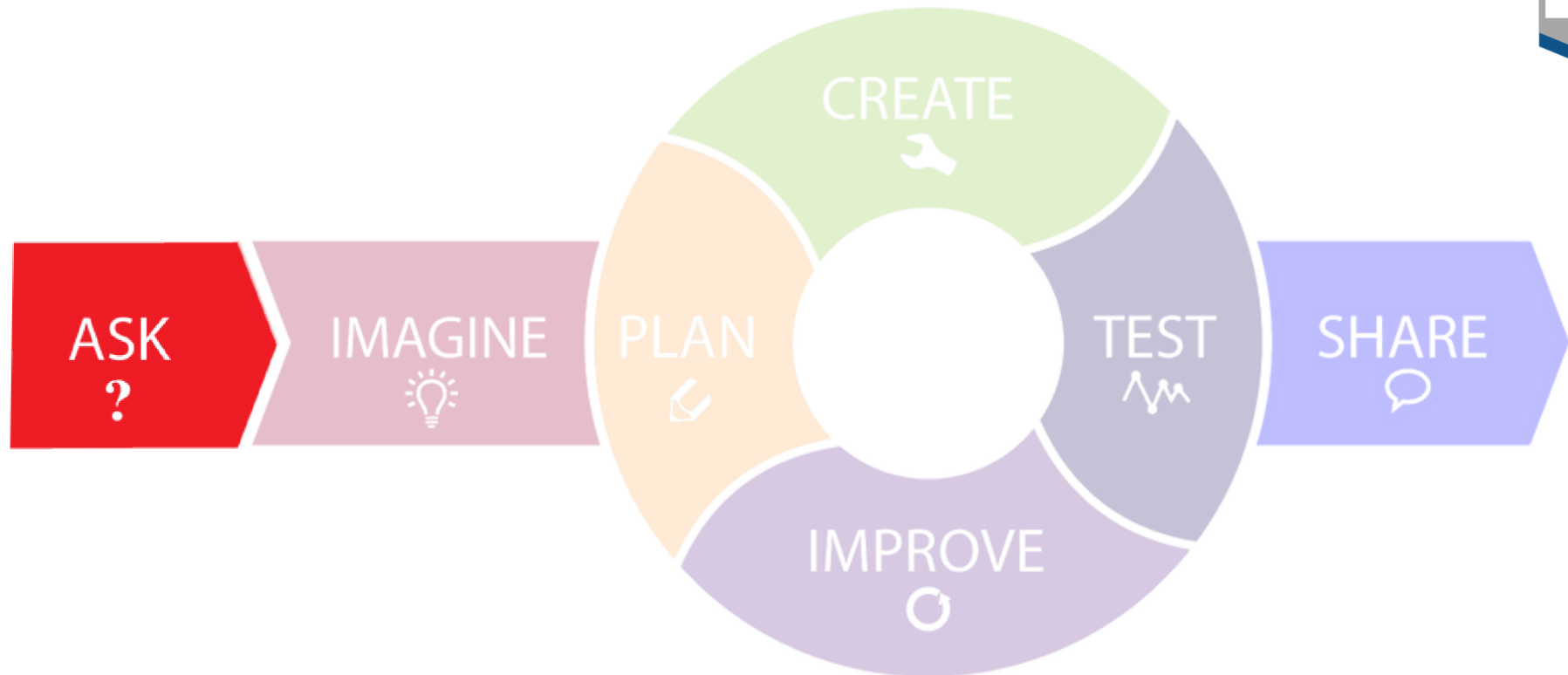


Engineering Design Process Model

Engineering Design Process Model



Engineering Design Process Model

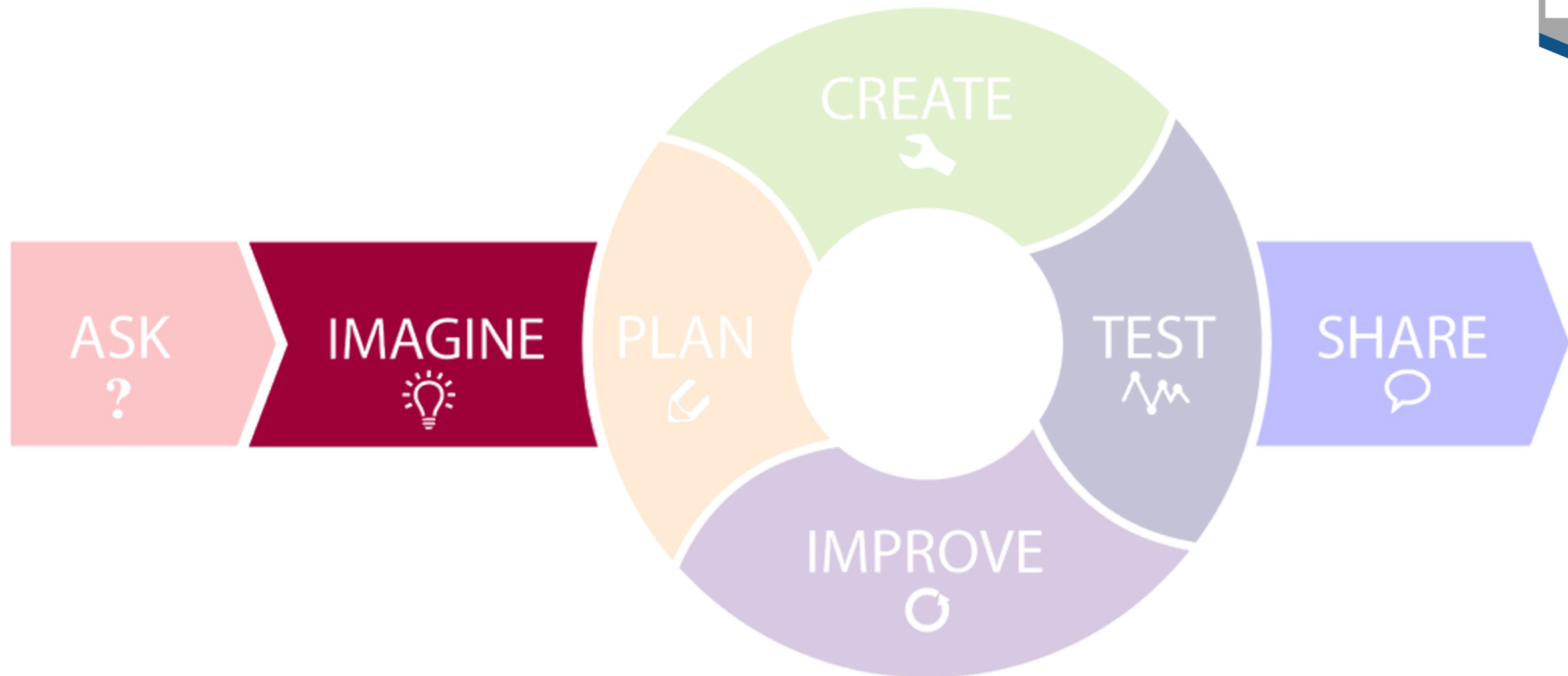


ASK

Identify/Define
the Problem

Clearly describe the problem to be solved by identifying the goal, constraints, and success criteria. Ask questions to understand what the design must do.

