



**SOUTH SHORE REGIONAL SCHOOL BOARD
CURRICULUM UPDATES AND CONTACT INFORMATION**
Last updated: August 27th, 2014

SCIENCE

Contacts

Department of Education
Marilyn Webster, Science Consultant
(902) 424-4272
Email: websteml@gov.ns.ca

South Shore Regional School Board
Mark MacLeod, Coordinator of Programs P-12
Phone: (902) 541-0825
Email: mmacleod@srsb.ca

Curriculum Guides

If teachers have not yet downloaded the curriculum documents or Learning Outcomes Frameworks, they can be found (not all) in various stages (final, draft, conceptual, ..) on the **EduPortal**.







The DoE are now housing all the curriculum guides/documents in a one-stop place called the **EduPortal**. Check this central place out at <http://edapps.ednet.ns.ca/eduportal> You will need your Employee Number as found on your payroll information to enter the site. Go to Resources and then Educator's Site to access the curriculum documents.

Besides updated curriculum guides, EduPortal also has easy access to other resources and links such as: the On-Line Video Library, upcoming events such as Webinars, Digital Video Library, EBSCO, Ednet Cloud, Education Media Library, Evaluation Services / Provincial Assessment info, FSL Program Services, IB Program, NSVS, NSSBB Online (ALR),

There may be old and new draft outcomes both on PowerSchool for subjects like Health P-9, Social Studies 5, etc. It is up to staff and principals to decide where they are in the implementation stage (usually a 3-year implementation for new curriculums). We


encourage teachers to use the newer outcomes whenever possible, especially if there are support resources available (i.e. Health P-9).

Information Items of Interest

-  **Get involved in our SSRSB Regional Science Fair. Science Fair** Support for Students and Teachers: <http://www.sciencefairinfo.ns.ca/index.php> and <http://ssrsbstaff.ednet.ns.ca/sciencefair/index.html>. **Contact Information:** Jane Berrigan (jjoudrey@staff.ednet.ns.ca)
Science fairs encourage student interest for scientific inquiry on topics of personal interest to them. Investigating a selected topic in detail can help develop further interest in that field and cultivate additional appreciation for scientific advances in our ever-changing world. The links between science fairs and project-based learning and inquiry-based learning are an added bonus as well.
-  **LRTS Science Investigations Video Series**-new videos available! This trendy new collection of short videos support inquiry-based learning in science. In these videos, students observe science experiments, and teachers can use the “Teacher Resources” for discussion questions and answers (only viewable to teachers). The videos are not a substitute for hands-on learning, but serve to enhance learning of science concepts. To view the series, open a new window in your browser and simply login to the EduPortal, and then click on the following link:
 <http://www.learn360.com/Search.aspx?Series=24129085&lid=16488891>
-  Increase student interest in **Science-grades 3—10**. **Check out** www.tomatosphere.org
-  For fun science and technology related educational activities visit the five Science.gc.ca Activity Books available at www.science.gc.ca/ab. The latest edition features **34 science activities for all skill levels and age groups (primary, intermediate, and secondary)**. All activities can be easily incorporated into classroom projects and will give students another perspective on how science is present in our daily lives. The Activity Books help make learning about science fun and interactive! Science.gc.ca is the official Government of Canada source for science and technology information. The website offers an interactive and fun approach to learning with Games, Videos, Ask a Scientist, and [educational resources](#).
-  The Atlantic Science Links Association runs a variety of programs to support grades primary to 12 science curricula in Nova Scotia. These include Scientists and Innovators in the Schools, Ask-A-Scientist, and the Climate Change Action Pack. The programs are completely free and run all year long! For example, The Climate Change Action Pack (CCAP) is a collection of lesson plans for grades 4-6 teachers on the underlying concepts of climate change, specifically in Nova Scotia, and is based on the Atlantic Science Curriculum. They have both English and French versions of CCAP in CDs to be distributed to science teachers in Nova Scotia. For more information about these programs, or to request a visit by a scientist, please contact them by email at sits@dal.ca or by phone at 902-494-

2831 (toll free 1-800-565-7487). Their website is also a great source of information, and has links to other resources and activities.

<http://atlanticsciencelinks.dal.ca>

 **Science Celebrations and Contests:** Every year in Canada students from grades primary to 12 have the opportunity to participate in science contests. The main focus of the events is to stimulate interest in science. Celebrations and contests are an excellent way to provide students with a challenging and engaging scientific experience that can be both competitive and educational. The format and structure vary from in class projects to video submissions to a team competition that emphasizes problem solving skills and effective group work. Teachers may find some investigations in databases posted on various organization's web sites. Using these materials to help students prepare for the events is an exciting way to support the curriculum and help students to develop problem-solving strategies. Some teachers may prefer to use these materials to supplement classroom work, while others use them with their extracurricular activities. Setting up some problem-solving displays is an effective way to engage students and parents during open houses, curriculum nights, or science exhibitions. Some contests are scored internally while others provide opportunity for interschool competitions in which students can compare their results with those of other students in the province or other parts of Canada. Below are some useful web sites and a list of the most popular celebrations contests with registration deadlines and competition dates.

