

How the Sun Shines

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School teachers across Canada are always looking for new ways to enrich their classrooms and bring exciting science to their students, no matter the grade level. That is why I have created three versions of an astroparticle physics educational kit with provincial and territorial curriculum connections mapped across the country. The main topic is answering the question “how does the sun shine?” The three versions of the kit correspond to education levels; elementary, middle, and high school. The content and activities are also scaffolded within those levels to enhance the learning of all students in the classroom. The kits include a teacher’s resource with background information and suggested ways to implement the content, worksheets, group discussion prompts, and hands-on activity guides. Each grade explores the concepts of solar radiation, energy, nuclear fusion, and particle physics, with an option to explore the solar neutrino problem. The high school kit uses real data from the SNO experiment to illustrate the scientific process from recognizing a problem to discovery of the solution. This project brings the recent Ontario Nobel prize winner Arthur B. McDonald and his work to classrooms across Canada, offering a world class exploration into astroparticle physics, and ultimately inspiring the next generation of Canadian scientists.

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