Quests and Quandaries

Exploring Intellectual Interests in Depth

Teacher Guide

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Royal Fireworks Press
Unionville, New York

Introduction

Quests and Quandaries consists of thirty-six lesson plans for a nine week course designed to meet the needs of gifted students in grades 4-12. The two overarching goals are to: (a) facilitate for students the process of discovering and exploring intellectual interests in depth using Kaplan's (2009) Depth and Complexity Model as a framework; and (b) to introduce various problem-solving strategies and provide opportunities for students to engage in problem-solving using the Problem-Based Learning method as described by Gallagher (2012). At the end of the unit, students will have completed ten hours of research on their topics in class and twelve hours creating an authentic product to demonstrate what they have learned. Standards embedded in the unit include components of the National Common Core Standards for Language Arts and the National Association for Gifted Children's Learning and Development Standards. A list of the applicable standards and all unit specific objectives can be found on page 4.

Note: The Appendices starting on page 70 are also available as downloads from the Royal Fireworks Press website:

rfwp.com/bookfiles

There are also a number of links to apps and internet videos. A list of hyperlinks are also available at the above web address.

Week One

Lessons 1-4

Overview of Week One:

A. Introduction to unit theme *(20 mins.)*

B. Pretest *(20 mins.)*

C. Class norms *(10 mins.)*

D. Developing Guiding Principles for Quests and Quandaries *(30mins.)*

E. Introduction to the Traits of a Scholar *(30 mins.)*

F. Individual Excellence Goals form overview *(10 mins.)*

G. Power-Level Profile and Interest Inventory / Step 1 in Workbook *(45 mins.)*

H. Choose Topic to Develop Into a Scholar / Step 2-5 in Workbook *(45 mins.)*

I. Quests and Quandaries Hall of Fame *(25 mins.)*

J. Problem-Solving Strategies *(20 mins. each day)*

Note: All appendices are also available as PDF downloads at rfwp.com/bookfiles

Objectives:

- Students will generate enduring understandings describing quests and quandaries.
- Students will assess their own interests and challenges to determine a topic to explore.
- Students will discover and practice the Traits of a Scholar.

Materials:

- E-Brainteaser (page 8)
- Pretest (Appendix B)
- *Quests and Quandaries Research Notebook and Problem Log*
- *My Plan to Become a Scholar* workbook
- Video clips: (a) Quest to Quandary, and (b) Quandary to Quest
- SCAMPER mobile app
- *How we Showed the Oceans Could Clean Themselves* - Boyan Slat. YouTube
- Quests and Quandaries Hall of Fame Nomination Form (Appendix D)
- 6 cups per group of five students

Assessments:

- Unit pretest
- Journal prompts
- Problem Log
- Observation
- Classroom discussions
- Interest Inventory
- Power-Level Profile
- Hall of Fame Nomination Form

Teacher Note:

If you are unfamiliar with any of the teaching strategies below, please locate and read the following resources:

Kaplan Depth and Complexity Model:

Kaplan, S. (2009). *The Grid: A Model to Construct Differentiated Curriculum for the Gifted*. In Renzulli & Gubbins *Systems and Models for Developing Programs for the Gifted and Talented*. Mansfield Center, CT: Creative Learning Press.

Problem-Based Learning:

Gallagher, S. (2012). *Problem-Based Learning in your Classroom.* Royal Fireworks Press.

Lesson One

Unit Introduction

1. Introduce the title of the unit to the students (i.e., *Quests and Quandaries*). Ask the students to predict what they might be asked to do during the unit.
2. Direct the students to complete the unit pretest.
3. Discuss class norms (C3PO):
    - **C**HALLENGE Yourself
    - **C**OOPERATE With Peers
    - Make Good **C**HOICES
    - **P**ARTICIPATE in Class
    - Be an **O**RIGINAL
4. Explain to students that our second task is to come to a mutual agreement as to the meaning of the word *quest* and the word *quandary.* Guide students through the process of generating a list of enduring understandings describing the two words using the bubble maps included in the *Quests and Quandaries Research Book*. See teacher note on previous page for more information on how to accomplish this using the method created by VanTassel-Baska.

