# TESTING A PROTOTYPE

After you have brainstormed all of the prototypes you need to create to test your ideas and the assumptions you are making, now it is time to create a testing plan to document the goal for each test, who you need to involve, what materials will be needed, etc.

Testing is the systematic process in which HCD teams try to understand if their solution ideas and assumptions are going to be successful by gathering feedback on their prototypes from their audience of focus. Creating and executing an effective testing plan is very similar to setting up in-depth interviews or focus group discussions and requires careful planning and coordination.

## OBJECTIVE
Testing your prototypes allows teams to understand which aspects of your solutions are more likely to be successful, and which need to be changed.

## WASH-HCD CONNECTION

In order for WASH project teams to understand whether their early solution ideas are going to be successful, it is important to systematically test prototypes with your intended audience according to a set of criteria or metrics.

## TIMING

2+ days

## MATERIALS

- TESTING TRACKING TEMPLATE (OPTIONAL)

## STEPS

1. **Generate all of the assumptions and questions you want to answer about your proposed solution.**

   After you have prioritized your solution ideas and developed your prototypes, you are ready to test your prototypes. To guide your preparation, you and your team should write down all of the questions and assumptions you are making with your solution idea that you want to evaluate. For example, if you have created an early prototype of a latrine product that you believe your intended audience will buy, some assumptions that you might want to test include:

   - Customers can afford to buy your latrine.
   - Customers think your latrine is attractive.
   - Customers think your latrine is comfortable to use.
   - Customers will prefer a ceramic pan over concrete because it is easier to clean.

   These assumptions and questions are very important because they will become your criteria for evaluating the feedback you receive from your intended audience during testing.

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**STEPS**

2.  **Prepare for testing.** After you have listed all of your assumptions, it is time to prepare for testing. To help your team prepare, be sure to hold a group meeting to discuss and write down responses to the following prompts:

    o   Who are all of the stakeholders you want to test your prototypes with?
    o   Who from your team will be involved in conducting the testing? What roles will everyone play?
        i.   Similar to conducting interviews, it is helpful to assign one person to lead the testing and questions, and another to manage the notes and physical prototype materials that you bring.
    o   What physical prototype materials, printed materials, and other objects will you need?
        i.   For example, if your prototype includes several drawings of a latrine, then you will need to have physical printouts of the drawings with you.
    o   Where will you conduct your testing?
        i.   Consider testing your early prototypes with as large of a sample size as your team can manage, and then to conserve time and budget, narrow to a smaller geography and fewer people for your higher-resolution prototypes.
    o   What physical space requirements do you have for testing?
        i.   For example, do you require a flat dry surface to lay out photos for a card sort? Or perhaps you need to be near a water source to demonstrate and test a prototype handwashing station.

3.  **Carry out testing.** After you have agreed on your responses for all of the preparation questions, you can begin to schedule your testing interviews with your intended audience.

    Similar to the process of doing discovery research, you can conduct testing either using an in-depth interview or using a focus group. Focus groups can be especially helpful for testing prototypes because people often feel more comfortable giving you honest feedback if they are surrounded by peers.

    While conducting testing, be sure to take thorough notes, and hold regular debriefs as a team, using either the TOES tool, or storytelling.

4.  **Evaluate your testing findings.** By now, you should hopefully already have some general ideas about how successful your prototypes were based on the feedback from your audience. In order to map out your testing results more systematically, you can do the following:

    o   On either a large piece of poster paper or using sticky notes on a wall, begin by drawing a large table with four columns:
        i.    Column 1: Assumptions/questions
        ii.   Column 2: What did we learn?
        iii.  Column 3: What do we still NOT know?
        iv.   Column 4: What should we do next?

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5. **Evaluate your testing findings (continued).**

   ○ Now write all of the assumptions and questions that you wanted to answer under Column 1.

   ○ As a team, begin with the first assumption or question in Column 1, and write or add sticky notes in Column 2 ("What did we learn?") according to your notes and debrief discussions during testing. If you did not learn anything new about an assumption or question, then make note of that, and move on to the next one.

   ○ Next, repeat the same process for all of the assumptions and questions in Column 1.

   ○ Move on to Column 3. As a team, write down everything you did not answer about each assumption, and any new questions that came up.

   ○ Last, in Column 4, brainstorm what you want to do in your next round of testing based on what you learned and what questions you still have. A few questions to consider to get you started (these are not exhaustive):

      i. Did you have any ideas/assumptions/prototypes that completely 'failed'? If so, is there anything you can do to improve them, or is the best option to drop that idea and focus on others?

      ii. What should you modify/change/improve for each of the ideas and prototypes you created?

      iii. Are there any assumptions or questions that you were unable to answer? If so, what new ideas and prototypes can you create to answer them?

      iv. Which ideas and prototypes could you combine into a more sophisticated solution during the next round of testing?

When you are done evaluating your prototype testing results, you can return to creating your next round of prototypes to test, or, if you are confident that your solution is ready, you can create a pilot project plan.
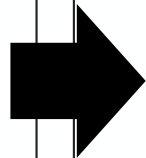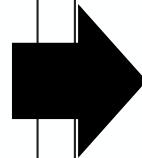
# TESTING A PROTOTYPE - TEMPLATE

**Proposed Solution:** *[State the idea or solution you were testing with your prototype]*
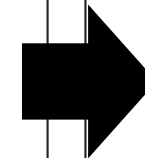
| Column 1: Assumptions, questions, and hypotheses being tested | Column 2: What did we learn? | Column 3: What do we still NOT know? | Column 4: What should we do next? |
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