

T&I Work-Based Learning Lesson Plan - CTE Out and About

Collaborating Teachers: Brian Boykin, Rusty Boyette

Objective: Understand how a product is developed and moves through each stage of the production process, from initial creation to final shipping.

Essential Question: What are the different stages a product goes through during its development and production process?

Activity: Using Google Draw, Canva, or chart paper, create a flowchart that begins with the design stage and continues through each step until the product reaches the shipping process.

The process from design to shipping usually follows several key stages in the **product development and supply chain process**:

1. **Research and Idea Development** – Identifying a need or problem and brainstorming product ideas based on customer demand or market research.
2. **Design Stage** – Creating sketches, digital models, and detailed plans of the product. Engineers or designers decide the materials, dimensions, and features.
3. **Prototype Development** – Building a sample or test version of the product to see how it works and identify improvements.
4. **Testing and Evaluation** – Testing the prototype for safety, durability, and performance. Changes are made if problems are found.
5. **Manufacturing/Production** – Producing the product in larger quantities using machines, tools, and assembly processes.
6. **Quality Control** – Inspecting products to ensure they meet required standards and work correctly before being sold or shipped.
7. **Packaging** – Placing the product in protective packaging and labeling it for storage, sale, and transportation.
8. **Storage/Warehousing** – Storing finished products in a warehouse until they are ready to be distributed.
9. **Distribution and Shipping** – Transporting the products to retailers, distribution centers, or directly to customers using trucks, ships, airplanes, or other delivery services

Collaborative Pairs (5–7 minutes) Students work in pairs to discuss ways the process could be improved, such as the layout of machines in the plant, design procedures, and the shipping process.

Exit Ticket: Write three sentences explaining how all of these stages work together and describe possible ways the process could be improved.

Resources:

AutoCAD and Autodesk Inventor

Google Draw

Canva

Lesson Extension:

Guest Speakers: Jose and Andy from Stephenson Millwork

[Field trip request process](#)