e-Science Unit 15: Edits for New Versions of C1000 and C3000 Chemistry Set

The videos in Unit 15 complement several different chemistry sets. Since companies change and revise their products over time, we put together this document to help straighten things out.

In the e-Science program, Lesson 1 contains a set of videos that accompanied the Thames and Cosmos (T&C) C1000 v1.0 Chemistry set. Lesson 2 contains videos that go with the C3000 v1.0. However, T&C replaced v1.0 with v2.0 for both chemistry sets. This means that some of the chemicals have been replaced, exchanged, or left out entirely. The manual also received a complete overhaul, which means that some of the experiments we created videos for are no longer written up in the manual included with your v2.0 chemistry set.

I really wanted you to be able to do the original set of experiments in addition to the new ones in the manual, so we painstakingly went through the entire program and created the match-up sheet so you can still do all the really cool experiments that were part of the original kit.

Here's how it works:

Original Experiment Number and Name	**v2.0 Experiment**	**Notes**
#5 Litmus paper and vinegar	#169 p.95	
#6 lemon juice	#170 p. 95	Uses vitamin C
#7 soft drink	#173 p.96	Uses citric acid, but no soda pop
#8 malic acid	Not in new manual	Materials are there
#9 white wine	Not in new manual	Materials are there
#10 HCl	Not in new manual	Materials are there
#11 tartaric acid	Not in new manual	No tartaric acid . Cream of tartar from the grocery store is weaker, but it might work.
#12 tartaric acid	Not in new manual	No tartaric acid (see #11 notes above)
#13 sodium hydrogen sulfate	#175 p.97	
#14 sodium hydroxide	#171 p.96	Uses results from #170
#15 soap	Not in new manual	Materials are there
#16 calcium hydroxide	Not in new manual	Materials are there
#17 calcium hydroxide	Not in new manual	Materials are there
#18 calcium carbonate	#174 p.96, #176 p.98	Use sodium carbonate, #172 p.96 limewater
#52 Magnesium Battery (C1000)	Not in new manual	Materials are there
#295 Magnesium Battery (C3000)	#122 Page #72	Same result, not exactly the same materials in each lab
#289 Making Copper	#102 Page #58	Uses carbon electrode instead of copper electrode and a different technique
#117 Making Chlorine	Not in new manual	Materials are there, but this experiment seems to be connected to the next experiment, electrolysis

Original Experiment Number and Name	v2.0 Experiment	Notes
#121 Electrolysis	#122 Page #72	
#64 Energy from Sugar	#68 Page #47	
#51 Getting Air from Water	Not in new manual	Materials are there
#74 Working with Cataylsts	Not in new manual	No zinc powder, but zinc powder can be obtained through ceramic and pottery stores
Hydrogen Peroxide	Not in new manual	Materials are there
#58 Generating Oxygen	#75 Page #51	
#76 Detonating Bubbles	#51 p.41	Nearly same but with some changes
#77 Detonating Bubbles	#52 p.41	Similar, with changes
#78 Detonating Bubbles	Not in new manual	Materials are there
#83 Desalination	Not in new manual	Materials are there
#105, 110 Cold Light	Not in new manual	No luminal included, but may be purchased separately.
#13 Carbon Dioxide	Not in new manual	Nothing in the new manual just like #31, but this experiment produces limewater. In the new manual, experiments 60-67 use produce and use limewater.
#53 Zinc Dust	Not in new manual	No zinc powder (see zinc notes above)
#36, 60 Burning Sulfur	Not in new manual	Materials are there
#172-173 Making Sodium Hydroxide	Not in new manual	Materials are there
#102 Potassium Permanganate	#68 Page #47	same except they add sugar as well
#260 copper sulfate	Not in new manual	Materials are there
#261 copper sulfate	#11 p.22 and #16 p.23	
#262 NH_4Cl and Zn	Not in new manual	No zinc powder (see zinc notes above)
#263 hydrochloride acid	Not in new manual	Materials are there
#264 zinc chloride	Not in new manual	Materials are there
#54 Iron Sparklers	Not in new manual	Materials are there
#139 Iodine	#134 p.77	
#140 Iodine	#136 p.78	
#141 Iodine	Not in new manual	Materials are there
#142 Iodine	#137 p.79	
#143 Iodine	#139, #140 p.79	
#144 Iodine	Not in new manual	Materials are there; I think it's unclear to the student which solution is the alcoholic iodine solution. The text just says to use the alcoholic iodine in the experiment, not where it came from.
#145 Iodine	Not in new manual	Materials are there
#146 Iodine	Not in new manual	Materials are there
#147 Iodine	#141 p.79	
#148 Iodine	#144 p.79	
#149 Iodine	Not in new manual	Materials are there

Original Experiment Number and Name	**v2.0 Experiment**	**Notes**
#67, #68, #69 How to Get Hydrogen from Zinc	#243, 244, 245, p.131	Similar, use HCL, not water, produces other gases
#134-138 Hydrogen Bromide	#128-132 p.76	Except no magnesium strip as in old #137
#112 Hydrogen Chlorine Gas	#109, 110 , p.67	