

CONCEPT ATTAINMENT LESSON PLAN
(Case Study 5.1 Lesson Plan)

Subject Area: *Science*

Specific Content: *Liquids*

Grade Level: *2nd*

Length of Lesson: *30 minutes*

Instructional Objective(s): *The learner will state two critical attributes of liquids—taking the shape of containers and taking up space.*

State Content Standard / Benchmark / Grade Level Expectation:

*All students will measure and describe the things around us.
Classify common objects and substances according to observable attributes/properties*

Long-Term Unit Objective: *The learner will describe the critical attributes of solids, liquids, and gases and will provide examples of each state of matter.*

Yesterday's Lesson: *Critical attributes of solids*

Tomorrow's Lesson: *Critical attributes of gases*

Prerequisite Knowledge or Behaviors Needed:

Skills: *Experience with "categories lessons"*

Concepts: *Critical attribute or characteristic
Critical attributes of solids
Familiar liquids*

Behaviors: *Raising hands to contribute ideas*

Why is the Content of Today's Lesson Relevant for Your Students?

States of matter is a fundamental concept in the natural sciences. States of matter compose the universe.

Materials: *Teacher's list of YES/NO examples*

<u>YES</u>	<u>NO</u>
Orange	Soda pop

Apple juice
Iced tea
Milk
Corn oil
Elmer's Glue
Lemon juice

Cookie
loaf of bread
scrambled egg
clouds
computer
plastic pitcher

Later examples for students to categorize:

Water
Soccer ball
Cup
Dishwashing soap

Where are your materials to be kept until their use during the lesson? *Table in front*

When will your materials be passed out? *N/A*

How will materials be passed out? *N/A*

Model of Teaching: *Concept Attainment*

Procedures

List each procedure according to stages of Concept Attainment:

1. *Sponge activity – Common characteristics of a Frisbee and a CD*
2. *First YES and NO examples → Ask for hypothesis*
3. *Second new examples → Ask for hypothesis*
4. *Third examples → Ask for hypothesis*
5. *Individual work → Partner work*
6. *Group response to successive hypotheses*
7. *Connection to concept from prior lesson – solids*

Do not take the shape of their container
Definite volume – take up space.

8. *Provide attributes of liquids*

Do take the shape of their container

Definite volume – take up space

9. *Review their hypotheses to backtrack thinking*
10. *Quick review of solids and liquids*
11. *New examples for them to categorize*
12. *Examples they generate*

Include each question you are planning to ask students in the appropriate place in your lesson plan

1. *What do we call our guesses about categories?*
2. *What do think the category is? (This is repeated throughout the lesson.)*
3. *What is your hypothesis? (This is repeated throughout the lesson.)*
4. *Why do you think this is so? (This is repeated throughout the lesson.)*
5. *What do you think about what _____ just said?*
6. *Attributes of solids from yesterday's lesson?*
7. *Do all the YES examples have these critical attributes?*
8. *New examples – YES or NO?*
9. *What were you first thinking?*
10. *When did you know your ideas were wrong?*

Closure: *Ticket out the door – Whisper a solid and a liquid as they line up*

How did you address student learning styles during this lesson? Describe all that apply.

Visual *Recording successive examples on the board or chart
Artifacts of YES and NO examples could be brought in for the lesson*

Auditory *Discussion*

Kinesthetic *During the closure of the lesson, creative movement could be used to bring the critical attributes to life.*

Tactile *If artifacts are brought in, they could be passed around*

Other approaches: *N/A*

Assessment Criteria:

What tangible evidence will demonstrate your students' learning today? *Full group categorization of new examples and group-generated examples*

What will be considered quality work? *Correct responses*

Do you need a rubric to structure your assessment? *N/A*

Will students also self-assess using this rubric? *N/A*

Gender or cultural concerns may affect your instructional or assessment choices in this lesson. If appropriate, identify these and describe how you will address them.

Students will work in partners during the lesson. Table groupings are already made with a heterogeneous culture/gender mix. ESL student will have a bilingual student or paraprofessional translate examples into native language as needed.

Instructional Modifications – Describe a student in your class who has special needs. Consider how you might modify your instruction and / or assessment for this student during this Direct Instruction lesson. Traditional print, Internet and NETS resources can assist you.

Microphone system in use by teacher for the benefit of all students. One student is a lip reader. He is seated in the front of the room. Teacher remains forward when speaking. She does not speak when she is writing on the board. Frequent visual checks and questions will be used to assess his understanding during the lesson.

Technology – What technology might enhance this lesson or this unit at some point? Traditional print, Internet and NETS resources can assist you.

Gander Academy website has multiple activities to learn and review solids, liquids, and gases. <http://www.cdli.ca/CITE/matter.htm>

How will you provide practice for this objective?

Homework about family's use of liquids

Center activities making collages of pictures of states of matter

Web resources

School building search for use of states of matter

Worksheets / puzzles (crosswords, word searches, etc.)