

## Activities for defining the problem

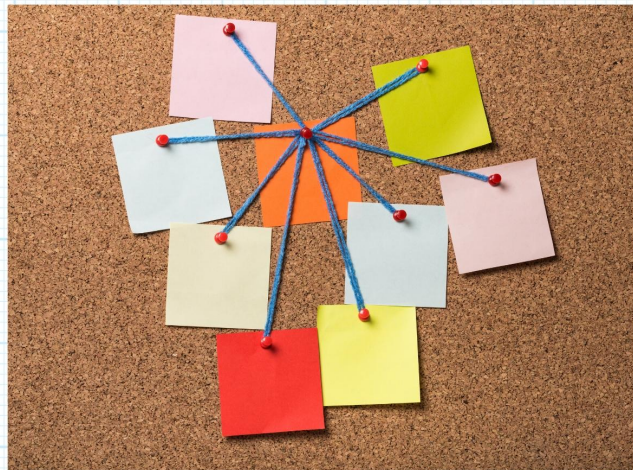
**Begin the process of processing:** If you haven't broke out the sticky notes yet, this might be the time! It also is a good point in the process to bring the teams back together as a whole group. Again, their goal is to take the information gathered from the last step and narrow down the problem in a way that is centered on the end user.

You may ask them some questions to help them to begin to process the data they collected, such as:

- What stories or experiences stood out to you?
- What surprised you?
- What trends or themes did you notice?

You could give each team stacks of sticky notes in three colors and assign a color to a question. Set a time limit and instruct participants to work individually in writing one idea per sticky note.

Once they are done, they should share their notes within their design teams with the goal of identifying themes. You may refer to the [Affinity Protocol](#) as one way for the design teams to categorize their ideas and find patterns.



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**Get down to the root cause:** The next question the teams should be ready to ponder is: *Why do you see what you see?*

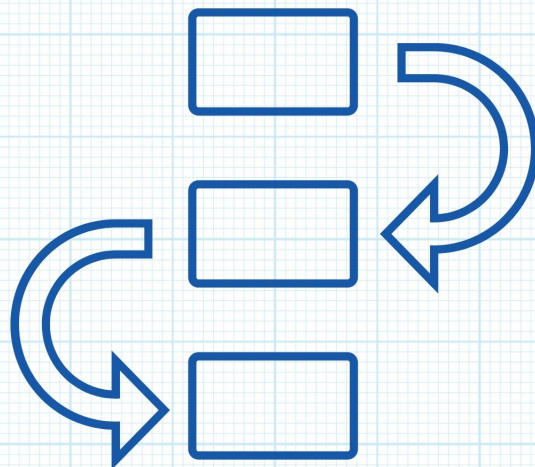
The 5 Whys is a tool for speculating about root causes by repeatedly asking the question “Why” in order to strip away layers of symptoms. This is a technique that is also part of the innovation culture of many successful startups. Throughout this discussion, the design teams should refer to the data they collected during the Understand step.

### *Process in brief*

The team writes the problem at the top of their chart paper or on a whiteboard. Underneath, they write “Why?” and draw arrows to a number of possible explanations they generate.

