Activity Pages

Week 1

* The Design Process

Week 2

* Shoe Design Challenge
* IDEO’s Seven Principles of Brainstorming

Week 3

* Storyboard Template (also used in Week 6)
* Storyboard Examples

Week 4

* Websites for Flying Objects
* How Far Does Your Flying Object Fly??

Week 5

* Checklist for the Perfect Hangout (also used in Week 6, 7)

Week 6

* Storyboard Template (also used in Week 3)

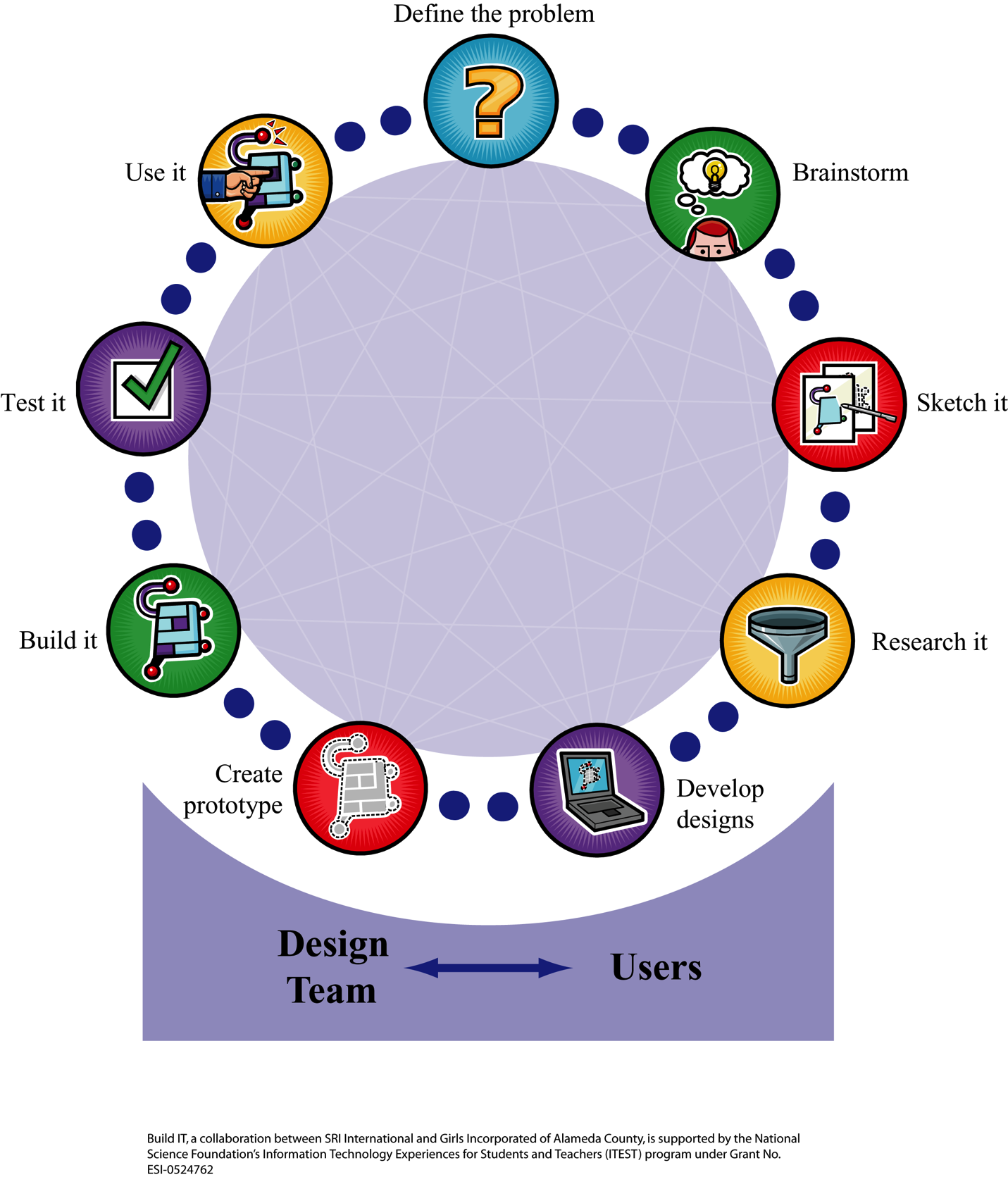
Week 7

* Checklist for the Perfect Hangout (also used in Week 5, 8)

Week 8

* Checklist for the Perfect Hangout (also used in Week 5, 7)

The Design Process



Shoe Design Challenge

* Identify the user of the shoe.
* Identify the problem that user has.
* Describe how the shoe will address the problem.
* Write down your ideas in your *Design Notebooks*—you will need this information during the next session.
* Draw sketches of how the shoes will look (form) and perform (function).