Possible Examples:

- Quests begin with pre-planning and courage.
- Quests may lead to discoveries and can be very rewarding.
- Quandaries are questions or challenges.
- Quandaries can be solved in many ways.

5. Read the statement below to the students:
"One major goal of the unit is to embark on a learning quest to become a scholar in an area of your choosing. You also have the option to tackle a quandary you may be experiencing instead."
6. Ask the students what a scholar is (def.: *someone who has advanced detailed knowledge in a particular area*). Give examples of scholars they may know and ask students to generate additional examples on their own.
7. Explain to students that in the next few days each student will design individual excellence goals for him- or herself. Explain that the final project for this unit will be an "Expertise Expo" in which each of them will be asked to demonstrate the depth of his or her learning in an interesting or creative way.

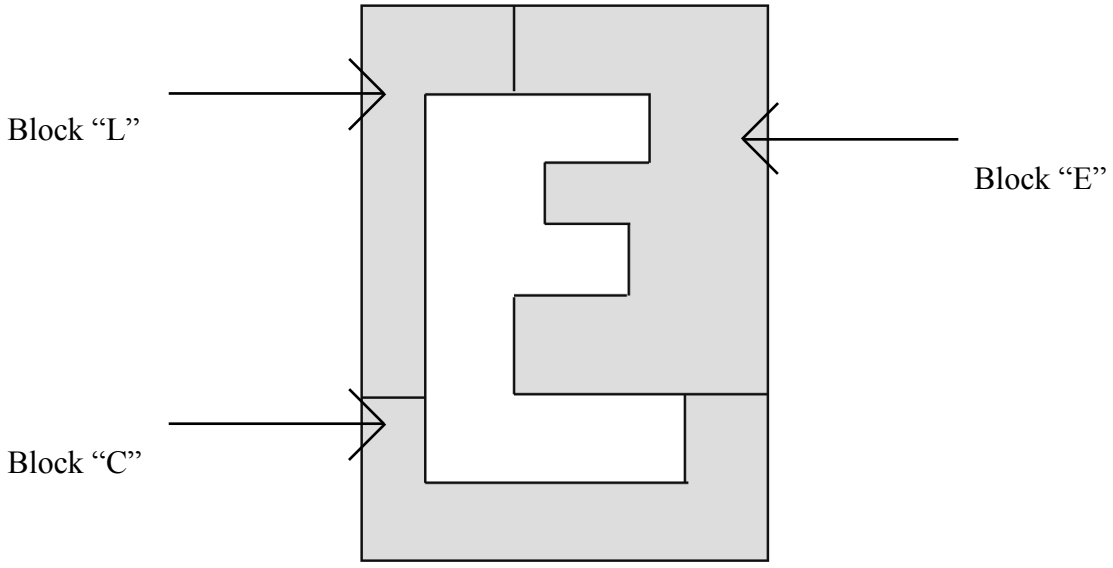
8. Take questions and clarify misconceptions.

9. Introduce the problem-solving component of the unit by explaining they will also be learning specific problem-solving strategies and be given opportunities to apply them each class period.

10. The first problem-solving strategy is **change your perspective**. This involves looking at a problem in a new way and from all angles. Ask students to label a page in the Problem Log section of the Student Research Notebook, "Problem-Solving Strategies" and write down **Strategy #1.**

11. **Example of change your perspective as a strategy:** Challenge students to complete the **"E" brainteaser puzzle.** Students are given a die-cut construction paper block E, C, and L. They must arrange the letters in such a way that another E is created. They cannot overlap the letters and all three must be used. The hint is to change their perspective. To solve the puzzle, they must arrange the letters as shown below and then look at the negative space to see the new E.