Website

<http://brainwar.ca>

www.virtualsciencefair.ca

<http://www.ccpo-occp.ca/index.html>

www.explorecuriosity.org/

<http://www.discoverycentre.ns.ca/learn/teacher-zone> Discovery Centre Reel Science

www.envirothon.org

<http://www.nsc.ca/explorensc/events/lego.asp>

www.letstalkscience.ca

<https://dvl.ednet.ns.ca/science-olympics>

www.nsfa.ca

<http://robots.acadiau.ca/hrc/index.php>

Annual Science Contests

Brain War

Canada Wide Virtual Science Fair (P-12)

Canadian Chemistry

Olympiad (10-12)

Curiosity

Discovery Centre Reel Science

Envirothon

First Lego League (4-9)

Let's Talk Science Challenge (6-8)

Nova Scotia Invitational Science Olympics (4-6)

Nova Scotia Provincial Envirothon (10-12)


Nova Scotia Youth

Experiences In Science Team

www.sciencefairinfo.ns.ca
<http://robots.acadiau.ca/hrc/index.php>
 www.greenschools.ca

Nova Scotia Show case (7-12)
Regional Science Fairs
Robofest (10-12)
Seeds/Green Schools (P-6)

Science Olympics

 The Department of Education is pleased to support the Nova Scotia Invitational Science Olympics.. This invitational event provides proportional representation by school board, all boards are invited to send teams. The Science Olympics are usually held at Saint Mary's University in Halifax, registration begins at 8:45a.m., the day ends at 3:00 p.m. Space is available for 32 teams from across the province. Each team should consist of two girls and two boys. Students must be in grade 4 or 5, and will participate in activities that address curriculum outcomes as well as in recreational activities. One chaperone of the school's choosing is also required. Interested schools should contact Ian MacDonald at 424-5804 macdoniz@gov.ns.ca to register and for further information. This event usually takes place in November-register early!!

Select a grade and/or category for more curriculum/course support & resources

[Primary](#)

[Grade One](#)

[Grade Two](#)

[Grade Three](#)

[Grade Four](#)

[Grade Five](#)

[Grade Six](#)

[Grade Seven](#)

[Grade Eight](#)

[Grade Nine](#)

[Grade Ten](#)

[Science 10](#)

[Grade Eleven](#)

[Agriculture / Agrifood 11](#)

[Advanced Biology 11](#)

[Biology 11](#)

[Advanced Chemistry 11](#)

[Chemistry 11](#)

[Human Biology 11](#)

[Oceans 11](#)

[Advanced Physics 11](#)

[Physics 11](#)

[Grade Twelve](#)

[Advanced Biology 12](#)

[Biology 12](#)

[Advanced Chemistry 12](#)

[Chemistry 12](#)

[Food Science 12](#)

[Geology 12](#)

[Advanced Physics 12](#)

[Physics 12](#)

Primary

Provincial Guide

- Atlantic Canada Science Curriculum: Science, Grade Primary (2004)-contains activities linked to SCO's, materials required, suggested assessments, etc
- The Time to Learn Strategy recommends a minimum of 18 minutes per day for grades P-2, and a minimum of 22 minutes per day for grades 3-6

Core Resources

- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- Sci-Tech Connections Primary-science investigations integrating with other subject areas and stressing communication and teamwork
- Energy Around Us: Education for Sustainable Development and the 21st Century-check out the website at <http://gov.ns.ca/energy/renewables/energyaroundus/>
- One teacher from each elementary school attended a Science workshop on February 4th, 2011. Participants explored science concepts with connections to literacy, mathematics, visual arts, movement and social studies. Assessment and technology were embedded in the workshop. Each participant/school received an excellent selection of learning resources that are designed to promote hands-on, minds-on learning, including: P-6 Science collection of books (15 titles), science equipment (lab coats, science bag, goggles, aprons,..), measuring tools, science videos/CD's (Hands-On, Minds-on-Science, Doing and Thinking Science: Olympic Free-Style, First Canadian Expedition Downlink Event), Sciencesaurus book and other print resources/guides (outcome cards). In addition, each school with a Primary class received one Table Top Tri-Pod magnifier and a Stereo Microscope. All the activities discussed at this workshop will be on a Moodle site in the near future.
- A Handbook for Teaching Combined Classes: Science Primary / Science 1 (Draft Oct 2012)
- Science Links: Primary-2 Combined (Draft, May 2012)

Grade One

Provincial Guide

- Atlantic Canada Science Curriculum: Science, Grade 1 (2005) -contains activities linked to SCO's, materials required, suggested assessments, etc
- The Time to Learn Strategy recommends a minimum of 18 minutes per day for grades P-2, and a minimum of 22 minutes per day for grades 3-6

Core Resources

- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- Sci-Tech Connections 1-science investigations integrating with other subject areas and stressing communication and teamwork
- Energy Around Us: Education for Sustainable Development and the 21st Century-check out the website at <http://gov.ns.ca/energy/renewables/energyaroundus/>
- One teacher from each elementary school attended a Science workshop on February 4th, 2011. Participants explored science concepts with connections to literacy, mathematics, visual arts, movement and social studies. Assessment and technology were embedded in the workshop. Each participant/school received an excellent selection of learning resources that are designed to promote hands-on, minds-on learning, including: P-6 Science collection of books (15 titles), science equipment (lab coats, science bag, goggles, aprons,...), measuring tools, science videos/CD's (Hands-On, Minds-on-Science, Doing and Thinking Science: Olympic Free-Style, First Canadian Expedition Downlink Event), Sciencesaurus book and other print resources/guides (outcome cards). In addition, each school with a Grade 1 class received one Floaters & Sinkers Kit and a Stereo Microscope. All the activities discussed at this workshop will be on a Moodle site in the near future.
- A Handbook for Teaching Combined Classes: Science Primary / Science 1 (Draft Oct 2012)
- A Handbook for Teaching Combined Classes: Science 1 / Science 2 (Draft Oct 2012)
- Science Links: Primary-2 Combined (Draft, May 2012)

