

If learners apply these five general analytical categories, over and over, to systems of all sorts, the categories will give them a mental framework—a way of organizing what's being learned. That framework will, of course, be enhanced by the addition of appropriate analytical sub-categories expanding the learner's mental "filing system."

Such a framework is missing from today's curriculum, and as a consequence learners are overwhelmed. In response to one of my Knight-Ridder/Tribune columns in the *Orlando Sentinel* newspaper about information overload, I got the following email from John Perry, a teacher in central Florida:

Marion,

Your comments about the SSS [Florida's Sunshine State Standards] hit home for me this year because I ended up teaching middle school science. It is unbelievable what we are asked to do to our students. I expected that middle school science might be divided up into, say physical, earth, and life science in 6th, 7th, and 8th grade respectively. Well, no, even that would make too much sense. Sixth grade science is a survey course of...well, everything under the sun. We have a 776 page book loaded with very concentrated information. There are 23 chapters:

- 1. The Nature of Science
- 2. Measurement
- 3. Matter
- 4. Properties and Changes
- 5. Waves
- 6. Motion and Forces
- 7. Work and Simple Machines
- 8. Views of Earth
- 9. Resources
- 10. Atmosphere
- 11. Weather
- 12. Climate

- 13. Ecosystems
- 14. The Structure of Organisms
- 15. Classifying living things
- 16. Bacteria
- 17. Protists and Fungi
- 18. Plants
- 19. Plant Processes
- 20. Invertebrate Animals
- 21. Vertebrate Animals
- 22. Animal Behavior
- 23. The Solar System and
- Beyond