Engineering Design Process Model

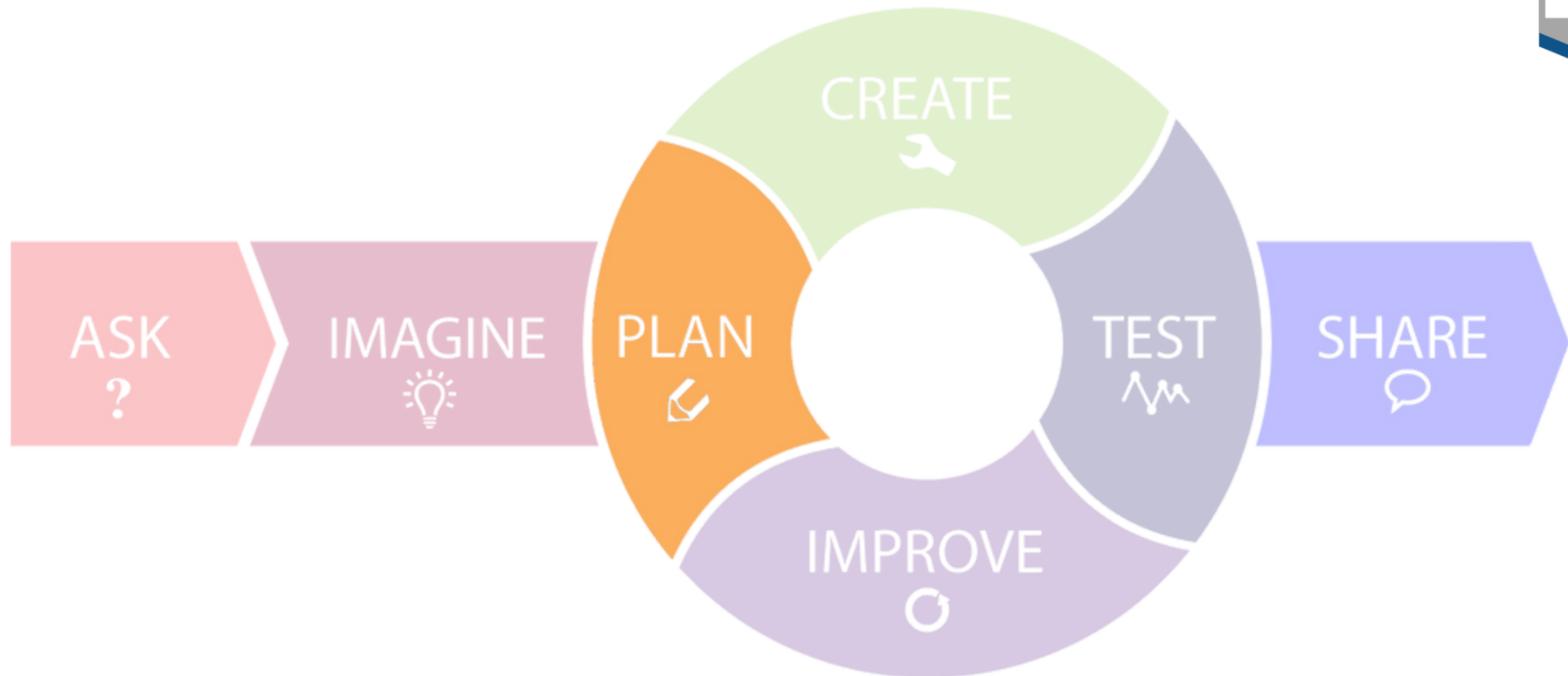


IMAGINE

Research Ideas
Build Knowledge
Brainstorm Ideas

Research existing solutions and build background knowledge related to the problem. Brainstorm multiple ideas without judging them, focusing on creativity and possibilities.