Grade Two

Provincial Guide

- Atlantic Canada Science Curriculum: Science, Grade 2 (2005)-contains activities linked to SCO's, materials required, suggested assessments, etc
- The Time to Learn Strategy recommends a minimum of 18 minutes per day for grades P-2, and a minimum of 22 minutes per day for grades 3-6

Core Resources

- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Energy and Me, Science 2 and Science 3, A Curriculum Supplement (2009)

- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- Sci-Tech Connections 2-science investigations integrating with other subject areas and stressing communication and teamwork
- Energy Around Us: Education for Sustainable Development and the 21st Century-check out the website at <http://gov.ns.ca/energy/renewables/energyaroundus/>
- One teacher from each elementary school attended a Science workshop on February 4th, 2011. Participants explored science concepts with connections to literacy, mathematics, visual arts, movement and social studies. Assessment and technology were embedded in the workshop. Each participant/school received an excellent selection of learning resources that are designed to promote hands-on, minds-on learning, including: P-6 Science collection of books (15 titles), science equipment (lab coats, science bag, goggles, aprons,..), measuring tools, science videos/CD's (Hands-On, Minds-on-Science, Doing and Thinking Science: Olympic Free-Style, First Canadian Expedition Downlink Event), Sciencesaurus book and other print resources/guides (outcome cards). In addition, each school with a Grade 2 class received one Early Simple Machines Set (Lego) and a Stereo Microscope. All the activities discussed at this workshop will be on a Moodle site in the near future.
- A Handbook for Teaching Combined Classes: Science 1 / Science 2 (Draft Oct 2012)
- A Handbook for Teaching Combined Classes: Science 2 / Science 3 (Draft Oct 2012)
- Science Links: Primary-2 Combined (Draft, May 2012)

Grade Three

Provincial Guide

- Atlantic Canada Science Curriculum: Science, Grade 3 (2005)-contains activities linked to SCO's, materials required, suggested assessments, etc
- The Time to Learn Strategy recommends a minimum of 18 minutes per day for grades P-2, and a minimum of 22 minutes per day for grades 3-6

Core Resources

- A Closer Look: Using Microscopes. Science Grades 3-6: A Curriculum Supplement (2003)
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Energy and Me, Science 2 and Science 3, A Curriculum Supplement (2009)
- A Closer Look: Let's Explore Plants and Soils, Science 3, A Curriculum Resource (2010)

- Booklet called “What on Earth? A Resource for Plants and Soils”
- Sci-Tech Connections 3-science investigations integrating with other subject areas and stressing communication and teamwork
- Energy Around Us: Education for Sustainable Development and the 21st Century-check out the website at <http://gov.ns.ca/energy/renewables/energyaroundus/>
- One teacher from each elementary school attended a Science workshop on February 4th, 2011. Participants explored science concepts with connections to literacy, mathematics, visual arts, movement and social studies. Assessment and technology were embedded in the workshop. Each participant/school received an excellent selection of learning resources that are designed to promote hands-on, minds-on learning, including: P-6 Science collection of books (15 titles), science equipment (lab coats, science bag, goggles, aprons,..), measuring tools, science videos/CD’s (Hands-On, Minds-on-Science, Doing and Thinking Science: Olympic Free-Style, First Canadian Expedition Downlink Event), Sciencesaurus book and other print resources/guides (outcome cards). In addition, each school with a Grade 3 class received one Magnetism Kit and a Stereo Microscope. All the activities discussed at this workshop will be on a Moodle site in the near future.
- Tomatosphere, a curriculum-based program for schools, involves students in a germination experiment with sets of tomato seeds – a control group and a group that has been exposed to some aspect of the space environment. You receive 40 +/- 5 of the two groups FOR EACH CLASS ENROLLED. Sign up now at www.tomatosphere.org involves grades 3-10. The detailed info was sent to schools (July 2012).
- A Handbook for Teaching Combined Classes: Science 3 / Science 4 (Draft Oct 2012)

Grade Four

Provincial Guide

- Atlantic Canada Science Curriculum: Science, Grade 4 (2006)-contains activities linked to SCO’s, materials required, suggested assessments, etc
- The Time to Learn Strategy recommends a minimum of 18 minutes per day for grades P-2, and a minimum of 22 minutes per day for grades 3-6

Core Resources

- A Closer Look: Using Microscopes. Science Grades 3-6: A Curriculum Supplement (2003)
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- A Handbook for Teaching Combined Classes: Science 3 / Science 4 (Draft Oct 2012)
- Science 4 / Science 5: A Handbook for Teaching Combined Classes (2011)
- The video, Doing and Thinking Science: Olympic Freestyle is available for download at http://www.ednet.ns.ca/science_olympics_video.shtml and the Science Olympics Booklet: Science 4 and Science 5: A Teaching Resource is

also available for download at

<https://sapps.ednet.ns.ca/Cart/description.php?II=301&UID=20031024095517142.227.51.61>

