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

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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