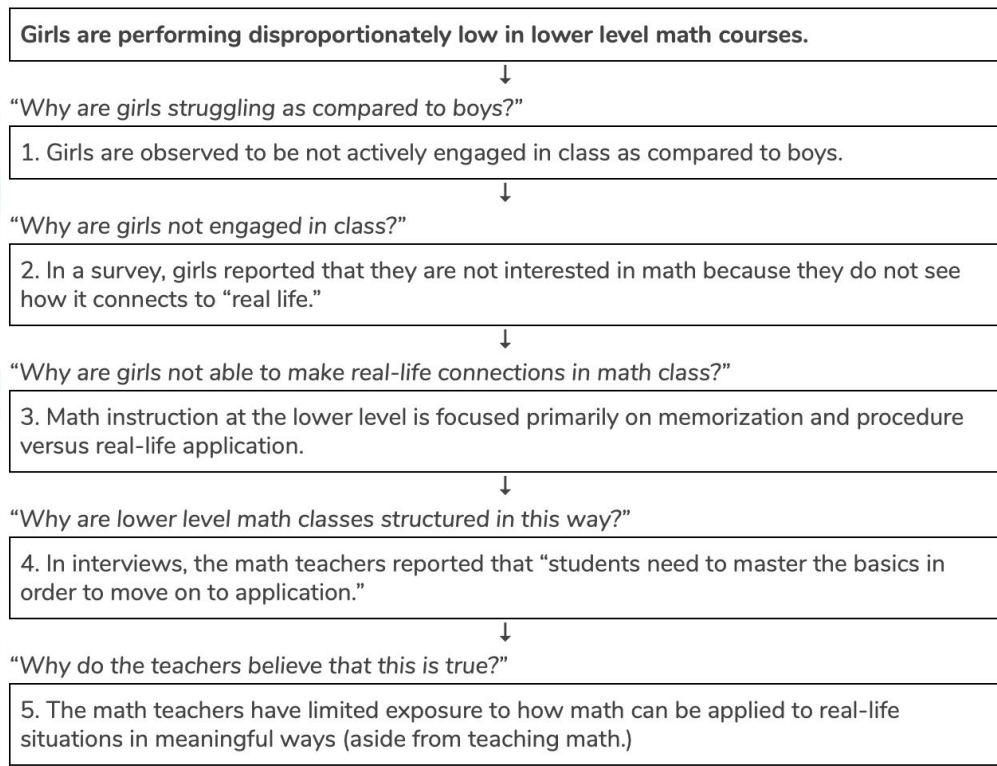
For each explanation, they keep asking “why,” and charting possible reasons underlying that explanation.

For each initial explanation, they may have to ask “why” several times before they identify core issues their team can work to address. **It is ideal to try to dig five levels deep.**



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Here's an example of the 5 Whys:



## Part 1: Identifying plausible causes

- Write the problem on chart paper or a whiteboard.
- Each member of the team will then write one or more responses to the question: "Why might this be happening?" Each response should be written on a separate sticky note.
- Place the sticky notes in a row across the chart paper under the problem. Discuss the responses and eliminate any that duplicate the same basic idea. Add any that appear to be missing.
- Rank-order the ideas from most plausible causes to least plausible.

## Part 2: Discuss why

- For the most plausible reason, again write possible explanations of why this is happening on sticky notes. Place these in a row below the most plausible cause. You can revisit the other reasons later.
- Again, rank-order the causes. Review all of the causes that you have associated with the initial, most plausible cause, and reach consensus on what the team believes to be the most likely cause.

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**Map out stakeholders and context:** Now that the design teams have drilled down to a potential root cause of the problem, you may reconvene the whole group again to discuss, reflect, ask questions, and share their progress.

You may ask the teams to consider if the problem they are exploring is grounded in mindset or infrastructure. For example, a mindset problem could be: Students are afraid of making mistakes and give up when they are frustrated; while an infrastructure problem could be: Teachers lack time to create or find lessons and learning materials that are differentiated for each student.