- Sci-Tech Connections 4-science investigations integrating with other subject areas and stressing communication and teamwork
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- Energy Around Us: Education for Sustainable Development and the 21st Century-check out the website at <http://gov.ns.ca/energy/renewables/energyaroundus/>
- One teacher from each elementary school attended a Science workshop on February 4th, 2011. Participants explored science concepts with connections to literacy, mathematics, visual arts, movement and social studies. Assessment and technology were embedded in the workshop. Each participant/school received an excellent selection of learning resources that are designed to promote hands-on, minds-on learning, including: P-6 Science collection of books (15 titles), science equipment (lab coats, science bag, goggles, aprons,..), measuring tools, science videos/CD's (Hands-On, Minds-on-Science, Doing and Thinking Science: Olympic Free-Style, First Canadian Expedition Downlink Event), Sciencosaur book and other print resources/guides (outcome cards). In addition, each school with a Grade 4 class received one Light Kit and a Stereo Microscope. All the activities discussed at this workshop will be on a Moodle site in the near future.
- A "Rocks Kit" was sent out to all schools with a grade 4 component in March 2012. Can be shared with the Grade 7 Science teachers also.
- Tomatosphere, a curriculum-based program for schools, involves students in a germination experiment with sets of tomato seeds – a control group and a group that has been exposed to some aspect of the space environment. You receive 40 +/- 5 of the two groups FOR EACH CLASS ENROLLED. Sign up now at www.tomatosphere.org involves grades 3-10. The detailed info was sent to schools (July 2012).

Grade Five

Provincial Guide

- Atlantic Canada Science Curriculum: Science, Grade 5 (2008)-contains activities linked to SCO's, materials required, suggested assessments, etc
- The Time to Learn Strategy recommends a minimum of 18 minutes per day for grades P-2, and a minimum of 22 minutes per day for grades 3-6

Core Resources

- A Closer Look: Using Microscopes. Science Grades 3-6: A Curriculum Supplement (2003)
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- Science 4 / Science 5: A Handbook for Teaching Combined Classes (2011)

-
- Sci-Tech Connections 5-science investigations integrating with other subject areas and stressing communication and teamwork
- The video, Doing and Thinking Science: Olympic Freestyle is available for download at http://www.ednet.ns.ca/science_olympics_video.shtml and the Science Olympics Booklet: Science 4 and Science 5: A Teaching Resource is also available for download at <https://sapps.ednet.ns.ca/Cart/description.php?II=301&UID=20031024095517142.227.51.61>
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- Energy Around Us: Education for Sustainable Development and the 21st Century-check out the website at <http://gov.ns.ca/energy/renewables/energyaroundus/>
- One teacher from each elementary school attended a Science workshop on February 4th, 2011. Participants explored science concepts with connections to literacy, mathematics, visual arts, movement and social studies. Assessment and technology were embedded in the workshop. Each participant/school received an excellent selection of learning resources that are designed to promote hands-on, minds-on learning, including: P-6 Science collection of books (15 titles), science equipment (lab coats, science bag, goggles, aprons,..), measuring tools, science videos/CD's (Hands-On, Minds-on-Science, Doing and Thinking Science: Olympic Free-Style, First Canadian Expedition Downlink Event), Sciencesaurus book and other print resources/guides (outcome cards). In addition, each school with a Grade 5 class received one Forces and Simple Machines Kit and a Stereo Microscope. All the activities discussed at this workshop will be on a Moodle site in the near future.
- Combining Science 5 and Health Education 5: Curriculum Supplement (2010). This curriculum supplement includes sample year-long plans for combining Science 5 Life Science: Meeting Basic Needs and Maintaining a Healthy Body unit with the Health Education 5 My Body, My Self: Body Function, Growth and Care unit.
- Check out the "You Be the Chemist" program for grades 5-8 through the use of the website www.youbethechemist.ca. This educational tool is designed to engage students in the science of chemistry. 32 educator-reviewed and simply structured lesson plans with detailed activity sheets for class assessments.
- Tomatosphere, a curriculum-based program for schools, involves students in a germination experiment with sets of tomato seeds – a control group and a group that has been exposed to some aspect of the space environment. You receive 40 +/- 5 of the two groups FOR EACH CLASS ENROLLED. Sign up now at www.tomatosphere.org involves grades 3-10. The detailed info was sent to schools (July 2012).

Grade Six

Provincial Guide

- Atlantic Canada Science Curriculum: Science, Grade 6 (2008)-contains activities linked to SCO's, materials required, suggested assessments, etc
- The Time to Learn Strategy recommends a minimum of 18 minutes per day for grades P-2, and a minimum of 22 minutes per day for grades 3-6

Core Resources

- **Grade 6 Science** has a Nova Scotia Science Teacher's Resource (2008) to supplement the curriculum guide. Mike Stewart from BES was part of the NS Review Team for this resource.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- A Closer Look: Using Microscopes. Science Grades 3-6: A Curriculum Supplement (2003)
- Sci-Tech Connections 6-science investigations integrating with other subject areas and stressing communication and teamwork
- Combined Classes Resources for 5/6 in 2012-2013.
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Using Energy Meters, Science 6 and Science 9, A Curriculum Supplement (2008)
- Energy Around Us: Education for Sustainable Development and the 21st Century-check out the website at <http://gov.ns.ca/energy/renewables/energyaroundus/>
- One teacher from each elementary school attended a Science workshop on February 4th, 2011. Participants explored science concepts with connections to literacy, mathematics, visual arts, movement and social studies. Assessment and technology were embedded in the workshop. Each participant/school received an excellent selection of learning resources that are designed to promote hands-on, minds-on learning, including: P-6 Science collection of books (15 titles), science equipment (lab coats, science bag, goggles, aprons,..), measuring tools, science videos/CD's (Hands-On, Minds-on-Science, Doing and Thinking Science: Olympic Free-Style, First Canadian Expedition Downlink Event), Sciencesaurus book and other print resources/guides (outcome cards). In addition, each school with a Grade 6 class received one Electricity Kit and a Stereo Microscope. All the activities discussed at this workshop will be on a Moodle site in the near future.
- Check out the "You Be the Chemist" program for grades 5-8 through the use of the website www.youbethechemist.ca. This educational tool is designed to engage students in the science of chemistry. 32 educator-reviewed and simply structured lesson plans with detailed activity sheets for class assessments.

