An Open Source Textbook Technology Initiative for Virginia

(In Partnership with CK-12 Foundation, Palo Alto, CA)

JCOTS Open Education Subcommittee Meeting

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Richmond, VA

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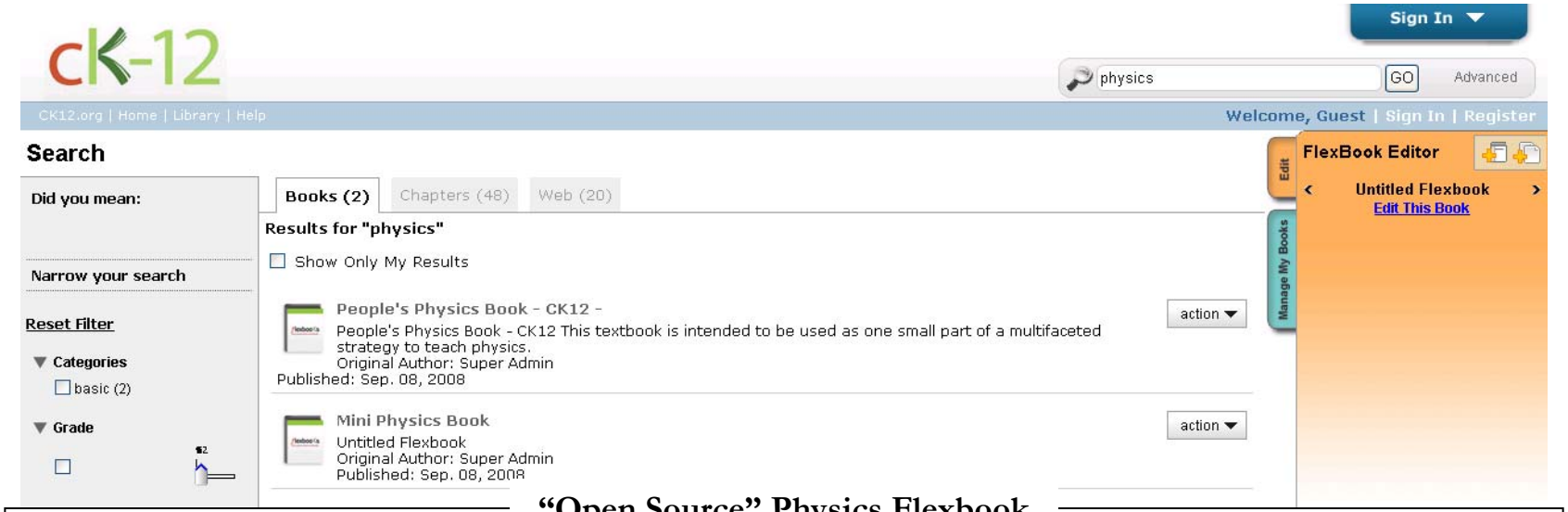
Definition

*Flexibility + Textbook = *Flexbook:* an adaptive textbook

*Flexibility in:
Content
Size
Cost
Student interactions
Response to new discoveries

