Integrating Engineering and Literacy

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Engineering is...

Applying understanding of the environment in the pursuit of solutions to problems,
solutions in the forms of new objects, systems, or processes.
Engineering involves...

- Identifying and scoping problems,
- Formulating ideas for possible solutions,
- Realizing, testing, evaluating and refining those ideas.
Integrating Engineering and Literacy

- Identify an engineering problem for characters in children’s literature
- Come up with ideas for solving the problem, and choose one to build
- Make a prototype to test, evaluate, and refine.
Examples of books and problems

Mixed-Up Files of Mrs. Basil E. Frankweiler
  Seeing a museum statue above the tall crowds

Shiloh
  Building a pen to keep a dog safe

Hatchet
  Making a shelter that will stay warm at night

City of Ember
  Catching the mayor stealing food

Mouse and the Motorcycle
  Helping the mouse escape from the garbage pail

Sunday, June 23, 13
Fifth-grade students’ introduction to engineering in a rural MA school

**Problem:**
Prototype a shelter that will keep the family cool on a deserted island

**Design Requirements for class:**
They’d be testing their design with a cup of water and a heat lamp.
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- Realizing, testing, evaluating and refining those ideas