- Tomatosphere, a curriculum-based program for schools, involves students in a germination experiment with sets of tomato seeds – a control group and a group that has been exposed to some aspect of the space environment. You receive 40 +/- 5 of the two groups FOR EACH CLASS ENROLLED. Sign up now at www.tomatosphere.org involves grades 3-10. The detailed info was sent to schools (July 2012).

Grade Seven

Provincial Guide

- Still using the older guides but the new outcomes are fine and hopefully new guides by Fall 2015.
- To use the new SCO's -Use the 7-9 Learning Outcomes Framework found on the Educators site-log on to the EduPortal, then click on Resources then Educators Site and scroll down for Learning Outcomes Framework 7-9, then scroll down for Science.

Core Resources

- Science and Technology 7 Text / TR
- Science 7 Textbook (2012-2013)
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- Literacy Links: Science 7 and Science 8 (Draft, Nov 2005)-go to the protected site depot
- Sci-Tech Connections 7-science investigations integrating with other subject areas and stressing communication and teamwork
- Energy Around Us: Education for Sustainable Development and the 21st Century-check out the website at <http://gov.ns.ca/energy/renewables/energyaroundus/>
- Check out the “You Be the Chemist” program for grades 5-8 through the use of the website www.youbethechemist.ca . This educational tool is designed to engage students in the science of chemistry. 32 educator-reviewed and simply structured lesson plans with detailed activity sheets for class assessments.
- A “Rocks Kit” will be sent out to all schools with a grade 4 component in March 2012. Can be shared with the Grade 7 Science teachers also.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- Tomatosphere, a curriculum-based program for schools, involves students in a germination experiment with sets of tomato seeds – a control group and a group that has been exposed to some aspect of the space environment. You receive 40 +/- 5 of the two groups FOR EACH CLASS ENROLLED. Sign up now at www.tomatosphere.org involves grades 3-10. The detailed info was sent to schools (July 2012).

Grade Eight

Provincial Guide.

- Atlantic Canada Science Curriculum: Science 8 (2001). Still using the older guides but the outcomes are fine and hopefully new guides by Fall 2015.
- To use the new SCO's -Use the 7-9 Learning Outcomes Framework found on the Educators site-log on to the EduPortal, then click on Resources then Educators Site and scroll down for Learning Outcomes Framework 7-9, then scroll down for Science.

Core Resources

- Science and Technology 8 Text / TR
- Science 8 Textbook (2013-2014)
- Sci-Tech Connections 8-science investigations integrating with other subject areas and stressing communication and teamwork
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- English Program Services has allocated budget for the purchase of an optics package for each English board school with grade 8. The package is intended to enhance student's learning about optics and the properties of light by providing hands-on, minds-on materials and equipment to address the specific curriculum outcomes for the Optics Unit of Science 8. Approximate value is \$175 per package. Schools need this equipment for students to do Science 8 optics investigations re reflection and refraction of light, and we have had many requests from teachers for this package.

Science 8: Optics Package Contents

- 20 mirrors, plastic, 12cm x 9.5cm
 - 10 triangular prisms, 4.5cm width x 4.5 cm length x 6 cm height
 - 20 circular bi-convex lenses, 4 cm diameter, polished glass, ground edges
 - 20 circular bi-concave lenses, 4 cm diameter, polished glass, ground edges
 - 20 convex mirrors, plastic, 10cm x 10cm
 - 20 concave mirrors, plastic, 10cm x 10cm
 - One ray box, 15cm x 7.5cm x 7.5cm, metal, battery operated
- Literacy Links: Science 7 and Science 8 (Draft, Nov 2005)-go to the protected site depot
 - Energy Around Us: Education for Sustainable Development and the 21st Century-check out the website at <http://gov.ns.ca/energy/renewables/energyaroundus/>
 - Check out the "You Be the Chemist" program for grades 5-8 through the use of the website www.youbethechemist.ca. This educational tool is designed to

engage students in the science of chemistry. 32 educator-reviewed and simply structured lesson plans with detailed activity sheets for class assessments.

- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- Tomatosphere, a curriculum-based program for schools, involves students in a germination experiment with sets of tomato seeds – a control group and a group that has been exposed to some aspect of the space environment. You receive 40 +/- 5 of the two groups FOR EACH CLASS ENROLLED. Sign up now at www.tomatosphere.org involves grades 3-10. The detailed info was sent to schools (July 2012).

Grade Nine

Provincial Guide

- The SCO's for Chemistry for **Science 9 and Science 10** will be reorganized in more doable clusters and these guides should be available by September 2014. A reminder that labs in science still play a very important role in student learning and that sample labs that students should do will also be in the new Chemistry guides. It is vital that our labs are safe and contain appropriate materials / chemicals that are safe for use.
- Still using the older guides but the outcomes are fine and hopefully new guides very soon.
- To use the new SCO's -Use the 7-9 Learning Outcomes Framework found on the Educators site-log on to the EduPortal, then click on Resources then Educators Site and scroll down for Learning Outcomes Framework 7-9, then scroll down for Science.