Empowering Our Brightest Teachers to Publish (Free) Content



"Open Source" Physics Flexbook

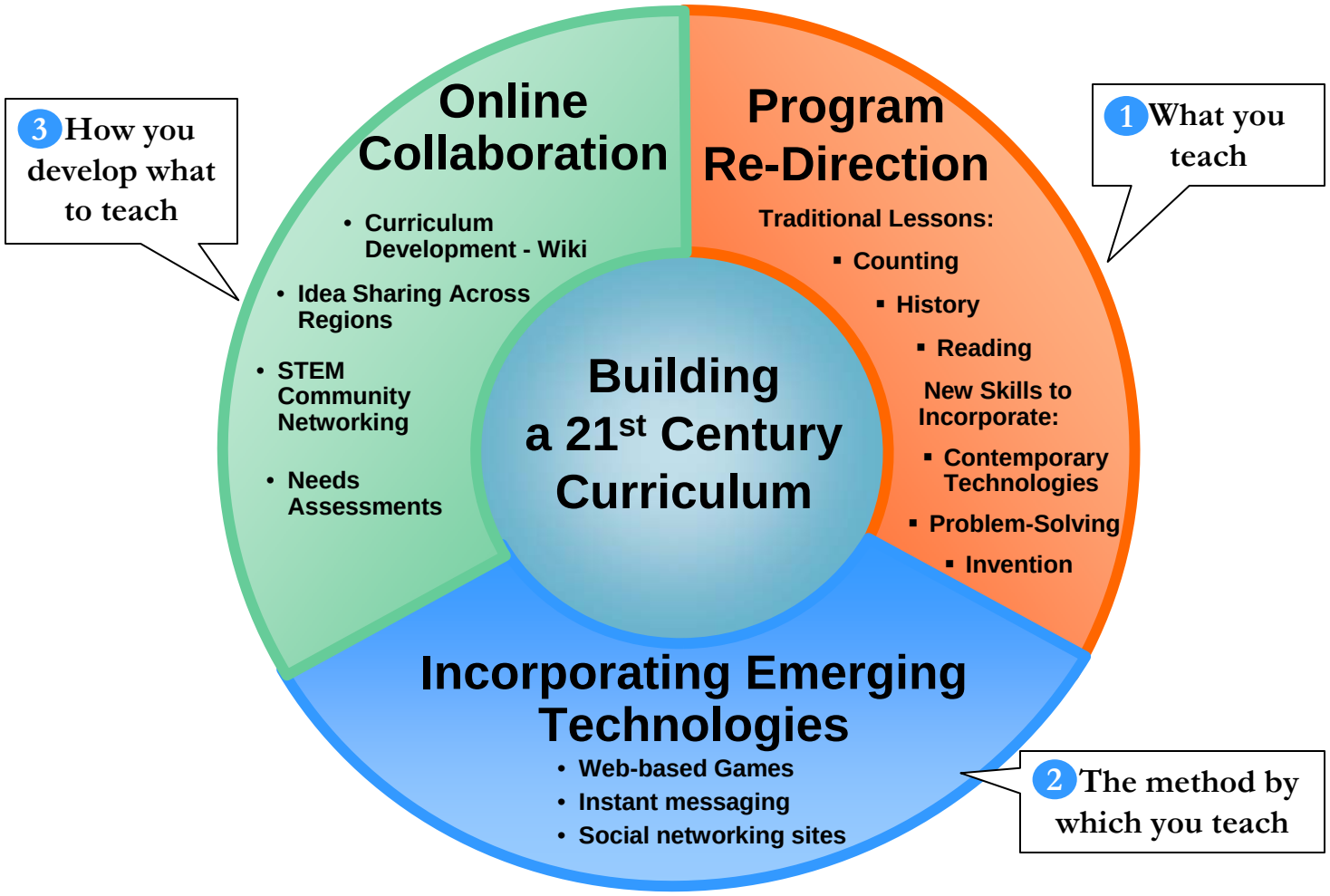
Secretaries **Chopra, Morris** and the **Dept of Education** are pleased to announce our **Founding Members** of the **21st Century Physics Collaborative** to create and compile supplemental materials in an open–source format that can be used to strengthen existing physics content. Led by Senior Advisor to the Secretary of Technology **Jim Batterson**, the team is: Mike Fetsko, **Henrico Co.**; David Slykhuis, Mark Mattson, Tom O'Neil, **JMU/ Shenandoah Governor's School**; Bruce Davidson (retired), Angela Cutshaw, **Newport News**; Mark Clemente, **VA Beach/National Institute of Aerospace**; Andy Jackson, **Harrisonburg**; David Stern (retired), **NASA Goddard**; John Ochab, **J Sargeant Reynolds**; Professor Tapas Kar, **Utah State University**; Tony Wayne, **Albemarle County**; Pranav Gokhale (student), **Montgomery County, MD**; and David Armstrong, **W&M**. The Commonwealth is partnering with **CK–12** (www.ck12.org) on this initiative as they will provide the free, open–source technology platform; all team members volunteering their time free of charge; goal to publish **02/09**

Source: virginia.ck12.org

Background

- In the summer of 2007, under the Secretary of Education, panels of practicing scientists & engineers conducted a gap-analysis of VA physics & chemistry SOL to help inform the State Board of Education's 2010 science SOL review.
- Among panels' findings and recommendations:
  - While well-written and easy to understand, both the physics and chemistry SOL are severely dated to the mid-20th century
  - Physics and chemistry SOL should contain a significant amount of contemporary and emerging (21st century) science (e.g. nanoscience, organic chemistry, particle physics to quark/gluon level, astrophysics, biophysics, plasmas, semi- & super-conductors, etc).
  - Include laboratory content that uses industry state-of-the-practice technologies.
  - Teachers should have open-source software such as a "wiki" available to create, share, and develop contemporary and emerging science content.

A Comprehensive Approach to Educational Innovation



Physics Flexbook Pilot Guidelines in Collaboration with our Partner CK-12

- CK-12 provides software platform and technical support
- Volunteer content contributors in response to Secretary of Technology's September 9, 2008 Request for Collaboration
- Creative commons attribution-share alike license
- K-12 collaborators will use and evaluate in their physics courses
- All collaborators will participate in peer review of material
- Official kickoff on October 29, 2008
- Release of v1.0 targeted for February 27, 2009

Physics Flexbook Pilot Project Goals

- Some valuable contemporary and emerging physics content that supplements current physics SOL.
- Content will be readily available to ALL of Virginia's physics teachers at a single web-based source.
- Feedback to CK-12 that will help them improve their flexbook software yet further for teachers' use.
- Feedback to CK-12 regarding any web 2.0 needs
- Provide Virginia's education policy-makers some concrete examples of the 2007 physics panel's recommendations.
- Some idea as to the qualitative value of this e-format in replacing some of our textbook purchases.
- Whether to extend this type of project to the instruction side of the DOE and to other disciplines.

Summary

- Virginia's physics supplemental flexbook initiative announced today
- To the largest extent, it will be VA K-12 teacher developed
- Team members and partner CK-12 volunteering their time free of charge
- Content will be under creative commons attribution - share alike license
- First release of content scheduled for February 27, 2009
- Can be used by any teacher
- Results will be evaluated in summer 2009