Engineering Design Process Model

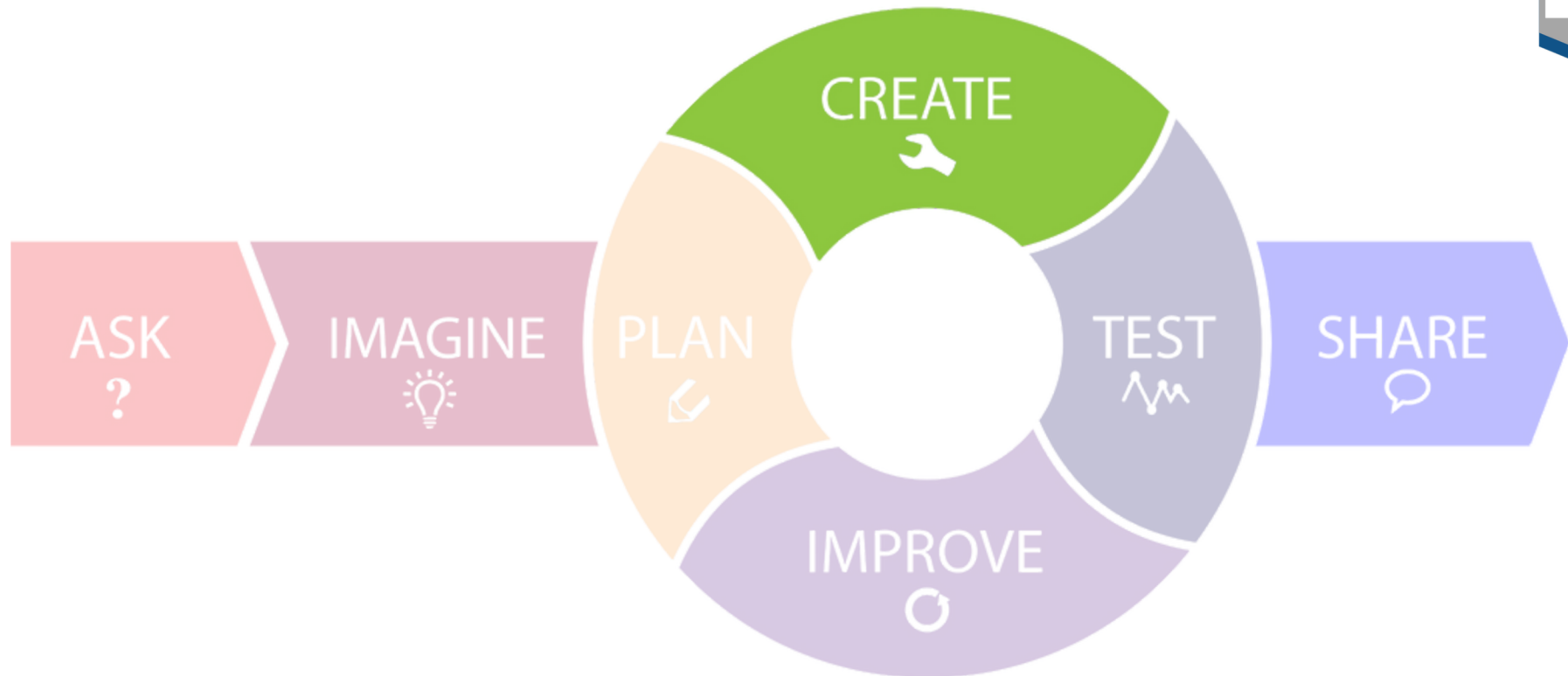


PLAN

Select a Solution
Sketch a Plan

Choose the most promising solution based on criteria and constraints. Create detailed sketches, diagrams, and plans that show how the design will be built.