12. Review today's discussion points and ask the students to complete the following journal prompt in their Problem Log: "Three or four topics I might want to become a scholar in are…"



Teacher Note:

Before the next class, assess the students' pretests and journal prompts to determine the degree to which students are familiar with the Kaplan Depth and Complexity Model, problem-solving strategies, their own interests, etc. Use the pretest as a guide to help adapt the lessons on the next pages to the needs and interests of your students.

Week Three

Lessons 9-12

Overview of Week Three:

A. **Review Week #2** *(10 mins.)*

B. **Introduction to Big Ideas Icon** *(30mins.)*

C. **Create Tree Map of Big Ideas Related to Students' Topics** *(45 mins.)*

D. **Introduction to the Rules Icon** *(30 mins.)*

E. **Determine Scope of Project Using Rules Icon** *(60 mins.)*

F. **Introduction to the Details Icon** *(30 mins.)*

G. **Research Details of one Big Idea** *(40 mins.)*

H. **Problem-Solving Strategies** *(20 mins. each day)*

I. **Quests and Quandaries Hall of Fame** *(25 mins.)*

Objectives:

- Students will create a tree map of **Big Ideas** subsumed under their topics.
- Students will narrow or broaden their area of investigation using the **Rules** icon.
- Students will research the details associated with one big idea within the scope of their project.

Materials:

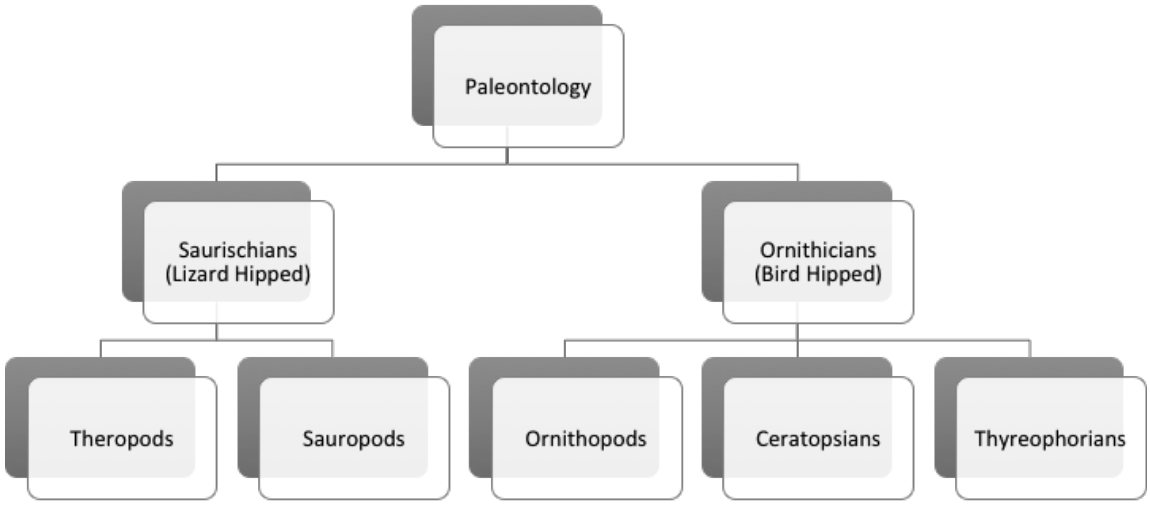
- 3 or 4 rolls of tape
- 30 to 40 balloons
- *My Plan to Become a Scholar* workbook
- *Quests and Quandaries Research Notebook and Problem Log*
- Computers with internet connection
- Book: *Rocks in His Head* by Carol Otis Hurst
- Quests and Quandaries Hall of Fame Nomination Form (Appendix D)
- Paper with numbers from 1-50 randomly placed (see Lesson Ten)

Assessments:

- Journal prompts
- Problem Log
- Observation
- Classroom discussions
- *My Plan to Become a Scholar* workbook
- *Quests and Quandaries Research Notebook*
- Hall of Fame Nomination Form

