How to Convert a Cookbook Lab Into a Smarter Science Lab
Please take a moment and share with me:

1. Your name
2. What school board you are from
3. What Grade level or subject you teach
4. What you want to learn from this workshop
Activity - warm up
Smarter Science is a framework for teaching and learning science in grades 1–12 and for developing the skills of inquiry, creativity, and innovation in a meaningful and engaging manner.
What is Smarter Science?

Originally developed in the Thames Valley District School Board, Smarter Science was piloted in 50 schools in Ontario between 2006 and 2010. School boards across the province soon began to recognize the value of the framework, as did Youth Science Canada. Smarter Science is now part of Youth Science Canada’s program for engaging youth in science and providing a curricular connection to project-based science and science fairs.
What is Smarter Science?

Youth Science Canada is collaborating with members of the education community, including school boards, teachers, parents, and ministries of education, to train teachers to teach the processes of inquiry and technological problem solving.
A key feature of Smarter Science is its open-source nature. All resources developed by cooperating school boards and contributing teachers can be accessed online, at no cost, through www.smarterscience.ca and www.educasciences.ca, and resources may be freely reproduced and distributed.
Smarter Science evolved from a need to make the Ontario elementary science and technology curriculum and the secondary science curriculum come alive for students, with classroom activities that reflect the investigative, creative, and social nature of science. Teachers—particularly elementary teachers, who are often less comfortable with their own knowledge of science—need an effective framework for teaching science that actively engages students, incorporates literacy and numeracy learning, and develops thinking skills, problem-solving skills, and independent learners.
Smarter Science is a framework, not a program; it is a means for teaching students how to *do* science, but does not tell you what to teach. Smarter Science, when introduced appropriately, results in learners that are engaged in the process of science and more than willing to create, innovate, and explore the science curriculum.
Thinking Like a Scientist

What do scientists do?

- They ask questions about, and make systematic observations, of natural phenomena.
- They record observations and conduct experiments where possible.
- They use the data they collect to develop models that explain the phenomena.
- They test their models repeatedly, and discard, refine, or confirm them.
What Kind of Inquiry?

Question Sorting

Steps to Inquiry

Planning Our Investigation

- Observe
  - See
  - Smell
  - Hear
  - Touch
  - Taste

- Wonder...

- Research
- Experiment
- Innovation
What category does your question fall under?

Come up and place your Post-It Note question under the Research, Experiment, or Innovation category.
Separating Mechanical Mixtures

How a class of Grade 7 students use the Smarter Science framework to come up with three types of questions for further inquiry.

Source: Nelson Science & Technology Perspectives 7 textbook
Why The Diet Coke and Mentos Did Not Work Out as Predicted

How my Grade 7/8 class used the Smarter Science framework to investigate why their experiment did not work out as planned.

Source: Steve Spangler Science
Innovation distinguishes between a leader and a follower.

- Steve Jobs
For further information on how to implement Smarter Science in your classroom, please see us at:

✧ Booth # 409,508

✧ "Next Steps" Suite (Nerds' Forum)
  Thursday: 2:00-4:00pm, 6:00-8:00pm
  Friday: 12:00-8:00pm
  Saturday: 12:00-4:00pm
Scan this QR code to give us feedback on today's workshop
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