



# Design Thinking Framework: Project Planning Template

Use this framework as you plan how to guide students through the five stages of the design thinking process. This page gives common facilitator and student actions at each step. You can use the template on the next page to develop a framework that’s tailored to your specific project.

## Facilitator and Student Actions

Step	Facilitator Actions	Student Actions
<b>Empathize</b> Research users’ needs.	<ul style="list-style-type: none"> <li>• Introduce the general topic and help students connect it to their personal experiences.</li> <li>• Explain “market research” as the first step in design thinking.</li> <li>• Give students access to data collection tools and processes.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify one or more problems or issues related to the topic.</li> <li>• Research the problem or issue by doing online or library research.</li> <li>• Research users’ needs by reviewing available information and collecting data on users’ needs.</li> </ul>
<b>Define</b> State users’ needs.	<ul style="list-style-type: none"> <li>• Ask open-ended questions.</li> <li>• Guide students to use the “five whys” technique to identify the root cause of the problem.</li> <li>• Provide feedback as students develop a clear needs statement.</li> </ul>	<ul style="list-style-type: none"> <li>• Analyze and synthesize the information collected in the Empathize step.</li> <li>• Use the “five whys” questioning technique to identify the root cause of the problem.</li> <li>• Write a clear needs statement.</li> <li>• Make sure the needs statement is based on data, not on assumptions or biases.</li> </ul>
<b>Ideate</b> Brainstorm possible solutions.	<ul style="list-style-type: none"> <li>• Guide students as they analyze and synthesize the information they’ve collected on users’ needs.</li> <li>• Guide students through solutions to the root problem</li> </ul>	<ul style="list-style-type: none"> <li>• Use the root problem and needs statement developed in the Define step to brainstorm possible solutions.</li> <li>• Conduct additional research if needed.</li> </ul>
<b>Prototype</b> Create solutions.	<ul style="list-style-type: none"> <li>• Provide initial feedback on prototype feasibility.</li> <li>• Provide materials.</li> <li>• Monitor progress, ask guiding questions and provide support.</li> </ul>	<ul style="list-style-type: none"> <li>• Identify which solution you’ll develop.</li> <li>• Draw and design the prototype.</li> <li>• Determine and collect needed materials.</li> <li>• Build the prototype.</li> </ul>
<b>Test, Refine, Repeat</b> Try out solutions.	<ul style="list-style-type: none"> <li>• Help set testing parameters and safety measures.</li> <li>• Monitor testing, ask guiding questions and provide support.</li> <li>• Guide students to continue refining their solution if testing reveals a design flaw.</li> <li>• Provide feedback and encouragement.</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the testing parameters and safety measures.</li> <li>• Outline the steps for testing.</li> <li>• Decide on the measures of success.</li> <li>• Determine the data to be collected.</li> <li>• Run tests.</li> <li>• Record observations and results.</li> <li>• Collaborate to decide if refinements are needed and, if so, what to try next.</li> </ul>

*“The greatest sign of success for a teacher is to be able to say  
 “The children are now working as if I did not exist.”*

Maria Montessori





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