

CHALLENGE 6

INVENT A BETTER WORLD

Congratulations! You've completed five invention challenges and helped spark your kids' inventive spirits. In the process, you've honed their creative problem-solving and tinkering skills, and taught them how to use the design process to think through a problem and come up with creative solutions.

Now it's time to have your kids apply their inventing skills to their own lives. Use the ideas below to help kids identify a need and then do something about it by devising an original solution.

FIND PROBLEMS TO SOLVE

Encourage kids to keep their eyes open for problems. Remind them that they don't need to look far. They can find opportunities to make improvements in their:

- community (animal shelters, grocery stores, shopping malls, recycling center, parks, etc.).
- school (lunch room, auditorium, playground, classroom, lockers, etc.).
- home (backyard, garage, bathroom, mailbox, kitchen, etc.).
- favorite activities (sports, music, reading, etc.).

BRAINSTORM

- List the problems that kids identified.
- Discuss different ways to tackle these problems. Record each idea. Seeing ideas together helps kids make imaginative connections that can often lead to even better solutions.

DEVELOP A PRELIMINARY DESIGN

- Make sure kids define what it means to succeed by having them set a goal and outline performance criteria.
- Have kids phrase their solutions as: "I will invent an x that does y."
- Encourage kids to talk to people who might use their invention.
- Have kids anticipate problems they'll need to solve as they build their projects.

BUILD

- Ask kids to list the materials they'll need.
- Have kids figure out substitutes for things that are unavailable or too expensive.

TEST, EVALUATE, AND REDESIGN

- Get kids to identify the kinds of tests that will help them perfect their invention.
- Have kids tell you how they will know when their invention has succeeded.
- Suggest that family, friends, and the ultimate users evaluate a kids invention.



MAKING A DIFFERENCE

Max, the winner of *Design Squad's* 2008 Trash to Treasure invention contest, has been inventing since he was six years old.



Max's "Home Dome" is a dwelling that's shaped like a Mongolian yurt. By stuffing packing peanuts into plastic grocery bags, Max solved two problems. He invented an effective shelter, and he found a new use for plastic bags and packing peanuts, items that cause litter and clog landfills.

SHARE SOLUTIONS

- Encourage kids to enter their invention in a contest.
- Have kids use the Internet to find out if a similar invention exists.

EXPAND SKILLS

Kids often dream up designs beyond what is possible given the materials, skills, and time available to them. Help them develop skills so they can tinker at home and turn their visions into reality by suggesting the following.

- Take discarded items apart to see how they work.
- Find an engineer or science teacher who can teach skills and provide expertise. For engineering societies that can help you locate a mentor, see Invention Resources (page 42).
- Attend weekend or summer programs to develop tinkering and building skills.

LOOK FOR OTHER PROGRAMS

Have your kids team up with like-minded peers by starting or joining an invention club.

- Start an invention club. (See page 7.)
- Future City (for middle school kids): futurecity.org
- InvenTeams (for high school kids): web.mit.edu/inventeams



Kids can apply the inventing skills they've learned to their own lives by identifying a need and then doing something about it by devising an original solution.