INSTRUCTIONS
for the
Authentic Inquiry Instructional Plan

General Instructions:

Do NOT use materials from other sources.
When you teach, you will borrow all sorts of materials. However, for this task it is important to struggle through the whole process in order to get a better understanding of planning for inquiry. In other words, you will need to generate the content yourself.

• You may get ideas for investigations and activities from other sources, but you need to design them to fit your inquiry plan.
• For instance, in order to have children investigate floating, you will need to find out what sorts of investigations can be used, such as building aluminum foil boats, making Cartesian divers, methods of calculating density, etc. But do not take the written instructions from the “lesson plans” or materials of others.

Use the included blank version of this form to type in your instructional plan.
Print out your completed instructional plan and hand in to your instructor.
Go into TaskStream and copy and paste your text into each appropriate section.

VITAL INFORMATION

Author(s):  Your Name  Date:  Date Completed
Subject:  Science  Topic or Unit:  Specific topic &/or unit topic
Grade Level(s):  grade range  Projected Time Allotment:  more than one short period

Summary:
This section provides a brief overview of the inquiry. Include the:
• topic
• general approach
• problem(s)
• end-product goal or possible goals.

Goals and Concepts:

End-Product Goal(s):
Describe one or more possible goals for students. These goals should act as both a “motivational hook” and a goal for meaningful inquiry and/or problem solving. This end-product goal should have as large a public audience as possible.
Goals:
List and explain goals in one or more of the following areas:
- **Conceptual learning** (required)
- Skill or procedural learning (optional)
- Social skills (optional)
- others? (optional)

Concepts:
Do NOT write: “I will need to know...”. Instead
*List and explain* briefly all concepts that will be potentially encountered in this inquiry.

Standards (U.S. National Science Education Standards &/or Arizona standards):
- List all standards that will potentially be addressed during this inquiry.

**LESSON ACCOMMODATIONS**

Conceptual Content and Inquiry Description:
In this section, show how specific inquiry approaches will address the learning of specific concepts. (NOTE: concepts are not explained here, since they have been explained previously.) This can be done as a table or list. Be sure to include more than one inquiry activity for each concept.

Example:
Predict which objects float, then measure density -- **Concepts**: mass, volume, density
Generate explanations of how Cartesian divers work -- **Concepts**: mass, volume, density
Determine and test cargo capacity of aluminum boat -- **Concepts**: mass, volume, density

Multiculturalism and Diversity:
In one paragraph or in a list format, describe how this inquiry plan can be used to address the needs and interests of multiculturalism, diversity, and students with special needs. Show how your instruction can be differentiated to meet such needs.

Lesson Integration:
This section should show how the concepts and patterns involved in this inquiry can be used to authentically integrate conceptual understandings across each subject matter area.

In addition, if your inquiry plan has societal or other implications, show how instruction can lead to investigations and discussions within social studies or other subject matter areas.

**IMPLEMENTATION**

Rationale:
Explain why it is important that your students understand these concepts and/or develop these skills.
Inquiry Approaches and Procedures:
This section provides detailed instructions for your inquiry. If there is more than one problem or question that is being investigated, then repeat the following sub-categories for each problem or question.

Problem/Question(s):
State the problem and list “problematizing” questions that will drive this particular investigation.

Inquiry (Data Collection) Approach(es):
Describe several possible investigative approaches for collecting data.

Data Analysis Approaches:
Describe possible data analysis approaches that will help children generate possible explanations and explanatory models.

Children’s Possible Explanations and Explanatory Models:
Describe the possible explanations and explanatory models that children may generate as a result of this inquiry.

Other Relevant Activities:
Describe other relevant activities, such as demonstrations, discussions (with initiating questions), etc., that may help children develop more complex understandings.

Discussion:
Describe how you will encourage student discussion within inquiry groups (e.g., roles, challenges, questions, etc.) and as a whole class.

Describe your role as teacher and how you will minimize your talk and maximize student talk.

List any questions, challenges, ideas, etc. that can be used to stimulate discussion.

In addition, explain how discussions can be used to extend student understandings across contexts and subject matter areas, provide important feedback about student understandings, to create a classroom community of inquiry, and so forth.

Assessment Description:
You should describe several (3 to 6) different approaches that you can use to assess children’s learning, talk, skill development, and psycho-social development.

Show how each approach provides a different perspective on assessing specific goals and concepts.
From your list of goals, concepts, skills, etc. (in the Goals and Concepts and the “Conceptual Content…” sections, above), describe how each assessment approach will provide useful information on the learning of each goal, concept, etc.

**Assessment Rubric:**
Design an assessment rubric for this inquiry.

Be sure to include a way to assess children’s specific conceptual understandings for this inquiry, as well as any skills, etc.

**MATERIALS AND RESOURCES**

**Instructional Materials:**
List the equipment, materials, and supplies students will need to conduct the inquiry, as well as materials and equipment needed to construct final explanatory products (e.g., video, poster boards, etc.).

Do not utilize the typical type of worksheets.

**Resources:**
List any books, articles, web sites, videos, etc. that may be helpful to teachers and students.