Engineering Design Process Model

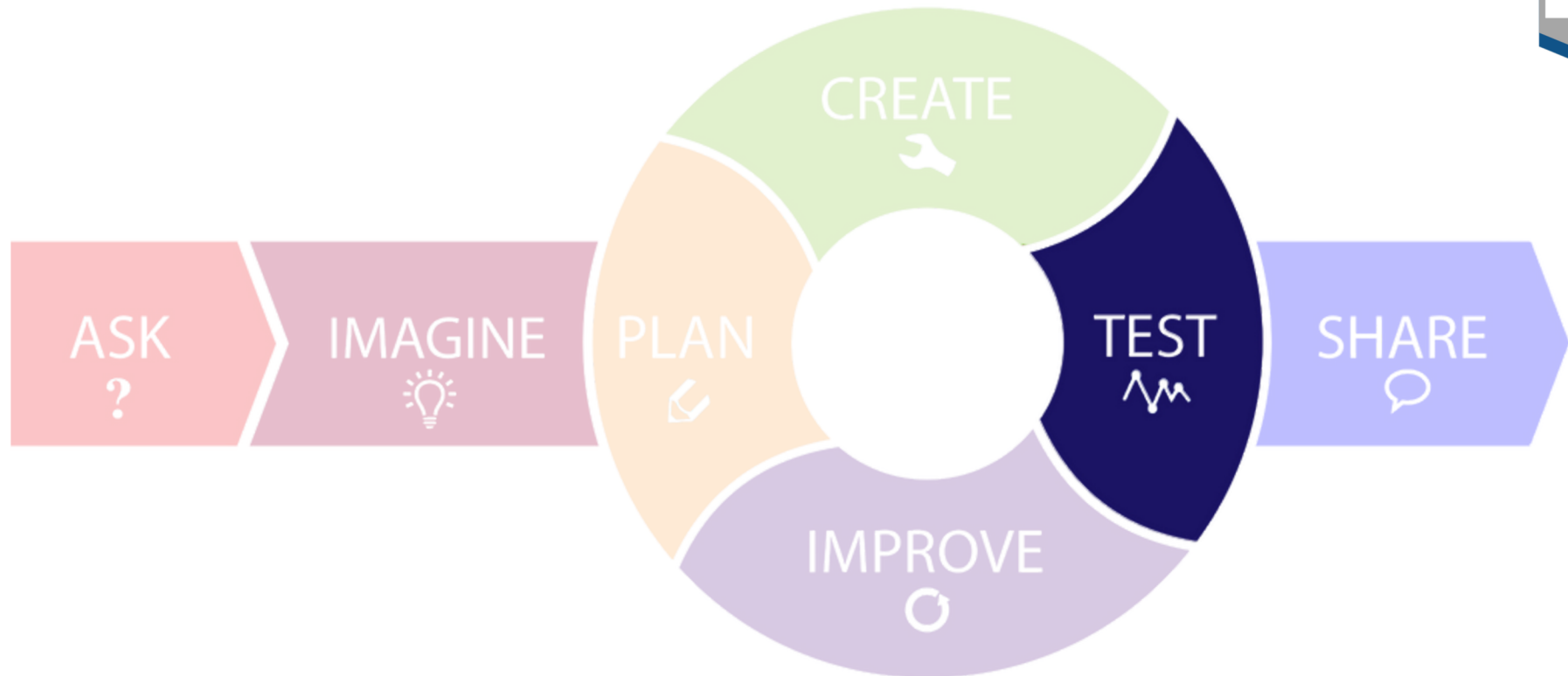


CREATE

Building a Working
Prototype

Construct a working prototype based on the plan using available materials and tools. This prototype does not need to be perfect—it is built for testing and learning.

