

Product Design Process NOTE: Steps are iterative	Product Design Process Description (Adapted from <i>We Build It Better Curriculum: Flight Works Alabama</i>) Note: Bullets may be addressed in any needed order.
Understand the problem	<ul style="list-style-type: none"> • Identify the need or desire for the product. • Pinpoint the target groups who will use this product.
Research the problem	<ul style="list-style-type: none"> • Gather information about issues related to this need, other products that address this need, and ideas that may help you meet this need, including targeted populations.
Identify criteria and constraints	<ul style="list-style-type: none"> • Determine the requirements and limitations your product must meet to measure how well the finished product performs.
Design the product	<ul style="list-style-type: none"> • Imagine a variety of creative product designs. • Evaluate your possible designs to determine which one best suits the requirements of this product. • Prepare a detailed sketch of the product design you choose. • Construct a working prototype of that product.
Test the product	<ul style="list-style-type: none"> • Assess the performance of the prototype using your evaluation criteria and constraints, along with other measurements you include. • Redesign and retest until the prototype meets specs.
Build and manufacture	<ul style="list-style-type: none"> • Prepare a technical drawing of the successful prototype drawn to scale. • Decide what materials you will use and the costs involved. • Manufacture the authentic product in needed quantities.
Ship the product	<ul style="list-style-type: none"> • Decide how you will package the product. • Confirm market locations. • Decide the best method of delivery.
Market the product (takes place at many places during the PDP)	<ul style="list-style-type: none"> • Promote the product to targeted groups, among others. • Determine the price you will charge for the product. Include manufacturing and materials costs, shipping costs, and a modest profit.
Analyze success/failure	<ul style="list-style-type: none"> • Evaluate whether your product accomplished its purpose by using the product criteria, customer satisfaction surveys, interviews, and other data collection strategies. • Use the data to optimize your product for subsequent productions.
Determine the environmental impact	<ul style="list-style-type: none"> • Determine how your product can be reused, recycled or disposed of when no longer in use. • Determine potential impacts on consumer health and well-being.