



a WOW Lab

BLUEPRINT

Solargraphy

Achievements and Competencies

Learning Outcomes

Grades 7-8
Heat
Optics

Achievements and Competencies are based on the Canadian Provincial Math curriculums.

Specific Expectations

Grade 7

PHYSICAL SCIENCE

Heat

210-13 Test the design of a constructed device or system.

In this activity the students design, construct and test a pinhole camera. They are able to see what flaws this system has and correct for them; such as the fact that the solargraph must be scanned in order to invert the colours with photo editing software.

Grade 8

PHYSICAL SCIENCE

Optics

308-9 Describe the laws of reflection of visible light and their applications in everyday life.

In this activity students observe visible light and how it can produce a photograph. Photographic paper is used because it is coated in a light-sensitive chemical emulsion. When exposed to sunlight, the chemical configuration is altered. This allows the students to see the effects of visible light as it produces an image on the emulsion.

208-2 Identify questions to investigate arising from practical problems and issues (e.g., identify questions such as "How are corrective lenses crafted?" and "Why does sunlight bleach materials?")

This activity brings up some problems that arise throughout the investigation. Students must learn that the sun does not in fact move across the sky but rather the Earth is spinning in a counter-clockwise direction while the sun remains in the same position. Students are also faced with answering why white lines appear on the photograph. They must determine that these lines represent the sun on sunny days.