

## **Middle School G/T Research Essential Curriculum**

### **UNIT I: Exploring the Essentials of Research**

**Goal 1.** The student will demonstrate the ability to identify the purposes for conducting research.

Objectives - The student will be able to:

- a. Identify familiar examples of research.
- b. Differentiate among the varying purposes for research in different fields. (\*)

**Goal 2.** The student will demonstrate the ability to distinguish between primary and secondary research.

Objectives - The student will be able to:

- a. Identify examples of primary research.
- b. Identify examples of secondary research.
- c. Use primary and secondary sources to answer a teacher-selected research question.

### **UNIT II: Conducting Secondary Research**

**Goal 1.** The student will demonstrate the ability to conduct secondary research on a self-selected topic.

Objectives - The student will be able to:

- a. Identify an area of interest. (\*)
- b. Examine creative problem-solving strategies. (\*)
- c. Gather a variety of sources and create a preliminary bibliography. (\*)
- d. Develop a working thesis by narrowing the focus of the topic. (\*)
- e. Organize and record information obtained. (\*)
- f. Develop and maintain a portfolio and management plan. (\*)

**Goal 2.** The student will demonstrate the ability to report secondary research findings on the self-selected topic.

Objectives - The student will be able to:

- a. Construct a written analysis of the information obtained. (\*)
- b. Construct a reflection on the secondary research process.

### **UNIT III: Modeling Primary Research**

**Goal 1.** The student will demonstrate the ability to explore the primary research process and the five corresponding research designs.

(\*) = Core objectives for students who are conducting research investigations.  
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Objectives - The student will be able to:

- a. Identify the steps of the primary research process within a sample study. (\*)
- b. Recognize an appropriate research design for a given research question. (\*)
- c. Recognize an appropriate sample selection for surveying.

**Goal 2.** The student will demonstrate the ability to define and utilize the key components of descriptive research.

Objectives - The student will be able to:

- a. Select an appropriate measurement tool, such as a survey or an observation.
- b. Analyze numerical descriptive data by determining the frequency, median, mode, and mean.
- c. Analyze nominal descriptive data using chi square.
- d. Utilize effective interviewing techniques.
- e. Summarize qualitative data and draw conclusions.

**Goal 3.** The student will demonstrate the ability to define and utilize the key components of correlational research.

Objectives - The student will be able to:

- a. Explain the relationship between multiple independent variables.
- b. Calculate the correlational coefficient for a set of data.

**Goal 4.** The student will demonstrate the ability to define and utilize the key components of historical research.

Objectives - The student will be able to:

- a. Develop an historical research question.
- b. Utilize the tools of the historian.
- c. Assess the validity of information using triangulation of data.

**Goal 5.** The student will demonstrate the ability to define and utilize the key components of experimental research.

Objectives - The student will be able to:

- a. Identify independent and dependent variables, as well as constants.
- b. Explain how to design a controlled experiment.
- c. Analyze and chart data.
- d. Calculate t-test values.
- e. Identify potential sources of error.

#### **UNIT IV: Conducting Primary Research**

**Goal 1.** The student will demonstrate the ability to conduct primary research on the previously self-selected topic.

(\*) = Core objectives for students who are conducting research investigations.  
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Objectives - The student will be able to:

- a. Re-examine the secondary research findings. (\*)
- b. Identify a research question and develop an investigation assumption. (\*)
- c. Select and implement an appropriate research design. (\*)
- d. Create a primary resource measurement tool to collect data. (\*)
- e. Triangulate data to ensure the validity of acquired data. (\*)
- f. Collect and analyze data. (\*)
- g. Document research findings in an abstract. (\*)
- h. Maintain a portfolio and management plan. (\*)

## **UNIT V: Putting Research into Action**

**Goal 1.** The student will demonstrate the ability to identify the key components in a teacher-selected research investigation.

Objectives - The student will be able to:

- a. Identify the need or problem.
- b. Identify the primary and secondary research conducted.
- c. Examine how the research findings guided the development of a solution to the problem.

**Goal 2.** The student will demonstrate the ability to develop a plan of action based upon original research findings on the previously self-selected topic.

Objectives - The student will be able to:

- a. Review the identified, original need or problem. (\*)
- b. Revisit original primary and secondary research findings. (\*)
- c. Use the research findings to determine the most appropriate and original solution to the identified need or problem. (\*)
- d. Develop the original product or solution. (\*)
- e. Identify the appropriate audience. (\*)
- f. Revise the action plan based upon feedback from professionals in the field. (\*)
- g. Maintain a portfolio and management plan. (\*)

**Goal 3.** The student will demonstrate the ability to implement the original product or solution and to communicate its significance to an authentic and appropriate audience.

Objectives - The student will be able to:

- a. Develop an instrument for audience feedback. (\*)
- b. Develop a presentation of the original product or solution to communicate research findings. (\*)
- c. Implement the original product or solution. (\*)
- d. Write a reflection on the original product or solution. (\*)