

## DESIGN NOTEBOOKS

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What is a design notebook?

- It's a complete record of all your thinking on a project.
- It's a place to store your ideas as you have them.
- It's also a tool for making ideas happen.
- It's an expression of visual ideas in sketch form.
- It's not a presentation medium for communication - it's just for you and your team.
- Choose a big enough book that you can really explore your ideas visually.

Why keep a design notebook?

- To record your ideas so you won't forget them.
- To hold your ideas so you can evaluate them later.
- To help clarify, or "tangibilize," ideas that are floating around in your head.
- To clear your mind of old ideas so there's space for new ones.
- Because "... one good idea leads to another..."
- To give your ideas the importance they're worthy of.
- For legal reasons!

What creative things can you do in a Design Notebook?

- Explore alternatives at every step
  - Constraints and options
  - Materials
  - Energy forms
  - Techniques and mechanisms
- Challenge the problem-as-stated
  - maybe it's too general or too specific
  - maybe the real problem is taken for granted
- Ask "what if..."
  - what if you broke the rules
  - what if you then found a way to get there within the rules
  - what if you had more time
  - what if you had no more time, but had to do it today!
- Brainstorm ideas
  - defer judgment - let the ideas flow, record them for later evaluation
  - go for quantity - give yourself lots of choices, make room for new ideas
  - get radical - scandalize, embarrass, surprise yourself
  - leapfrog - build on. transform/twist/translate/modify your own ideas
- List: questions, attributes, options, alternatives, limitations, challenges
- Analogize: what is this problem, material, situation like? sketch it
- Project: yourself into the problem - sketch it

- Fantasize: about having a complete solution - sketch it
- Plan: your time, your materials, your construction - diagram and organize. Make machining/fabrication notes
- Concretize: our thinking and get something built - sketch & note changes
- Record the outcomes and interpretations of your experiments or tests.
- Sketch at every step: give your right brain something to work with
  - o explore the problem & situation in which it occurs
  - o visualize all the options, attributes, alternatives that you've listed
  - o use quick thumbnails to get ideas down as they flash by
  - o use vivid complete drawings to really explore an idea
  - o vividness and clarity in a sketch provokes clear seeing and understanding
- Draw for excitement. A plain sketch will record your idea. An exciting sketch will get you excited about your idea. Use the design notebook as a place for positive feedback about your own good ideas.

What practical things can you do in a design notebook?

- Keep a schedule of team meetings.
- Keep records of your team's meetings—record your brainstorming sessions, as well as key decisions made by your team.
- Keep copies of class assignments.
- Keep spec. sheets on key components, like motors.
- Staple interesting photos or articles into your book.
- Keep notes on tests and experiments you did with materials or mechanisms.
- Note changes in your overall design approach.
- Make records of your manufacturing process.
- Make notes about mistakes made in design or fabrication, and how improvements can be made.

How to keep a design notebook?

- Make sure you can carry it around. Keep it handy.
- Be visual on purpose; be verbal when it makes sense.
- Use color to clarify, highlight, focus.
- Annotate, comment, editorialize, review your own ideas.
- Use arrows & bubbles to show direction and connectedness.
- Make your design notebook your personal tool, a place you like to spend time.
- **Initialize and date your entries!** This will help you keep track of your designs' evolution. The dates often help jog your memory about conversations or events.
- Find drawing materials that are easy to work with. Your 'favorite pen' will make a big difference in how much you use your design notebook.