South Carolina Academic/Career Development Integration Activity (DRAFT)

Title **Questions and More Questions (S-1)**
Subject **Science** **Grade Level(s)** **7**

SC Content Standard – Scientific Inquiry – Grade 7. Standard 7-1. The student will demonstrate an understanding of technological design and scientific inquiry, including process skills, mathematical thinking, controlled investigative design and analysis, and problem solving.

7-1.2. Generate questions that can be answered through scientific investigation.

National Career Development Guidelines Goal/Indicator
Career Management GOAL CM2. Use a process of decision-making as one component of career development.

Indicator CM2.A1. Demonstrate the use of a decision-making model.

Career Development Objectives
1. Students will generate questions that can be answered through scientific investigation.
2. Students will demonstrate the use of the planful decision-making model.
3. Students will recognize that decision-making and problem solving are important employability skills.

Assessment
1. Students will generate at least 5 questions, for a specific science topic, that can be answered through scientific investigation.
2. Students will apply the planful decision-making process to one question they identified from their own life experience that requires them to make a decision.
3. Students will recall that decision-making and problem solving are important employability skills (class discussion and teacher observation).

Preparation
• Prior Learning—Instruction on the method of scientific inquiry
• Handouts/Worksheets—*Planful Decision-Making* worksheet, *Questions, Questions!* worksheet, Optional: *Career Decision-Making Tool* (www.acrnetwork.org/decision.htm).
• Resources/Materials—writing materials
• Time Required—1-2 class periods

Procedures

Part One

• In this activity, students will generate questions that can be answered through scientific inquiry. They will explore questions that must be answered in their own lives and use a planful decision-making process.

• Review with students the scientific inquiry process. Asking carefully and clearly stated questions is the first step in the process. Brainstorm with students examples of some questions that can be answered through scientific inquiry. Other steps in the scientific inquiry process include: gathering information through observation and controlled experimentation, and testing an hypothesis.

• Divide the class into groups of three students. Assign each group a science topic. Tell the students that each group is to generate 5 questions that can be answered through scientific inquiry. Sample topics include:

- Structure and function of cells
- Heredity
- Interconnections of major body systems
- Functions of major body systems
- Disease
- Environment
- Physical properties of matter
- Chemical reactions

• Give students a copy of the *Questions, Questions!* worksheet and briefly discuss it with them.

• Tell students to complete the worksheet and write their questions on it.

• When the students have completed the assignment, have the groups present their questions to the class. Have the students critique each others' questions.

Part Two — Career Development Connections

• Begin by remarking that everyday life is full questions….some big and some small. Give a few examples from your own experience (e.g., Where will I go on vacation? Should I start a diet? Should I take more college graduate courses?)

• Ask students to share some questions from their own experience.

• Introduce the idea of decision-making…..questions help us recognize that we need to make decisions.

• Brainstorm different ways to make decisions (e.g., ask a friend what to do, get advice from an expert, make a snap decision, avoid making the decision—procrastinate, really think it through and take it one step at a time…be planful).

• Introduce the steps to the planful decision-making process.

- Step 1 State the question, what do you have to decide about?
- Step 2 Collect information
- Step 3 Brainstorm possible alternatives/solutions
- Step 4 Think about your values and priorities (what's important to you) and then rank the alternatives
- Step 5 Make your decision
- Step 6 Take action
- Step 7 Review your decision later and see if it's working

• Give students the *Planful Decision-Making* worksheet and review it with them.
• Tell students to follow the steps for a decision they might have to make.
• Invite a few students to share their planful decision-making with the class.
• Remind students that the ability to make good decisions is an important skill for school and work success. Ask students to give a few examples of how decision-making is important at school….on the job.
• Optional: have students practice decision-making with the free Career Decision-Making Tool (www.acrnetwork.org/decision.htm).

Crosswalks
SC Career Guidance Standard/Competency
Learning to Work Standard 2. Students will demonstrate decision-making, goal-setting, problem-solving, and communications skills.
Competency 2.2. Demonstrate decision-making skills used to develop career/education paths.

Key Employability Skills
Thinking Skills—Critical thinking
Thinking Skills—Decision-making

* Adapted from *Career Development Tool Kit Grades 6-8*, Linda Kobylarz & Associates, 2000. Used with permission.

Questions, Questions!

Group Members:

_____
_____
_____

Directions: Write five clearly stated questions about your assigned topic that can be answered through scientific inquiry.

Science Topic _____

Question 1 _____

Question 2 _____

Question 3 _____

Question 4 _____

Question 5 _____

Planful Decision-Making

Name _____ Date _____

Directions: Follow the planful decision-making steps for a decision you might have to make.

Step 1 State the question. What do you have to decide about?

Step 2 Collect information. What information do you need? Where can you get the information? Who can you talk to?

Step 3 List possible alternatives/solutions

Step 4 Think about your values and priorities (what's important to you). Rank the alternatives.

Step 5 Make your decision. Write your decision.

Step 6 Take action. When will you take action?

Step 7 Review your decision, see if it's working. When will you do this?