Core Resources

- Science Power 9 Text /TR
- Produce an Energy Around Us kit and resource booklet (2010-2011)
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Using Energy Meters, Science 6 and Science 9, A Curriculum Supplement (2008)
- Energy Around Us: Education for Sustainable Development and the 21st Century-check out the website at <http://gov.ns.ca/energy/renewables/energyaroundus/>
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- Chemistry Data Booklet (2013)-includes the Periodic Table and lots of other goodies...
- Tomatosphere, a curriculum-based program for schools, involves students in a germination experiment with sets of tomato seeds – a control group and a group that has been exposed to some aspect of the space environment. You receive 40 +/- 5 of the two groups FOR EACH CLASS ENROLLED. Sign up

now at www.tomatosphere.org involves grades 3-10. The detailed info was sent to schools (July 2012).

*A reminder that **labs in science** still play a very important role in student learning and that sample labs that students should do will also be in the revised Chemistry guides. It is vital that our labs are safe and contain appropriate materials / chemicals that are safe for use. Students and teachers engaged in chemistry units must follow Occupational Health and Safety (OHS), Workplace Hazardous Materials Information Systems (WHMIS), and other safety regulations and guidelines in the laboratory. Given the requirement of **spending 40% of instructional time in the laboratory**, fume hood, chemical storage/use, and safety information is essential. The Department of Education and Early Childhood Development, in partnership with multiple partners such as Department of Labour, fire marshalls, and OHS officers, is working to consolidate issues that have been discussed on various occasions in the past and to review future requirements regarding science labs. These include OHS requirements for school board safety committees, fume hoods, fire safety planning, and updating and implementing the Science Safety Guidelines. The department has a working group to address these issues. The Department of Education and Early Childhood Development hopes to be scheduling chemistry safety workshops with school boards for October 2014.*

Grade 10

Science 10 (Acad) SCI10

** It is strongly recommended that all students take Science 10. It is a prerequisite to more specialized study in science(s) in grades 11 and 12 such as Physics and Chemistry.*

Provincial Guide

- Atlantic Canada Science Curriculum: Science 10 (2011)- can be downloaded from the educator's site.
- Science 10: A Teaching Resource (2011) which will supplement the guide and the new Nova Scotia Science 10 textbook. Contains lots of activities -can be downloaded from the educator's site.
- The SCO's for Chemistry for **Science 9 and Science 10** will be reorganized in more doable clusters and these guides should be available by September 2014. A reminder that labs in science still play a very important role in student learning and that sample labs that students should do will also be in the new Chemistry guides. It is vital that our labs are safe and contain appropriate materials / chemicals that are safe for use.
- **Science 10** is a hands-on, minds-on course for all students. It is student-centered and inquiry-based, focusing on STSE and skills. Science is about doing and thinking, and there are multiple opportunities in Science 10 for students to be engaged in their learning.

Core Resources

- The new Nova Scotia Science 10 textbook (Anderson & Boeknek) to support learning in **Science 10** was distributed to schools in January 2012-excellent text. This new book replaces the old 10 year old one. The student text

addresses outcomes in four units—Earth and Space Science: Weather Dynamics, Physical Science: Chemical Reactions, Physical Science: Motion, and Life Science: Sustainability of Ecosystems. Each unit in Science 10 is worth 25 per cent of the course and each unit is compulsory-non-negotiable. The SCO's are addressed with all students' learning styles in mind.

- The Nova Scotia Science 10 Teacher Resource CD-ROM was distributed to schools in March 2012. The teacher's resource offers planning information, assessment tools and techniques, curriculum correlations, teaching strategies, answers to questions in the student text, science background information, notes and support for all activities and investigations, and a focus on project-based learning.
- **Nova Scotia Science 10 CONNECT** school digital resources have been moved to <http://ns.connectschool.ca>. The NS Science 10 CONNECT school site has been upgraded to provide better performance and access to your resources. ConnectSchool (Connect) is available to both teachers and students 24/7 through any web browser and includes full versions of the Student Text and the Teacher Resource. These resources are interactive and offer each user a wide range of tools and functionalities to support and enhance the teaching and learning of Nova Scotia Science 10. InterACTIVE tools such as teaching plans, calendars, notes, study plans, and self-assessment opportunities expand the program. In addition to the core resources, the sophistication of ConnectSchool allows McGraw-Hill Ryerson, where available, to leverage digital assets such as scientific animations and videos from its vast library to support and deepen the teaching and learning of critical concepts. Additional support videos are available through the Media Library online resources. For further information or questions please contact Marilyn Webster at websteml@gov.ns.ca.
- **Science 10, Passages:** Online Science 10 passages were created as a literacy project. These resources complement the Science 10 curriculum and are embedded with literacy strategies. Teachers may access these passages at <http://science10.ednet.ns.ca>.
- **Science 10 Collection** comprises 65 books for classroom instruction and student learning and enjoyment (i.e. Canadian Disasters) was received in Feb 2011 to further support the Science 10 curriculum. This high quality resource supports differentiation of instruction in Science 10 and is intended to engage diverse learners. Each resource has been selected to address curriculum outcomes in Science 10. The straightforward text of the non-fiction titles delivers clear and fascinating information that invites readers to learn about Earth—its fiercest disasters, the impact of global warming, its weather and climate, its energy sources, and much more. Some books include explanatory diagrams, charts, and graphs that support understanding of science concepts. The rich, naturalistic, full-color photographs of the picture books combine with informative text engages students to experience all the wonders of the living, breathing world of science around us.
- Other resources will be put together on a Department Moodle in the future

- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- Chemistry Data Booklet (2013)-includes the Periodic Table and lots of other goodies...
- Tomatosphere, a curriculum-based program for schools, involves students in a germination experiment with sets of tomato seeds – a control group and a group that has been exposed to some aspect of the space environment. You receive 40 +/- 5 of the two groups FOR EACH CLASS ENROLLED. Sign up now at www.tomatosphere.org involves grades 3-10. The detailed info was sent to schools (July 2012).

