

Agricultural Education CDE Lesson Plan Template

Blue Font = Definition of Template Area
Green Font = Example for Template Area

Instructional Plan	Instructor: First and Last Name
Unit:	Unit Name (Scientific Research)
Problem Area:	Overall Area from Outline (Conducting Scientific Investigations in Agriculture)
Lesson:	Action-oriented Title (Reporting Agricultural Research)
Overall Objective (key point or goal of lesson)	
<p>This is the ultimate goal for what students should learn or be able to do at the end of the lesson. Determine ONE, clear, concise, specific, measurable, and observable end goal that includes a (1) behavior (action or performance), (2) condition (circumstances that describe how the activity will occur), and (3) criteria (measurable evaluation or degree to which activity is completed). Ask yourself, “What is the ONE concept I want them to learn from this lesson?”</p> <p>After completion of the lesson, students will be able to write a scientific research report that includes four major components and seven tables and/or figures.</p>	
Student Learning Objectives (steps necessary to achieve objective)	
<p>List the 3 major steps to achieve the Objective above. These can be written in the form of a question or statement.</p> <p>Students will be able to:</p> <ol style="list-style-type: none"> 1. Identify the major parts of a research report. 2. Explain the general guidelines for preparing a research report. 3. Explain how to properly include tables and figures in a research report. 	
Application/Evaluation (check for understanding of objective and student learning objectives)	
<p>Describe the assessment that will be used to reinforce, practice, and/or evaluate learning for the Overall Objective. The assessment should measure the level of proficiency students have attained based on a standard.</p> <p>Overall Objective Assessment: Students will write a scientific research report that includes 10 components of a lab report as discussed in class, with evaluation based on a 100 point grading sheet or rubric.</p> <p>Describe the assessments that will be used to reinforce, practice, and/or evaluate learning for each Student Learning Objective.</p> <p>Student Learning Objectives:</p> <ol style="list-style-type: none"> 1. Students will be provided two (2) different examples of research reports. Using a blank sheet of paper, they will be asked to list at least two positive and two negative aspects of each research paper. Facilitate an open class discussion on the positive and negative points for each paper, and ask students to name the purpose of each major component of a research report. 2. Students will complete a quick write activity to assess their comprehension of the general guidelines for a research report. 3. In groups of 2-3, students will complete an activity that demonstrates their ability to appropriately include tables and figures in a research report. 	

Context / Audience

For the purposes of the Ag Ed CDE this information will be provided to it.

Location / Facilities:

Instruction will take place in the agriculture classroom. No additional facilities are required for this lesson.

Learner Demographics:

8-12 Introduction to agriculture students with varying levels of experience in agriculture.

Time Allotted per Activity	Interest Approach (motivation)
<p>Indicate the approximate time needed to complete the activity.</p> <p>Allow 15 minutes to complete (10 minutes to complete activity and 5 minutes to complete the fill-in-the blank research report)</p>	<p>Describe the interest approach. The interest approach should be structured so it ties with an emotion – fun activities, emotional feeling, physical interaction, thought-provoking theory or question, etc. Emotions and feelings help students gain an understanding and desire to learn more, which often results in students remembering the general concept of the interest approach and lesson. A well-written interest approach will have a direct tie or connection to the lesson.</p> <p>Students will be divided into groups of 2-3. Talk to students about the work that researchers do and how research is used in agriculture. Tell them they are going to become researchers today! The Keebler company has decided that Nabisco has held the chocolate sandwich cookie market for way too long and is looking to break into that market. Keebler is doing some research to determine if Nabisco’s claims of Double Stuff Oreos really are the truth. You are being asked to help Keebler with this research and prepare a report for Keebler marketing executives of your findings.</p> <p>Students will receive a bag of materials needed to conduct the mini-research project activity. Students will be instructed to follow the instructions on the handout that comes in the bag of materials. The goal of the activity is to determine if Double Stuff Oreos really do contain “double the stuff” of original Oreos. Students will then complete a brief research report worksheet based on their findings.</p> <p>Discussion Questions:</p> <ul style="list-style-type: none"> ♣ What did your findings reveal? ♣ Did everyone find the same thing? Why might differences arise? ♣ What are the essential pieces of information included in a research report? (Write these on the board as the correct answers are shared by students.)
<p>Time Allotted per Activity</p>	<p>Define Topic and Communicate Objectives (What can students expect to learn today?)</p>
	<p>Describe the purpose of learning and connect the interest approach to the objectives. The topic or problem should summarize the Overall Objective and list the Student Learning Objectives. This should be visual (written on board, PowerPoint slide, etc.) throughout the duration of the lesson.</p>