Engineering Design Process Model

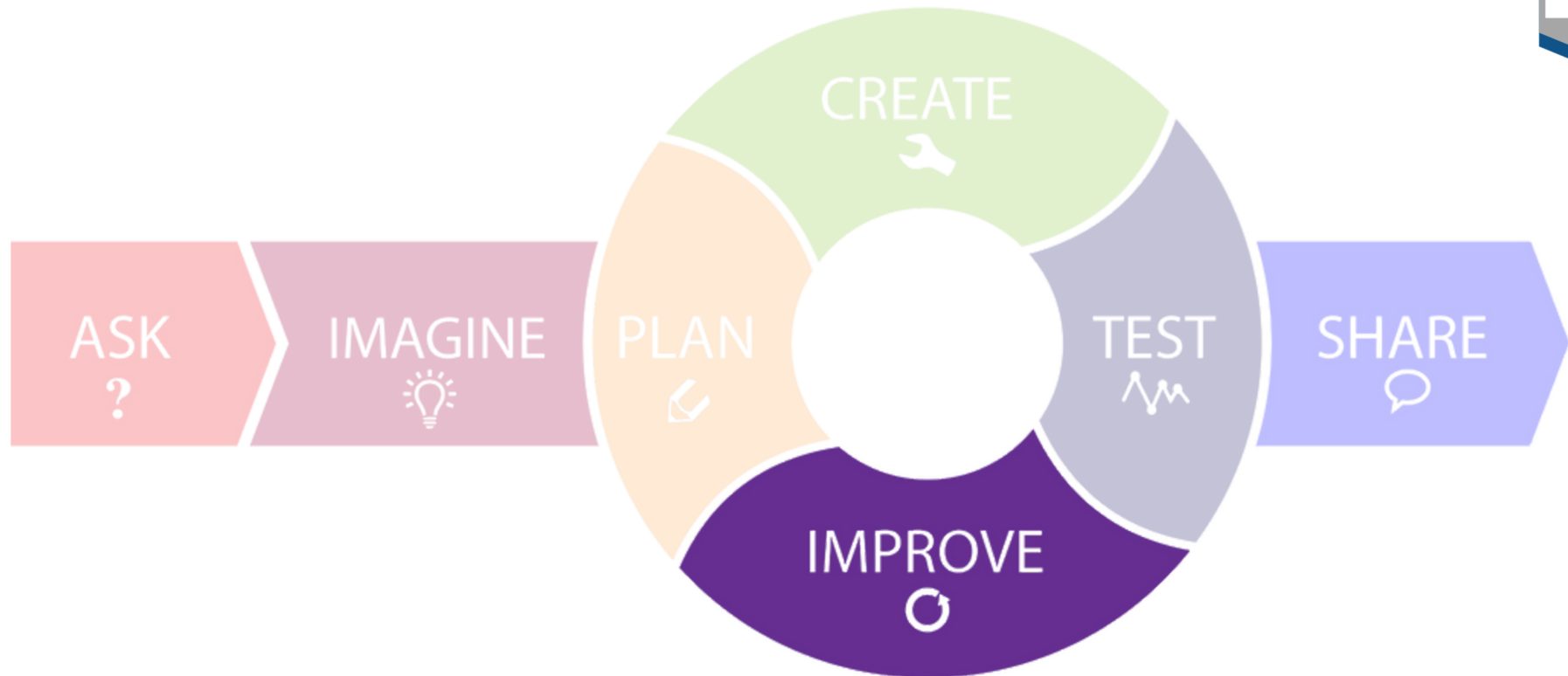


TEST

Collect Data and
Evaluate the
Prototype

Test the prototype under realistic conditions and collect data on its