Curriculum Map for: Grade 8 Technology

Prepared October 11, 2005

Prerequisites:

Scope:

Assessment:

Assessment comes in a variety of forms and wherever possible should be used to reflect and enhance the teaching and learning process that occurs in a classroom. Assessment should not be seen as a separate activity, but as an integral part of the teaching and learning process. Alternative assessments apply to any and all assessments that differ from multiple choice, timed, one-shot approaches that characterize most standardized and classroom assessment. Authentic assessments are assessments that engage students in applying knowledge and skills in the same way they are used in the real-world. Performance assessment is a broad term, encompassing many of the characteristics of both authentic and alternative assessments.

As this course of study demonstrates, it is clear that no single type of assessment could provide an accurate measurement of the learning experience. Students should have the best opportunity to demonstrate their understanding of the learning experience. Therefore, it is suggested that a variety of data gathering methods be used such as objective tests, observations, products, written reports, performances and a collection of student works.

The **TIME** column offers a suggested time-line so that all topics listed in the **CONTENT/SKILLS** column are feasibly met. It is understood that times will need adjustments as the course develops. The **APPLICATION/PROJECT IDEAS** column offers suggestions and sources for the teacher. This column should be updated periodically to keep current and as new ideas are generated. The **KEY IDEA/PERFORMANCE INDICATOR** column coordinates topics with the NYS standards.

TIME	CONTENT/SKILLS	APPLICATIONS/PROJECT IDEAS	KEY IDEA/PERFORM INDICATOR
10 Days (2 Weeks)	Review: • 7 Technological Resources • Technical Drawing • Measurement • Problem Solving • Systems • Systems Models • Safety	Chapter 4 • Reading Assignment • Chapter Outline • PowerPoint Presentation House of Cards Project	Develop plans, including drawings with measurements and details of construction, and construct a model of the solution, exhibiting a degree of craftsmanship. Describe applications of information technology in mathematics, science, and other technologies that address needs and solve problems in the community. Use maps and scale drawings to represent real objects or places. Use concrete materials and diagrams to describe the operation of real world processes and systems. Estimate, make and use measurements in real-world situations. Observe and describe properties of materials, such as density, conductivity, and solubility. Describe the effects of environmental changes on humans and other populations. Locate and utilize a range of printed, electronic, and human information resources to obtain ideas. Consider constraints and generate several ideas for alternative solutions, using group and individual ideation techniques (group discussion, brainstorming, forced connection role play); defer judgment until a number of ideas have been generated; evaluate (critique) ideas; and explain why the chosen solution is optimal. Develop plans, including drawings with measurements and details of construction, and construct a model of the solution, exhibiting a degree of craftsmanship. In a group setting, test their solution against design specifications, present and evaluate results, describe how the solution might have been modified for different or better results, and discuss tradeoffs that might have been made. Choose and use resources for a particular purpose based upon analysis and understanding of their properties, cost, availability, and environmental impact. Use a variety of hand tools and machines to change materials into new forms through forming, separating, and combining processes, and processes which cause internal change to occur.

TIME	CONTENT/SKILLS	APPLICATIONS/PROJECT IDEAS	KEY IDEA/PERFORM INDICATOR
25 Days (5 Weeks)	Electricity and Electronics -Current -Electronic Components -Circuits Open-Loop and Closed Loop Systems Sensors/Conductors/Decision Makers	Chapters 7 and 13 • Reading Assignment • Chapter Outline • PowerPoint Presentation Fan Car Design and Construction	Develop plans, including drawings with measurements and details of construction, and construct a model of the solution, exhibiting a degree of craftsmanship. Describe applications of information technology in mathematics, science, and other technologies that address needs and solve problems in the community. Use maps and scale drawings to represent real objects or places. Use concrete materials and diagrams to describe the operation of real world processes and systems. Estimate, make and use measurements in real-world situations. Observe and describe properties of materials, such as density, conductivity, and solubility. Observe and describe energy changes as related to chemical reactions.

TIME	CONTENT/SKILLS	APPLICATIONS/PROJECT IDEAS	KEY IDEA/PERFORM INDICATOR
			Observe and describe the properties of sound, light, magnetism, and electricity. Locate and utilize a range of printed, electronic, and human information resources to obtain ideas. Consider constraints and generate several ideas for alternative solutions, using group and individual ideation techniques (group discussion, brainstorming, forced connection role play); defer judgment until a number of ideas have been generated; evaluate (critique) ideas; and explain why the chosen solution is optimal. Develop plans, including drawings with measurements and details of construction, and construct a model of the solution, exhibiting a degree of craftsmanship. In a group setting, test their solution against design specifications, present and evaluate results, describe how the solution might have been modified for different or better results, and discuss tradeoffs that might have been made.

TIME	CONTENT/SKILLS	APPLICATIONS/PROJECT IDEAS	KEY IDEA/PERFORM INDICATOR
			Choose and use resources for a particular purpose based upon analysis and understanding of their properties, cost, availability, and environmental impact. Use a variety of hand tools and machines to change materials into new forms through forming, separating, and combining processes, and processes which cause internal change to occur.

TIME	CONTENT/SKILLS	APPLICATIONS/PROJECT IDEAS	KEY IDEA/PERFORM INDICATOR
25 Days (5 Weeks)	Communication Systems -What is communication? Types of communication. -Effects of modern technology on communication systems	Chapter 8 • Reading Assignment • Chapter Outline • PowerPoint Presentation •iMovie/Video •PowerPoint presentation •Poster Project – Development and presentation.	In a group setting, test their solution against design specifications, present and evaluate results, describe how the solution might have been modified for different or better results, and discuss tradeoffs that might have to be made. Use a range of equipment and software to integrate several forms of information in order to create good quality audio, video, graphic and text-based presentations. Use graphical, statistical, and presentation software to present a project to fellow classmates. Locate and utilize a range of printed, electronic, and human information resources to obtain ideas. Consider constraints and generate several ideas for alternative solutions, using group and individual ideation techniques (group discussion, brainstorming, forced connection role play); defer judgment until a number of ideas have been generated; evaluate (critique) ideas; and explain why the chosen solution is optimal. In a group setting, test their solution against design specifications, present and evaluate results, describe how the solution might have been modified for different or better results, and discuss tradeoffs that might have been made.