<p>Allow 3-4 minutes to complete</p>	<p>As you can see,</p> <ul style="list-style-type: none"> ♣ Standards for writing research reports are important in understanding concepts; ♣ The purpose of a research report is to describe scientific process and principles in a format that is easy to understand. <p>Today we are going to:</p> <ol style="list-style-type: none"> 1. Identify the major parts of a research report. 2. Explain the general guidelines for preparing a research report. 3. Explain how to properly include tables and figures in a research report. 	
<p>Time Allotted per Activity</p>	<p>Instructor Directions, Content, Materials</p>	<p>Student Activities</p>
	<p>Be specific in directions to assist you in the presentation process and help identify any materials needed for the lesson. List enabling objective and provide content information in a bulleted format.</p>	<p>List activities that reinforce objectives for the lesson. Answer the question, “What are the students doing?” List details to describe expected student behavior (group activity, individual project, guided activity, etc.).</p>
<p>Allow 20 minutes to complete PowerPoint</p>	<p>Student Learning Objective: Identify the Major Parts of a Research Report.</p> <p>Open the PowerPoint</p> <p>Slide 1 Question: Major Parts of a Research Report</p> <p>Pose Question: What should be included in a research report?</p> <ul style="list-style-type: none"> ♣ Title Page ♣ Researcher’s Name (Title & Date) <p>Assessment 1: Provide students two (2) different examples of research reports. After giving students time to write positive and negative points about each report, facilitate an open class discussion on the positive and negative points for each paper. Ask students to name the purpose of each major component of a research report.</p> <p>Move to Slide 2</p>	<p>Student should be taking notes from the PowerPoint.</p> <p>Students should read each report. Using a blank sheet of paper, students will list at least two positive and two negative aspects of each research paper.</p>
	<p>[Add or delete extra rows as necessary.]</p>	<p>[Add or delete extra rows as necessary.]</p>
<p>Time Allotted per Activity</p>	<p>Review/Summary</p>	
	<p>Review the concepts learned in the lesson to reinforce the Overall Objective and Student Learning Objectives. Connect this lesson to future or previous lesson(s), and provide connections as to why they are learning the material and how it is meaningful to them.</p>	

<p>Allow 8-10 minutes to complete</p>	<p>Ask for student responses to the following questions:</p> <ol style="list-style-type: none"> 1. What are the major parts of a research report? 2. What are some of the general guidelines that should be followed when preparing a research report? 3. How do we add tables and figures in a research report? What types of information are important to provide in the form of tables, graphs, charts, etc.?
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Materials, Supplies, Equipment, Technology Plan, References, and Other Resources

List the materials, supplies, equipment, etc. necessary to present the lesson. Include the quantity of items. Also include a list of references and resources used to create the lesson. This may be material from other agriculture teachers, previous classes, internet sources, textbooks, etc.

- Equipment, Materials, and Supplies:**
- Equipment, Materials, and Supplies:
 - Computer (1) with Projector (1)
 - PowerPoint – “Reporting Agricultural Research”
 - Sample Research Reports (12 copies of each report)

- References/Resources:**
- www.mycart.com
 - www.sciencedaily.com