Lesson 3: Investigating With Other Liquids

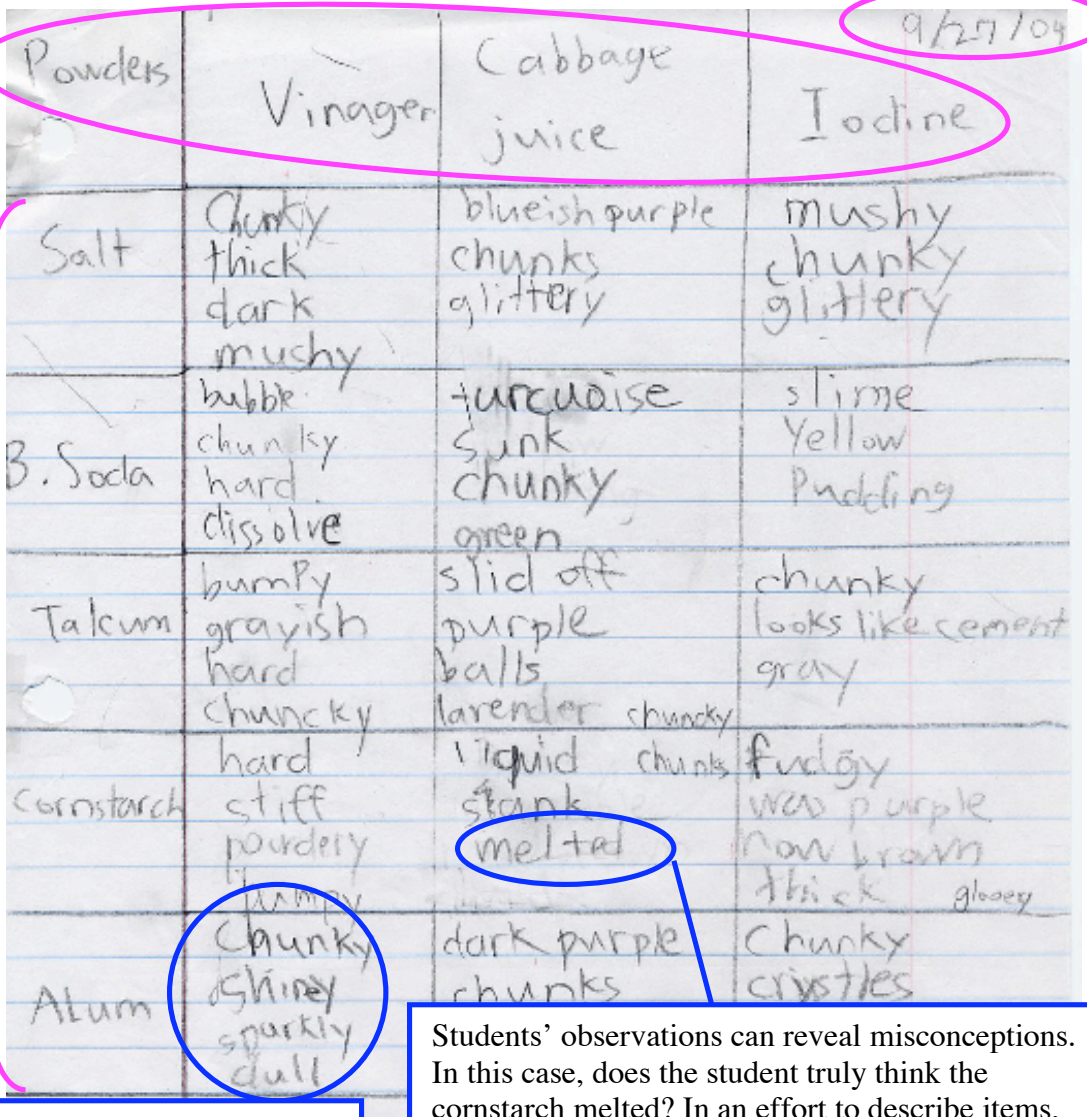
Lesson 3 is one of several lessons that requires the construction and use of a data table.

Sample 1 contains many components of a complete data table. The table is neatly constructed with straight lines, organized, and easy to read**. Items completed well by the student are notated in pink. Areas for improvement are notated in blue.**

Every data table should have a meaningful **title**. Example: Investigating with Vinegar, Cabbage Juice, and Iodine.

All lab entries in science notebook (data tables, notes, etc.) should be dated.

Tables should always include column labels.



Powders	Vinager	Cabbage juice	Iodine
			9/25/09
Salt	Chunky thick dark mushy	blueish purple chunks glittery	mushy chunky glittery
B. Soda	bubble chunky hard dissolve	turquoise sink chunky green	slime Yellow Pudding
Talcum	bumpy grayish hard chuncky	slid off purple balls larender chuncky	chunky looks like cement gray
Cornstarch	hard stiff powdery lumpy	liquid chunks stank melted	fudgy weird purple now brown thick gloopy
Alum	Chunky shiney sparkly dull	dark purple chunks	Chunky crystles

Powders tested are clearly listed. While not expected of students, items being tested (the independent variable—in this case the powders) are generally placed in the left column.

The descriptions of the mixture are contradictory. Phrases in place of one-word observations may facilitate more accurate descriptions. For example, "at first it was shiny and sparkly, after a few minutes it became dull."

Students' observations can reveal misconceptions. In this case, does the student truly think the cornstarch melted? In an effort to describe items, sometimes students use scientific words incorrectly. Sharing observations during a class discussion is one method for uncovering misconceptions and also helping students find more suitable words to describe what they observed.

Sample 2 illustrates the organizational challenges some students may encounter. Despite its initial “messy” appearance, the data are correctly contained under each column, and the table is legible. The key to facilitating growth is having the student reflect on the strengths and weaknesses of the table and helping the student apply this information when constructing another table.