CMS@UW, 8-9 August 2013

Ask the big questions:

1. How to solve the mystery of dark energy?
2. How did the universe come to be?
3. Are there extra dimensions of space?
4. what gives Higgs its mass?

Know your detector:

1. The interactive graphic on the first link shows the paths in the LHC of 5 different particles (muon, electron, neutral hadron, charged hadron, and photon). http://www.i2u2.org/elab/cms/graphics/CMS_Slice_elab.swf
2. Another link to an interactive graphic shows the different parts of the detector and describes them when you drag your cursor over them. http://www.uscms.org/public_2/about/cms_detector/index.shtml
3. There are links to articles that explain how the LHC works: http://www.uslhc.us/LHC_Science/Questions_for_the_Universe/Extra_Dimensions

Review particle types:

1. Nice link that provides a timeline of the particles' history (discovery & background): http://www.fnal.gov/pub/inquiring/matter/ww_discoveries/index.html
2. We looked at interactions of particles and learned that individual particles (quark & leptons & force particles) can collide and create others.: http://www.i2u2.org/library/kiwi.php?title=CMS_Primary_Collisions
3. The diagrams that represent these are feynman diagrams: http://www.i2u2.org/library/kiwi.php?title=Feynman_Diagrams
4.