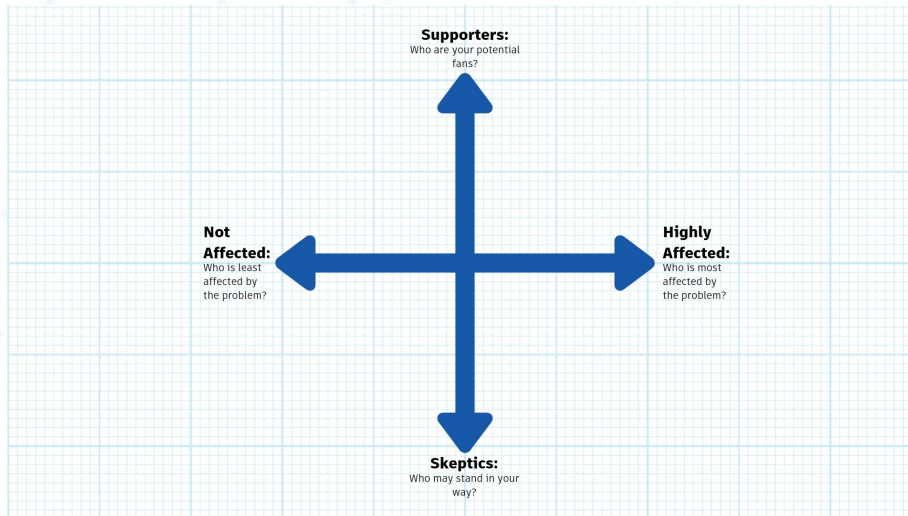
Then transition into the next activity in which the teams will brainstorm as many potential stakeholders they can that are or could be involved in the problem and write them down on individual sticky notes. When generating this list, encourage the teams to think outside school walls in regard to who could be engaged in supporting their work, such as community partners and families; in listing entities within the school, the teams should avoid naming individuals, but rather subgroups.

Once the teams have created their list, as a group, they should decide where on the "Know Your Audience" matrix (depicted on the next page) they should place each stakeholder. This could be drawn and labeled on chart paper or a whiteboard. They should be sure to also include the end user, who would likely be the most affected by the problem, but may not necessarily be the biggest supporter.

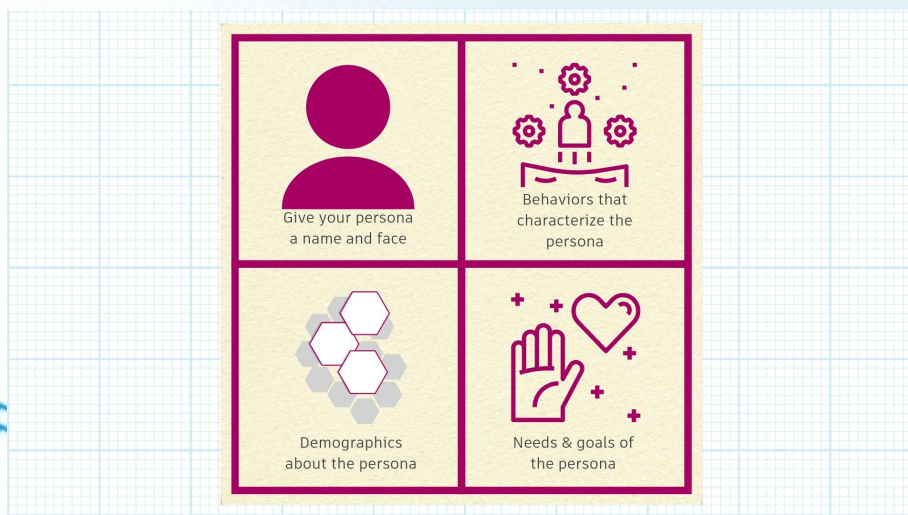
In reflecting on the completed matrix, teams should focus on who their potential fans are and how they might leverage this support later in developing a solution.

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## Know Your Audience matrix



**Add dimension to the user:** Although the end user the teams will be focusing on in their design likely represents a group of users, in creating a persona or empathy map the teams should aim to create something that looks like a character sketch - giving the persona a name and even drawing what they look like. They should use their imaginations to delve into the persona's thoughts, feelings, surroundings, and motivations. Below is a template the teams can use for creating this artifact.



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**Write a needs statement:** Finally, the design teams should synthesize everything they have done so far into a needs statement. This is a tool that helps designers narrow a large-scale challenge to a specific set of users. The format is illustrated below.

The teams should work backwards, beginning with the unique discovery, which could be an interesting contradiction, pattern, or other insight about the user. The teams should be encouraged to come up with more than one needs statement and then decide as a group which one they should move forward with.

Here's an example:

"Novice teachers need to connect with other novice teachers because they are often working late by themselves and feel isolated and overwhelmed."

User\* (be specific) needs to \_\_\_\_\_  
(action verb) because \_\_\_\_\_ (unique  
discovery about the user).