IDEO’s Seven Principles of Brainstorming

* Defer Judgment: no telling your neighbor you don’t like their idea
* Encourage Wild Ideas: the crazier, the better
* Build on the Ideas of Others
* Stay Focused on the Topic
* One Conversation at a Time: it’s rude to speak while someone else is speaking—plus you might miss hearing a good idea
* Be Visual: sometimes it’s easier to express yourself in a picture than with words
* Go for Quantity: you want lots of ideas, and you’ll worry about quality later.

Storyboard Template (print large enough for youth to use)

Project Title \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |
| --- | --- |
| **Screen Number** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Screen Sketch**  **Describe the Action**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **Screen Number** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Screen Sketch**  **Describe the Action**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Screen Number** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Screen Sketch**  **Describe the Action**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **Screen Number** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Screen Sketch**  **Describe the Action**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Screen Number** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Screen Sketch**  **Describe the Action**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | **Screen Number** \_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Screen Sketch**  **Describe the Action**  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

Storyboard Examples

Example 1

Different people can make different storyboards for the same design. See different storyboards for scientific oven mitts, from the MIT Museum.

<http://web.mit.edu/2.744/www/Project/Assignments/conceptSketches/design-o-mite/storyboard/mitt-story.html>

Example 2

Storyboard of how a software feature works

<http://www.csc.calpoly.edu/~jdalbey/205/Deliver/StoryboardExamples.html#1>

Example 3

Storyboards are also used to tell a story. You can use them to tell how a machine is used by users.

<http://youthlearn.org/activities/using-storyboards-thinking-through-visual-storytelling>

Example 4

Storyboards for how a machine works: “Understanding Your Automobile” examples

<http://www.mcli.dist.maricopa.edu/authoring/studio/guidebook/storyboard_example.html>

Websites for Flying Objects

Boomerang

History: <http://www.rangs.co.uk/boomhistory.htm>

How it works: <http://www.rangs.co.uk/howaboomworks.htm>

How it is made: <http://inventors.about.com/library/inventors/blboomerang.htm>

Frisbee

History: <http://www.ideafinder.com/history/inventions/story008.htm>

<http://inventors.about.com/library/weekly/aa980218.htm>

How it works: http://wings.avkids.com/Book/Sports/instructor/frisbee-01.html

<http://www.montshire.org/minute/mm010902.html>=

How it is made: <http://www.enquirer.com/editions/2004/07/20/biz_biz1whamo.html>

<http://www.frisbeedisc.com/products/index.html>

<http://www.pet-shop.net/html/frisbee.html>

Aerobie

History: <http://www.aerobie.com/History.htm>

How it works & is made: <http://www.aerobie.com/Science.htm>

How Far Does Your Flying Object Fly??

Every time you throw a flying object, it travels a different distance. One way we can figure out how well a design works is by **measuring individual throws** and taking an **average**.

|  |  |  |
| --- | --- | --- |
| AVERAGE = | Sum of throws | |
| Number of throws | |
| Object 1:  \_\_\_\_\_\_\_\_\_\_\_\_ | | How far did it go?  Calculate the average here by **adding** the 3 throws and **dividing** by 3 | |
| Youth 1,Throw 1 | |  | |
| Youth 2,Throw 2 | |  | |
| Youth 3,Throw 3 | |  | |
| **AVERAGE** | | Calculate the average here by **adding** the 3 throws and **dividing** by 3 | |

|  |  |
| --- | --- |
| Object 2:  \_\_\_\_\_\_\_\_\_\_\_\_ | How far did it go? |
| Youth 1,Throw 1 |  |
| Youth 2,Throw 2 |  |
| Youth 2,Throw 3 |  |
| **AVERAGE** |  |

*Remember: measure using a common unit, so that you can compare your information with the other teams.*

|  |  |
| --- | --- |
| AVERAGE = | Sum of throws |
| Number of throws |

Other teams may have also tested the same object. Write down all the averages for all the objects and calculate a final average (by adding the 2 averages and dividing by 2).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Name** | **Average 1** | **Average 2** | **Final Average** |
| **Object 1** |  |  |  |  |
| **Object 2** |  |  |  |  |
| **Object 3** |  |  |  |  |
| **Object 4** |  |  |  |  |
| **Object 5** |  |  |  |  |
| **Object 6** |  |  |  |  |

Now you have more information to help you decide design your own flying object!

Checklist for the Perfect Hangout

Your Design Plan

For the design plan, do the following:

□ Communicate your design effectively to users.

□ Use materials given, not ones created by the group.

□ Identify what each object is.

□ Include three types of technology, real or invented, with information on what each technology does.

□ Show the borders of the room and how one enters or leaves the room.

□ Show how the objects are arranged in space.

Your Presentation

For the presentation, do the following:

□ Describe the client’s needs and include quotations from the client describing those needs.

□ Explain the function of each object in the room.

□ Explain why objects are arranged the way they are.

□ Describe how the design meets the client’s needs and include quotations from the client describing whether or not the design meets those needs.

□ Describe how a user might use the room on a typical day.