

**Final Curriculum Trinity Area School District
Template for Curriculum Mapping**

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| <p>Course: Communications Grade:11-12 Designer(s): Todd Crissman</p> | <p>Overview of Course: The Communications course is the second level of both Drafting and Graphics. In this course, students will use prior knowledge learned in the Graphics and Drafting portions of the <i>Introduction to Technologies</i> course and learn strategies and techniques to complete different graphic and drafting requirements. In the Drafting portion of this course, students will learn about 2-d and 3-d models and prototypes. In the Graphics portion of this course, students will use photographs to capture, edit, and print different needs and considerations to complete a project.</p> |
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| <p>Overarching Big Ideas, Enduring Understandings, and Essential Questions (These “spiral” throughout the entire curriculum.)</p> |
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| <p>Big Idea (A Big Idea is typically a noun and always transferable within and among content areas.)</p> | <p>Standard(s) Addressed (What Common Core Standard(s) and/or PA Standard(s) addresses this Big Idea?)</p> | <p>Enduring Understanding(s) (SAS refers to Enduring Understandings as “Big Ideas.” EUs are the understandings we want students to carry with them after they graduate. Eus will link Big Ideas together. Consider having only one or two Eus per Big Idea.)</p> | <p>Essential Question(s) (Essential Questions are broad and open ended. Sometimes, Eqs can be debated. A student’s answer to an EQ will help teachers determine if he/she truly understands. Consider having only one or two Eqs per Enduring Understanding.)</p> |
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| <p>Communications</p> | | | |
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| DESIGN | 3.4.10.C1: Apply the components of the technological design process. | Components of designs fulfill specific needs. | How can specific needs of a product affect the design and function of a product? |
| ENGINEERING | 3.4.10.C2: Analyze a prototype and/or create a working model to test a design concept by making actual observations and necessary adjustments. | Working models are necessary to use in order to test a design concept. | How can the product be modified to fit the design requirements? Give an example of how a working model can be used to test a design concept. |
| PROTOTYPES | 3.4.10.D1: Refine a design by using prototypes and modeling to ensure quality, efficiency, and productivity of a final product. | Prototypes are used to ensure quality of a final product. | What is the role of a prototype when fabricating a product? |

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| FORM/FUNCTION | 3.4.10.E7: Evaluate structure design as related to function, considering such factors as style, convenience, safety, and efficiency. | Factors such as style, convenience, safety, and efficiency should be considered when evaluating structure design. | How do factors such as style, convenience, safety, and efficiency affect structure design? |
| ACCURACY | 2.3.11.C: Use properties of geometric figures and measurement formulas to solve for a missing quantity (e.g., the measure of a specific angle created by parallel lines and a transversal). | Precise measurements need to be used to ensure an accurate product. | How does precision affect quality control of a product? |
| SCALING | 2.3.8.E2.3.8.E: Describe how a change in linear dimension of an object affects its perimeter, area, and volume. | A change in linear dimension of an object affects its perimeter, area, and volume. | How are perimeter, area, and volume related to linear dimensions? |
| RESEARCH | 1.8.8.B: Conduct inquiry and research on self-selected or assigned topics, issues, or problems using a variety of appropriate media sources and strategies. | Appropriate search tools are needed to locate information for research. | How can search tools be used to locate information about safety and products? |
| DRAWING | 3.4.10.E4: Evaluate the purpose and effectiveness of information and communication systems. | Drawings are an effective way to show detail. | How can a drawing be more effective than a written description? |
| DESIGN PROCESS | S.11.A.2.1.2: Critique the elements of the design process (e.g. identify the problem, understand criteria, create solutions, select solution, test/evaluate and communicate results) applicable to a specific technological design. | The Design Process is used for research, development, and implementation of a product. | How do you go about making a product from a need or want to a finished result? |
| VISUAL BALANCE | 9.1.12.A Know and use the elements and principles of each art form to create works in the arts and humanities. Visual Arts: • color • form/shape • line • space • texture • value | Visual balance makes objects appear stable. | Why do we like organized graphics and not chaotic graphics? Why do some graphical applications look awkward and out of place? |
| MEASURING | 2.3.5.B: Select and use appropriate instruments and units for measuring quantities to a | Appropriate tools are needed in order to measure accuracy. | What measuring tools should be used for appropriate measuring situations? |

