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Description automatically generated with medium confidenceDesign Thinking Framework: Project Planning Template

**What to do:** Use the information on the first two pages and the template on the third page to plan how you’ll guide students through the design thinking process during project work.

**Why it matters:** The design thinking process helps students develops problem-solving skills and creativity. Careful planning and facilitation ensures that you don’t miss important steps or go off track.

**Planner**



# Design Thinking Action Steps

| **Step** | **Facilitator Actions** | **Student Actions** |
| --- | --- | --- |
| **Empathize**  Research users’ needs. | * Introduce the topic and help students connect it to personal experiences. * Explain “market research” as the first step in design thinking. * Give students access to data collection tools and processes. | * Identify one or more problems or issues related to the topic. * Research the problem or issue by doing online, in-person, and library research. * Research users’ needs by reviewing available information and collecting data on users’ needs. |
| **Define**  State users’ needs. | * Ask open-ended questions. * Guide students to use the “five whys” technique to identify the root cause of the problem. * Provide feedback as students develop a clear needs statement. | * Analyze and synthesize information collected in the Empathize step. * Use the “five whys” questioning technique to identify the root cause of the problem. * Write a clear needs statement. * Make sure the needs statement is based on data, not on assumptions or biases. |
| **Ideate**  Brainstorm possible solutions. | * Guide students as they analyze and synthesize the information they collected on users’ needs. * Guide students through solutions to the root problem | * Use the root problem and needs statement developed in the Define step to brainstorm possible solutions. * Conduct additional research if needed. |
| **Prototype**  Create solutions. | * Provide initial feedback on feasibility of prototype(s). * Provide materials. * Monitor progress, ask guiding questions, and provide support. | * Identify which solution you’ll develop. * Draw and design the prototype. * Determine and collect needed materials. * Build the prototype. |
| **Test, Refine, Repeat**  Try out solutions. | * Help set testing parameters and safety measures. * Monitor testing, ask guiding questions, and provide support. * Guide students to continue refining their solution if testing reveals a design flaw. * Provide feedback and encouragement. | * Describe the testing parameters and safety measures. * Outline the steps for testing. * Decide on the measures of success. * Determine the data to be collected. * Run tests. * Record observations and results. * Collaborate to decide if refinements are needed and, if so, what to try next. |

*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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| **Prototype**  Create solutions. |  |  |
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