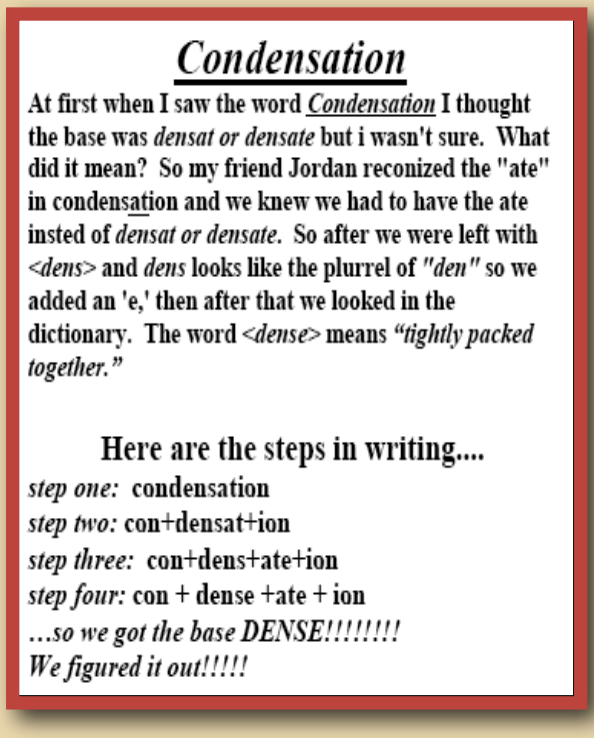
Understanding Spelling Develops a Way of Knowing

Consider this example of structured word inquiry sparked by students as they were introduced to a new concept in science class. The note in the red box was written by students from a Grade 4/5 class. They describe their spontaneous investigation of the structure of the word <condensation> after a science demonstration.

Their teacher, Skot Caldwell, was in his first year of working with structured word inquiry when this episode occurred, but this was not a spelling class. Skot was wrapping up an engaging, active science class investigating changes of state. Students were challenged to explain where the water droplets on the side of a container came from. Through the activity, Skot helped students come to understand about heat energy and movement of particles. He illustrated and explained that as the heat energy dissipated the water molecules move slower until they come together and change from a gas state (vapour) into a liquid state (water droplets). Only then did Skot announce and write the science term <condensation> on the board.



Condensation

At first when I saw the word *Condensation* I thought the base was *densat or densate* but i wasn't sure. What did it mean? So my friend Jordan reconized the "ate" in condensation and we knew we had to have the ate insted of *densat or densate*. So after we were left with *<dens>* and *dens* looks like the plurrel of *"den"* so we added an 'e,' then after that we looked in the dictionary. The word *<dense>* means *"tightly packed together."*

Here are the steps in writing....

step one: condensation
step two: con+densat+ion
step three: con+dens+ate+ion
step four: con + dense +ate + ion
...so we got the base DENSE!!!!!!!!
We figured it out!!!!!

"How is it built?" was the immediate question from students. Prompted by their own question, students investigated a word sum as they describe so well. (It is worth noting as you read this story that this class is an a school with a disadvantaged demographic.)

Applying spelling structure knowledge to the active and independent learning of concepts

Note how the students apply the spelling convention that "complete English words avoid looking like plurals if they are not" when they postulate the spelling <dense> rather than <dens>. This convention was learned in a lesson explaining the reason for the single, silent <e> in the word <please> in previous lesson. Real orthographic conventions are not isolated facts to learn, but tools for later investigations.

It's important to recognize that when they hypothesized the base <dense>, nobody in the class recognized that word. They did not have a strong enough oral vocabulary to guide them (remember the demographic of this school). Their morphological analysis skills, however, provided the scaffolding needed to bring them to a structurally plausible hypothesis. Having generated a compelling hypothesis, they needed no prodding to test it in a dictionary. Previous teacher-led inquiries modelled the needed dictionary skills. Of course they found their hypothesized base word <dense>, and this word's meaning matched that of the concept they had just investigated. Skot could not have planned a better way to consolidate the learning about the science concept of at the centre of this lesson. Further, when this group of students encounter the difficult concept of <density> in later science classes (learners often confuse *mass* and *density*), this group is well prepared to master it quickly. The structure (dense/ + ity → density), and meaning (tightly packed together) will be obvious obvious to this crew.

Motivating Word Knowledge

This group of students are motivated to investigate words. They know enough about how words work that they begin from the assumption that the spelling system is reliable and that investigating it develops their understanding. Each investigation like this deepens their word knowledge, and their ability and motivation for more such investigations.