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| | specified level of accuracy. | | |
| SCALING | 2.3.8.E: Describe how a change in linear dimension of an object affects its perimeter, area, and volume. | A change in linear dimension of an object affects its perimeter, area, and volume. | How are perimeter, area, and volume related to linear dimensions? |

Big Ideas, Enduring Understandings, and Essential Questions Per Unit of Study
 (These do NOT “spiral” throughout the entire curriculum, but are specific to each unit.)

| Month of Instruction (In what month(s) will you teach this unit?) | Title of Unit | Big Idea(s) (A Big Idea is typically a noun and always transferable within and among content areas.) | Standard(s) Addressed (What Common Core Standard(s) and/or PA Standard(s) addresses this Big Idea?) | Enduring Understanding(s) (SAS refers to Enduring Understandings as “Big Ideas.” EUs are the understandings we want students to carry with them after they graduate. EUs will link Big Ideas together. Consider having only one or two EUs per Big Idea.) | Essential Question(s) (Essential Questions are broad and open ended. Sometimes, EQs can be debated. A student’s answer to an EQ will help teachers determine if he/she truly understands. Consider having only one or two EQs per Enduring Understanding.) | Common Assessment(s)* (What assessments will all teachers of this unit use to determine if students have answered the Essential Questions?) | Common Resource(s)* Used (What resources will all teachers of this unit use to help students understand the Big Ideas?) |
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| Month(s) 1-3 | DRAFTING | MEASURING | 2.3.11.A | Appropriate tools are needed in order to measure accuracy. | What measuring tools should be used for appropriate measuring situations? | Exams, teacher observation. | Handouts, websites. |
| Month(s) 1-3 | DRAFTING (CONTINUED) | SCALING | 2.3.8.B | A change in linear dimension of an object affects its perimeter, area, and volume. | How are perimeter, area, and volume related to linear dimensions? | Exams, worksheets, teacher observation. | Handouts, websites, PPT. |
| Month(s) 1-3 | DRAFTING (CONTINUED) | ACCURACY | 2.3.11.C: | Precise measurements need to be used to ensure an accurate product. | How does precision affect quality control of a product? | Student projects, teacher observation | Handouts, websites, PPT. |
| Month(s) 1-3 | DRAFTING (CONTINUED) | DRAWING | 3.4.10.E4: | Drawings are an effective way to show detail. | How can a drawing be more effective than a written description? | Student projects, teacher observation | Handouts, websites, PPT. |
| Month(s) 4-6 | GRAPHICS | VISUAL BALANCE | 9.1.12.A | Visual balance makes objects appear stable. | Why do some graphic organizers look chaotic and some look visually pleasing? | Student projects, teacher observation | Handouts, websites, PPT. |

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| Month(s) 4-6 | GRAPHICS (CONTINUED) | DESIGN | 3.4.10.C1: | Components of designs fulfill specific needs. | How can specific needs of a product affect the design and function of a product? | Student projects, teacher observation | Handouts, websites, PPT. |
| Month(s) 4-6 | GRAPHICS (CONTINUED) | DESIGN PROCESS | S.11.A.2.1.2: | The Design Process is used for research, development, and implementation of a product. | How do you go about making a product from a need or want to a finished result? | Student projects, teacher observation | Handouts, websites, PPT. |

* Some teachers may need to think about the assessments and resources used in order to determine the Big Ideas, Enduring Understandings, and Essential Questions embedded in their courses. At this point in your curriculum mapping, you might want to ignore the “Common Assessments” and “Common Resources Used” columns. However, you may use them if you wish.