrange for the unknown.

$F = F_a - F_{kf}$ so $F_a = F + F_{kf}$

Steps 3 & 4 Add knowns from step 1 to equation. Double check units and solve.

$F_a = 15\ \text{N} + 20\ \text{N} = 35\ \text{N}$

So, the child is applying a force with a strength of 35 Newtons. Its direction is east since that's the direction the child wants the block to move. Thus, the actual force used is 35 N east.

7. When the bottle opening is positioned properly, flick the plastic wrap at the other end so you hear the dull thump.
8. What happened to the candle flame? Record your observations.

PROCEDURE—PART 2:

9. Stretch plastic wrap over the top (open end) of the large bowl, as if you were about to store some food in the bowl. As you did in part A, make sure the plastic wrap is stretched tightly across the bowl. Since most plastic wrap clings to dishes, you may not need tape in this case.
10. Spread some rice over the plastic wrap that is stretched across the top of the bowl.
11. Bring the large pot near the bowl, holding it so the top of the pot (the open end) points toward the bowl, as shown in Figure 9.14.

FIGURE 9.14

12. Use the large spoon to start banging against the bottom of the pot.
13. Watch the rice. What happens? Record your observations.
14. Clean up and put everything away.

CONCLUSIONS:

What did you observe in the two parts of this experiment? Write a paragraph describing your observations in terms of how sound energy moves by vibrating through air. Make connections to what you've learned in the text.

Hopefully you "saw" sound in Experiment 9.1. In Part 1, the sound traveled through the air in the bottle once you flicked the plastic wrap and blew out the candle. Sound energy causes air to oscillate (vibrate back-and-forth) enough so that the candles' flame actually blew out. Think about that for a moment. Sound energy traveled from one end of the bottle to the other, and then straight to the candle. Thus, you know the direction of the wave's motion. What about the vibration of the wave? Do you think the air was oscillating parallel or perpendicular to the motion of the wave? If you think about how the flame