Lesson Nine

1. Review the following material discussed last week:
    - Unanswered Questions icon,
    - Language of the Disciplines icon
    - Multiple Perspectives icon
    - Problem-solving strategies (i.e. perseverance, divergent thinking, courtroom method)
2. Ask students to turn to the **Big Ideas** icon (page 6) in their research book. Read the description together.
3. To practice using the icon, explain to students how an abstract is a summary of the big ideas in a long article. Ask students to summarize the big ideas in their favorite book and share with a partner.
4. Give each student a customized list of binder I.D. numbers found on www.livebinders.com. These are prepared ahead of time by the teacher by going to the website and searching for the topics identified by the students (see Teacher Note on page 22). Show students how to access each virtual binder.
5. Ask students to click through the tabs in each binder to identify big ideas contained within their topics. These should be recorded in the Research Notebook. Each big idea should be a complete sentence summarizing a major concept within their domain. Allow 30 to 40 minutes.
6. While students are working, conference with individual students using Step 11 in the *My Plan to Become a Scholar* workbook.
7. Ask students to examine their notes and create a tree map in their problem log of major concepts, divisions, or categories within the discipline they are researching. See example below:



8. Give students the opportunity to share one thing they learned about their topic today.

9. Today's problem-solving strategy is **teamwork**. Ask students to record this in their Problem Log. Ask students to discuss strategies for getting along and working well with others.

10. **CHALLENGE:**

    Divide students into small groups and give each team 10 balloons and a roll of tape. Their challenge is to build a tower as high as they can using only the tape, balloons, and themselves. Give the winning team points for their jar.

11. Ask students to respond to the following journal prompt: "Write about a time when teamwork helped you accomplish something you could not do by yourself".

Teacher Note:

Do not forget to reach out to your colleagues and let them know which topics your students are investigating. Your colleagues may have connections to additional resources or mentors for your students that you are not aware of.

Lesson Ten

1. Review the Big Ideas icon and the teamwork problem-solving strategy.
2. Ask students to turn to the **Rules** icon (page 10) in their research book. Read the description together.
3. **CHALLENGE:** To practice using this icon, ask students to stand up. Put students into groups based on particular criteria (e.g., hair color, height, color of clothes they are wearing) without telling the students how you grouped them. Challenge the students to determine the rule by which they were categorized.
4. Explain that we will use this icon to narrow or broaden our topics to what can be accomplished in the time we have. Developing true scholarship can take many thousands of hours and, in some cases, a lifetime.
5. Give examples to illustrate how to define the boundaries of a project: "For example, if I were doing a project about dinosaurs, I couldn't become a scholar on all dinosaurs in the time we have for this unit. I could become a scholar on one species of dinosaur, such as the Hadrosaur (a.k.a., duckbill dinosaur) or one branch of the dinosaur family tree. I could then use this as a rule to determine what should be included in my project and what should be saved for a later date. Remind students of the Save Ideas habit of a scholar.
6. Ask students to examine the tree map of big ideas they created yesterday. Circle the branches of the tree map they will focus their energy on over the course of the remainder of the course. Give each student time to explain the rules they have developed to determine what is IN and what is OUT.
7. Today's problem-solving strategy is to take a **mini-vacation** from the problem. This means to walk away from the problem and give your mind a break. Ask students to record this strategy in their problem log.
8. **CHALLENGE:** To practice this strategy, give students a sheet of paper with the numbers 1-50 printed on it in random order and in random sizes (see right). Challenge students to touch and say as many numbers as they can in order from 1-50 in two minutes. Repeat the activity two more times. By this time, students may be getting frustrated and need a break. Explain that we are going to take a mini-vacation from the activity and revisit it again tomorrow. Give points when a student completes the challenge.
9. Ask students to respond to the following journal prompt: "Describe a time when you were frustrated with something you were working on. How did you deal with it?"