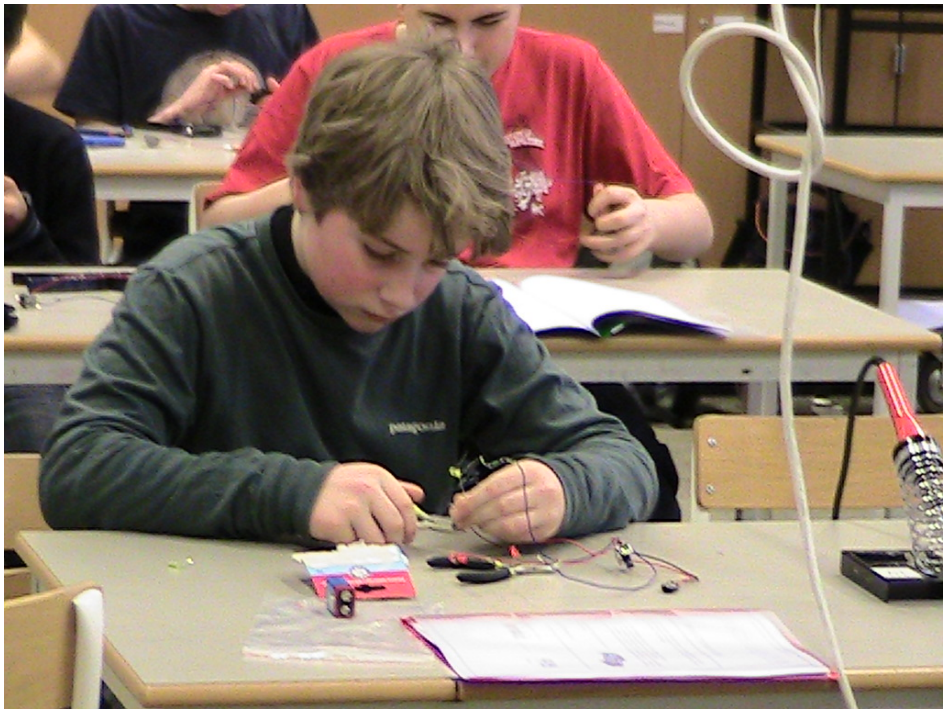
WP6j:
Using science in design and technology

Opportunities for inquiry learning in multi-disciplinary technology projects



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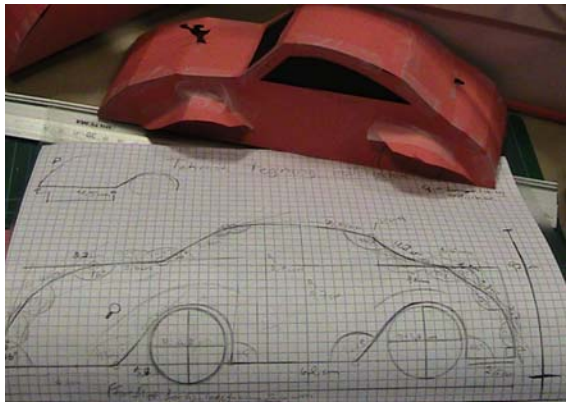
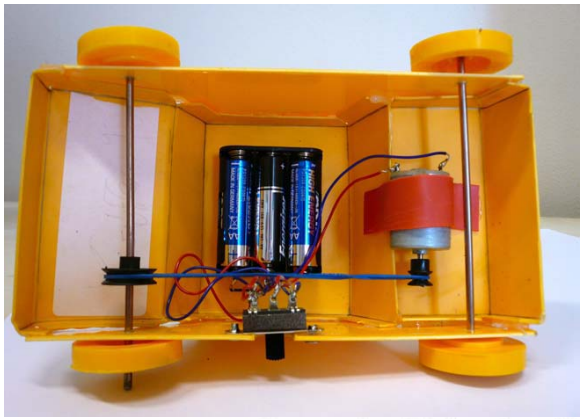
Wheels on Fire!

- An innovative cross-curricular project developed at Ruseløkka School, Oslo, Norway
- All pupils in grade 9 design and make a car model in plastic, run by an electric motor
- All teachers, and a range of subjects, contribute in the project running 2 weeks (all school hours)





How does *Wheels on Fire* reflect inquiry in science?

The rationale is not: “How does science work?”

But: *How does a person trained in science work in modern society?*

(Post-academic science, Ziman 2000)

Authentic practices in science…

Not discovering new laws of nature, but:

- Combining knowledge to achieve a goal
- Solving practical problems
- Working closely with industry and technology
- Improving products and techniques
- Finding the best solutions, within practical and economic constraints
- Using creativity in identifying opportunities

Cross-curricular technology projects provide:

- opportunities for pupils to experience the relevance of science in realistic, technological contexts.
- inquiry based on pupils' need to know in order to succeed with their product.

A resource for professional development:

- A bottom-up approach to teachers' professional development; development for change needs to be situated in the school organization
- Documenting and analysing a best case of practice
- Communicating ideas, inspiration and teaching approaches to other schools and teachers, and to teacher educators

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WP 6j products:

- **Teacher guide (6.13)**
  - → Booklet: a practical guide for teachers √ Done!
  - → DVD documenting the *Wheels on Fire* project for teachers and educators √ Done!

- ~~**Book chapter**~~ *Journal article*

  Exploring the opportunities for inquiry learning in technology projects in light of theories of learning and perspectives on how modern science and technology work ?