performance. Evaluate how well the design meets the criteria and identify areas for improvement.

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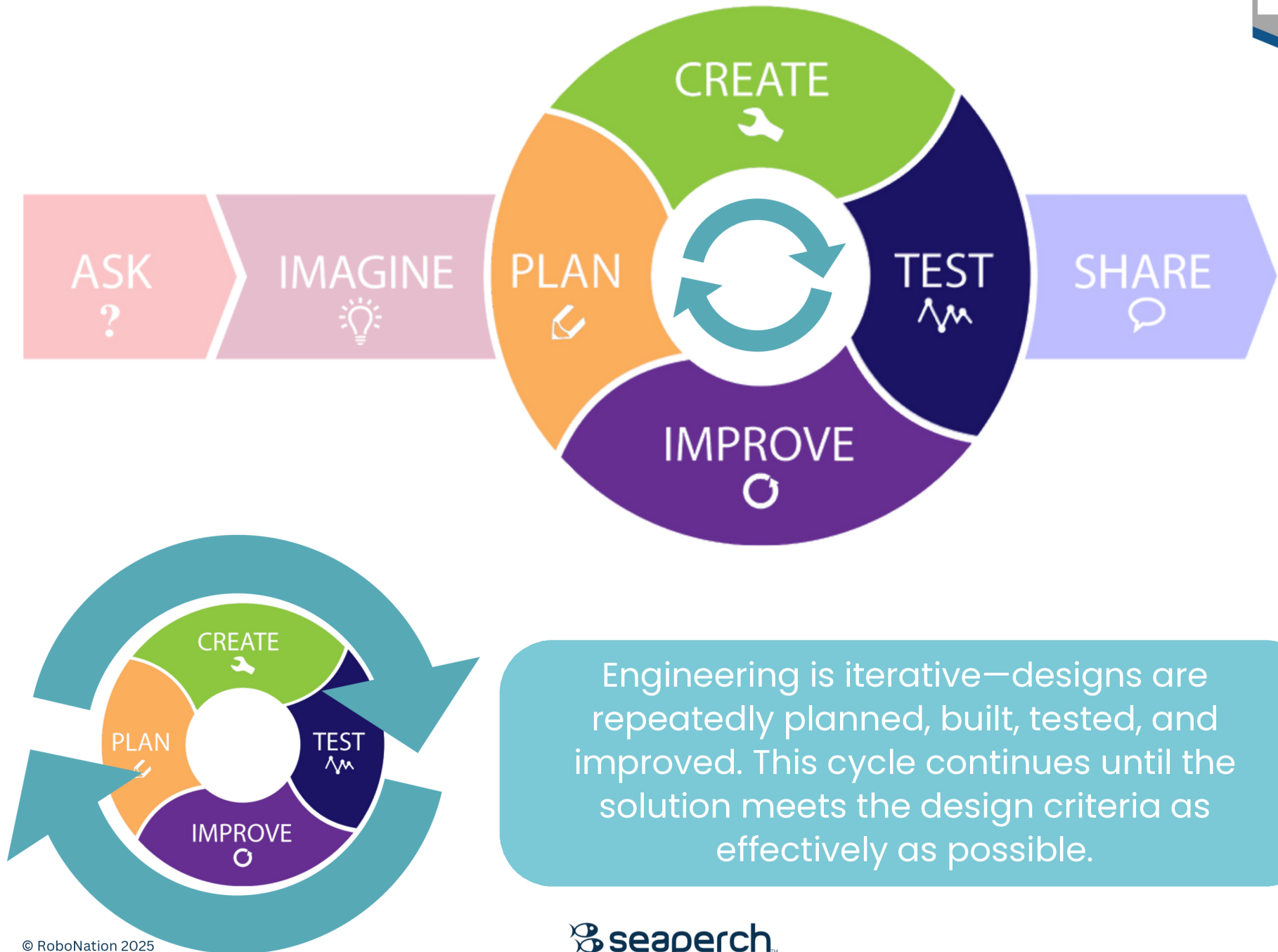


