

Connecticut CTE

# **Design and Development (Grades 6-8)**

## Design and Development

### I Design and Development DD

- a Explore the major enterprises of the designed world. DD.01
  - 1 Evaluate the major enterprises of the designed world, in the fields of communications, construction, manufacturing and transportation. DD.01.01
  - 2 Incorporate science concepts and mathematic processes applied through the use of technology. DD.01.02
  - 3 The positive and negative aspects of a design. DD.01.03
  - 4 Plan multiple design solutions to solve a problem. DD.01.04
  - 5 Explain why a design process leads to useful products and processes. DD.01.05
  - 6 Critique designs and products created to solve a problem. DD.01.06
  - 7 Explain that requirements for a design are made up of criteria and constraints. DD.01.07
- b Explore the engineering design. DD.02
  - 1 Demonstrate that evaluating, modeling, modifying and testing can be used to transform ideas into practical solutions. DD.02.01
  - 2 Gather information to gain background knowledge related to a problem. DD.02.02
  - 3 Construct a timeline to solve a problem. DD.02.03
  - 4 Select and use appropriate, materials, tools and machines. DD.02.04
  - 5 Construct tables, charts, databases, spreadsheets, and graphs to display data. DD.02.05
  - 6 Relate the design process beyond the classroom. DD.02.06
  - 7 Create various graphic representations or drawing of the design solution. DD.02.07
  - 8 Evaluate the effectiveness of a model and recommend necessary changes. DD.02.08
- c Explore the four human productive areas of technology: communications, construction, manufacturing, transportation and other related fields. DD.03
  - 1 Explain that information and communication systems allow information to be transferred from human to human, human to machine, and machine to human. DD.03.01
  - 2 Explain that communication systems are made up of a source, encoder, transmitter, receiver, decoder, and destination. DD.03.02
  - 3 Explain that the use of symbols, measurements, and drawings promotes clear communication by providing a common language to express ideas. DD.03.03
  - 4 Identify and describe types of land, water air and space transportation systems. DD.03.04

- 5 Investigate and describe the functioning of structural, propulsion, suspension, and guidance control vehicular subsystems. [DD.03.05](#)
- 6 Diagram and demonstrate the processes used for operating an efficient transportation system. [DD.03.06](#)
- 7 Explain how secondary manufacturing processes are used to change the form of materials. [DD.03.07](#)
- 8 Explain that manufactured goods are classified as durable and non-durable. [DD.03.08](#)
- 9 Explain the primary manufacturing processes used to extract material. [DD.03.09](#)
- 10 Identify the factors used to select the designs for structures based on building laws and codes, style, convenience, cost climate, and function. [DD.03.10](#)
- 11 Explain that buildings contain a variety of subsystems. [DD.03.11](#)