Grade 11

Agriculture / Agrifood 11 (Acad) AGRICC11

Recommended Prerequisite: Successful completion of Science 10

Provincial Guide

- Agriculture / Agrifood 11 (Draft 2000)
- Meets the second science credit requirement for graduation

Core Resources

- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- Check out the Nova Scotia Department of Agriculture's THINKFARM Project. THINKFARM helps attract new people to careers in agriculture and supports beginning and transitioning farmers. The average age of farmers in NS is 57. The province must attract new people into farming to maintain and increase our current levels of production, as well as to contribute to good jobs and economic growth. Check out the website at www.gov.ns.ca/thinkfarm . NGRHS is offering the Agriculture/Agrifoods 11 course.

Advanced Biology 11 (Adv) BIOL11AD

Recommended Prerequisite: Successful completion of Science 10. Students in Advanced Biology 11 are expected to meet all the outcomes in Biology 11. The depth of treatment is the major distinction. It is mandatory for students to complete a significant independent research project which relies, for the most part, upon experimental investigations.

Provincial Guide

- Advanced Biology 11 (Draft, October 2010) Also use Atlantic Canada Science Curriculum: Biology 11 and Biology 12 (2003)

Core Resources

- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)

Biology 11 (Acad) BIOL11

Recommended Prerequisite: Successful completion of Science 10

Provincial Guide

- Atlantic Canada Science Curriculum: Biology 11 and Biology 12 (2000-2001)

Core Resources

- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)

Advanced Chemistry 11 (Acad) CHE11AD

Recommended Prerequisite: Successful completion of Science 10. Students in Advanced Chemistry 11 are expected to meet all the outcomes Chemistry 11. The depth of treatment is the major distinction. The three units of In-depth Treatment, Literature Search and Report, and Investigation of a Physical Concept are also required.

Provincial Guide

- Advanced Chemistry 11 and Advanced Chemistry 12 (Draft 2011). This guide is a supplement to the Atlantic Canada Science Curriculum: Chemistry 11 and Chemistry 12 Guide (2010)
- **Chemistry 11/Advanced Chemistry 11 and Chemistry 12/Advanced Chemistry 12** specific curriculum outcomes will be ready for schools for September 2014. The units will remain the same but outcomes will be clustered in a more efficient way. A reminder that labs in science still play a very important role in student learning and that sample labs that students should do will also be in the new Chemistry guides. It is vital that our labs are safe and contain appropriate materials / chemicals that are safe for use.

Core Resources

- Chemistry 11 and Chemistry 12: A Teaching Resource-will be published in Sept 2014
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- Chemistry Data Booklet (2013)-includes the Periodic Table and lots of other goodies...

Chemistry 11 (Acad) CHE11

Recommended Prerequisite: Successful completion of Science 10

Provincial Guide

- Atlantic Canada Science Curriculum: Chemistry 11 and Chemistry 12 (2011)
- **Chemistry 11/Advanced Chemistry 11 and Chemistry 12/Advanced Chemistry 12** specific curriculum outcomes will be ready for schools for September 2014. The units will remain the same but outcomes will be clustered in a more efficient way. A reminder that labs in science still play a very important role in student learning and that sample labs that students should do will also be in the new Chemistry guides. It is vital that our labs are safe and contain appropriate materials / chemicals that are safe for use.

Core Resources

- Chemistry 11 and Chemistry 12: A Teaching Resource-will be published in Sept 2014
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- Chemistry Data Booklet (2013)-includes the Periodic Table and lots of other goodies...

Forestry Management 11 (Open) FORMAN11

Provincial Guide

- An Approved Local Course –last re-written in CCRSB

Core Resources

- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)

Human Biology 11 (Grad) BIOHUM11

Provincial Guide

- An Approved Local Course –last re-written in March 2009 / HRSB. Workshop at the DOE on Feb 10-11, 2011 to revise the curriculum.

Core Resources

- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)

Oceans 11 (Acad) OCNS11Y11 (new) & OCNS11 (old)

Provincial Guide

- Oceans 11 (2011)
- Meets the second science credit requirement for graduation

Core Resources

- Oceans 11: A Teaching Resource Volume 1 and Volume 2 (supplement to the guide)-2011
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)

Advanced Physics 11 (Adv) PHY11AD

Prerequisites: Successful completion of Science 10 and Mathematics 10. Students in Advanced Physics 11 are expected to meet all the outcomes Physics 11. The depth of treatment is the major distinction. Students are required to do Literature Search and Report as well as Investigation: An Independent Study / Experiment.

Provincial Guide

- Advanced Physics 11 and Advanced Physics 12 (2011). This guide is a supplement to the Atlantic Canada Science Curriculum: Physics 11 and Physics 12 guide (2002).