IMPROVE

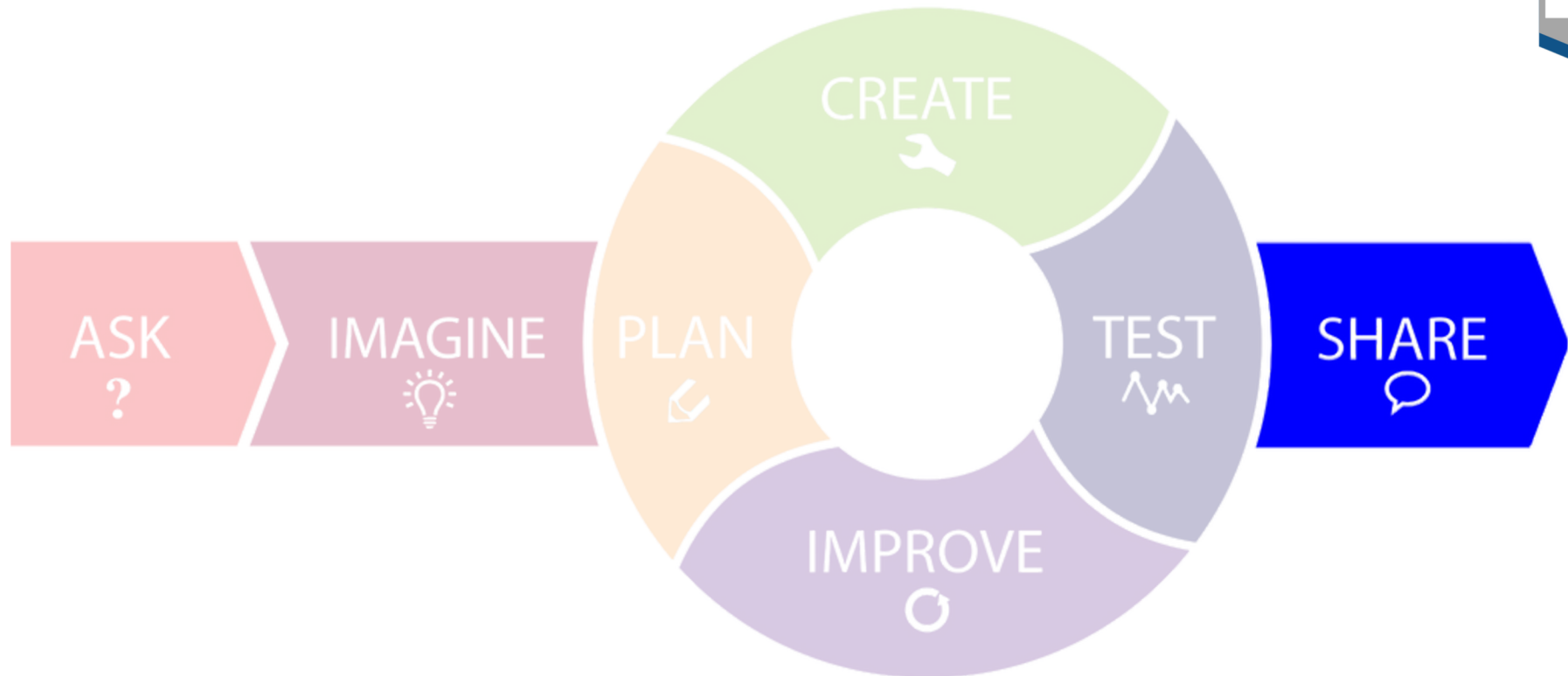
Redesign the
Prototype

Use test results and feedback to make targeted improvements to the design. Redesign, rebuild, and refine the prototype to better meet the design goals.

Engineering Design Process Model



Engineering Design Process Model



SHARE

Communicate
the Results

Communicate the final design, testing results, and improvements to others. Sharing includes explaining the process, justifying design decisions, and reflecting on lessons learned.