Core Resources

- Advanced Physics 11 and Advanced Physics 12 (supplement)-TR
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)

Physics 11 (Acad) PHY11

Prerequisites: Successful completion of Science 10 and Mathematics 10

Provincial Guide

- Atlantic Canada Science Curriculum: Physics 11 and Physics 12 (2002)

Core Resources

- Physics 11 and Physics 12: A Teaching Resource (2005).
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)

Grade 12

Advanced Biology 12 (Adv) BIOL12AD

Recommended Prerequisite: Successful completion of Biology 11 or Advanced. Biology 11. Although Advanced Biology 12 is a logical follow-up to Advanced Biology 11, the latter is not considered a prerequisite. The core and optional topics for Advanced Biology 12 are the same as those for Biology 12. It is mandatory for students to complete a significant independent research project which relies, for the most part, upon experimental investigations.

Provincial Guide

- Still using the old guide-new guide by 2014. Atlantic Canada Science Curriculum: Biology 11 and Biology 12 (2003)

Core Resources

- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)

Biology 12 (Acad) BIOL12

Recommended Prerequisite: Successful completion of Biology 11

Provincial Guide

- Atlantic Canada Science Curriculum: Biology 11 and Biology 12 (2003)- new guide by 2014

Core Resources

- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)

Advanced Chemistry 12 (Acad) CHE12A

Recommended Prerequisite: Successful completion of Chemistry 11 or Advanced Chemistry 11 and Advanced Mathematics 11. Students in Advanced Chemistry 12 are expected to meet all the outcomes Chemistry 12. The depth of treatment is the major distinction. The three units of In-depth Treatment, Literature Search and Report, and Investigation of a Physical Concept are also required.

Provincial Guide

- Advanced Chemistry 11 and Advanced Chemistry 12 (Draft 2011). This guide is a supplement to the Atlantic Canada Science Curriculum: Chemistry 11 and Chemistry 12 guide (2010).
- **Chemistry 11/Advanced Chemistry 11 and Chemistry 12/Advanced Chemistry 12** specific curriculum outcomes will be ready for schools for September 2014. The units will remain the same but outcomes will be clustered in a more efficient way. A reminder that labs in science still play a

very important role in student learning and that sample labs that students should do will also be in the new Chemistry guides. It is vital that our labs are safe and contain appropriate materials / chemicals that are safe for use.

Core Resources

- Chemistry 11 and Chemistry 12: A Teaching Resource-will be published in Sept 2014
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- Chemistry Data Booklet (2013)-includes the Periodic Table and lots of other goodies...

Chemistry 12 (Acad) CHE12

Recommended Prerequisite: Successful completion of Chemistry 11

Provincial Guide

- Atlantic Canada Science Curriculum: Chemistry 11 and Chemistry 12 (2011).
- **Chemistry 11/Advanced Chemistry 11 and Chemistry 12/Advanced Chemistry 12** specific curriculum outcomes will be ready for schools for September 2014. The units will remain the same but outcomes will be clustered in a more efficient way. A reminder that labs in science still play a very important role in student learning and that sample labs that students should do will also be in the new Chemistry guides. It is vital that our labs are safe and contain appropriate materials / chemicals that are safe for use.

Core Resources

- Chemistry 11 and Chemistry 12: A Teaching Resource-will be published in Sept 2014
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- Chemistry Data Booklet (2013)-includes the Periodic Table and lots of other goodies...

Food Science 12 (Academic/Science) FDSCI12

Provincial Guide

- Food Science 12 (Implementation Draft 2003)
- Implement Food Science 12 (2013-2014)

Core Resources

- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety

guidelines for laboratories. Teachers should refer to this when planning their investigations.

- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)

Geology 12 (Acad) GEOL12

Replaces Canadian Geology 12 and Earth Science 12

Provincial Guide

- Geology 12 (Implementation Draft 2002)
- Implement revised guide for Geology 12 (2013-2014)
- Meets the second science credit requirement for graduation

Core Resources

- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)

Advanced Physics 12 (Adv) PHYS12AD

Prerequisites: Successful completion of Physics 11 or Advanced Physics 11; Mathematics 11 or Advanced Mathematics 11. Students in Advanced Physics 12 are expected to meet all the outcomes Physics 12. The depth of treatment is the major distinction. Students are required to do Literature Search and Report as well as Investigation: An Independent Study / Experiment.

Provincial Guide

- Advanced Physics 11 and Advanced Physics 12 (2011). This guide is a supplement to the Atlantic Canada Science Curriculum: Physics 11 and Physics 12 guide (2002)

Core Resources

- Advanced Physics 11 and Advanced Physics 12 (supplement)
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- DOE Examination sample questions (rec'd Jan 2011 and June 2011). The Department of Education provided schools with examination questions from their physics item bank. The questions have been put in booklet form so that teachers may use the booklet in whole as the final examination or in part to create their own examination for January and June 2011.

Physics 12 (Acad) PHY12

Prerequisites: Successful completion of Physics 11 or Advanced Physics 11

Provincial Guide

- Atlantic Canada Science Curriculum: Physics 11 and Physics 12 (2002)

Core Resources

- Physics 11 and Physics 12: A Teaching Resource (2005)
- Science Safety Guidelines Grades P-12 (2005). The **Science Safety Guidelines** gives clear information about chemical, MSDS, and general safety guidelines for laboratories. Teachers should refer to this when planning their investigations.
- A Closer Look: Doing Project-Based Science. Grades P-12 (2013)
- DOE Examination sample questions (rec'd Jan 2011 and June 2011). The Department of Education provided schools with examination questions from their physics item bank. The questions have been put in booklet form so that teachers may use the booklet in whole as the final examination or in part to create their own examination for January and June 2011.