

B.Ed. LESSON PLAN TEMPLATE

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<p>Lesson Title: Light Inquiry</p> <p>Grade Level: Grade 4</p>	<p>Unit of Study: Understanding Matter and Energy</p> <p>Subject: Light and Sound</p>
<p>Lesson Overview: Students will engage in inquiry-based learning as they explore and determine different properties of artificial vs. natural light. The learners will have the opportunity to collaborate together as they investigate</p>	

Part 1: Lesson Goals and Assessment

<p>Ontario Curriculum Overall Expectations: 2. Investigate the characteristics and properties of light and sound. (page 90) 3. Demonstrate an understanding of light and sound as forms of energy that have specific characteristics and properties. (page 90)</p>
<p>Ontario Curriculum Specific Expectations: 3.1 Identify a variety of natural light sources (e.g., the sun, a firefly) and artificial light sources (e.g., a candle, fireworks, a light bulb). (page 92)</p>
<p>Big Ideas/ Enduring Understandings: Students will understand that: Light and sound are forms of energy with specific properties. (Overall expectations 2 and 3) Light is required to see. (Overall expectation 3) The students will remember that light helps us to see. We are able to see because light from an object can move through space and reach our eyes.</p>
<p>Essential/Key Critical Questions: What properties does light have? What properties does sound have? How is sound created? Does light help us to see?</p>
<p>Student Learning Goal: We are learning to investigate different natural and artificial light sources by asking questions (inquiry-based learning).</p>
<p>Success Criteria: I will be able to distinguish from artificial vs natural light sources and provide at least 2 examples.</p>

Necessary Prior Knowledge, Skills, and/or Previous Lesson:

Most students have some prior knowledge on natural and artificial light sources.
Understand the concept that we need light to see
Without light there is no sight.

Instructional Strategies:

Inquiry
Think, pair, share
Observations
Recording data
Group discussion (Debriefing)

Teacher Assessment:

Worksheet is completed
Participated in groups of 2-3

Part 2: Lesson Preparation

New Vocabulary: Natural, artificial, light, conservation, energy

Learning Environment/Safety Concerns and Precautions:

Make sure the students wash their hands when returning from the outdoor nature walk.
Make sure there is no water around electronic devices.

Materials/Resources/Classroom Arrangement/Necessary Preparation: Keep the room open concept with visual aids to help direct the students learning and encourage them to think critically about natural and artificial light sources.

References/Credits:

Visual Aids featuring the poster, "Lights On": Which sorts the different kinds of lights into 2 groups: natural light and artificial light.
See appendix A

Part 3: Lesson Design (3-Part Lesson)

Length of Period:40 m

**Differentiated Instruction
Modifications
Accommodations
Ongoing Teacher
Assessment
Indigenous Perspectives**

Minds On (Before):

Estimated Time: 5 m

Teacher can create a chart on the board to record the student's responses.

Visualization and Questioning:

1. Ask the students to sit on the carpet. (1 meter between each student)
2. Share that I will turn off the lights for 30 seconds.
3. Ask the questions:
 - 'How did you feel when the lights were off?'
 - 'How important are lights?'
 - 'What would the world be without light?'
 - 'Imagine if there was no light from the sun, what do you think would happen?'
4. What does artificial mean?
5. What does natural mean?

Provide a time where students can share their past experiences and understanding of light sources.

Action (During):

Estimated Time: 25 m

1. Say: "We are going to be learning about different sources of artificial and natural lighting. Please take the time to think about the questions that were asked".
2. The students will go for a nature walk for approximately 10 minutes to gather any observations about natural lighting.
3. Say: "When we are outside, I want you to look for natural light sources, what makes the the light sources natural".
4. When returning to class, have the students turn to their elbow partner and talk the questions and share their observations.
5. Repeat the inquiry in the classroom to learn about artificial lighting.
6. The students will be provided with a worksheet that distinguishes artificial and natural light sources. They can fill in the chart in groups of 2-3. (See appendix A)
7. The students will have 10 minutes to fill out the worksheet in groups of 2-3.

Instructional Strategy:

Supporting visual learners- the questions will be displayed on poster in the classroom for the extra visual support.

Think, Pair, Share- the students can collaborate and share ideas together to enhance their understanding of light sources.

Differentiated Instruction: Graphic Organizers and Pictures can be used to show understanding of artificial and natural light sources. The students can also use the IPADS to photograph their observations, and/or voice recording.

Assessment: Teacher can observe the students participation, and remain in the zone of proximal development to observe the students progress.

<p>Debrief/Consolidation (After): Estimated Time: 10 m</p> <ul style="list-style-type: none"> - Large group discussion concerning their observations and investigations. - Discuss the observations with the class and fill out the worksheet as a collective team. <ul style="list-style-type: none"> - How important are lights? - What did you learn about natural lights? - What did you learn about artificial lights? - Discuss the importance of light - Encourage student directed questions: What would you like to learn? What questions do you have? <ul style="list-style-type: none"> - Write down the questions on a white poster and post in the class for an extension of this activity. 	<p>Ongoing teacher assessment:</p> <p>The teacher can collect the worksheets after the activity, or ask the students to place their worksheet in their assigned folders.</p> <p>The teacher can make brief annotations and comments to determine who is sharing their ideas with the class and participating in the group discussion/debriefing period.</p>
<p>Lesson Extension/Homework/Future Responsibilities:</p> <p>Eco-friendly practices: How can we conserve light as a community and individually in our homes. The students can do an inventory at home to see how they conserve energy.</p> <p>Math: Upon their understanding of conserving energy, the students can document and record how many hours a day the lights are on, what time the lights are on. We can make a graph and/or chart and compare and contrast towards the student's peers.</p> <p>Science experiment: Make a flashlight experiment - Exploring artificial light more in-depth.</p> <p>Faith-based: Looking at various Bible verses that discuss light and have a group discussion on our interpretation of God's word. ex: John 1:5, John 8:12</p>	<p>Opportunities for differentiated instruction, accommodation, assessment, integration with other subject areas, or multiple intelligences (i.e., students can make a mind map to explore how/ways we can conserve light. The children can draw or use descriptive words to share their understanding and responses.</p>

Part 4: Teacher Reflection:

<p>Teacher Reflection and Future Planning:</p> <ul style="list-style-type: none"> - <i>Did the lesson achieve the goals? Evidence?</i> - <i>Were the timelines accurate?</i> - <i>What should I change next time?</i> - <i>What will I do for students who did not understand?</i> - <i>What future lessons may come out of this lesson?</i>
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Name _____



LIGHTS ON!

Sort the different kinds of lights into two groups: natural light and artificial light.

NATURAL Light	ARTIFICIAL Light

SUCCESS CRITERIA*



<p>I have</p> <ul style="list-style-type: none"> ❖ completed Part 1 (Lesson Goals) and Part 2 (Lesson Preparation) of the Tyndale template 	
<p>Part 3: Lesson design MINDS ON I have:</p>	
<ul style="list-style-type: none"> ❖ provided a “hook” to help engage my students in the lesson 	
<ul style="list-style-type: none"> ❖ activated students’ prior knowledge 	
<ul style="list-style-type: none"> ❖ introduced the book, resource, or other materials to be used in the lesson 	
<ul style="list-style-type: none"> ❖ scripted any questions I may need for a discussion 	
<ul style="list-style-type: none"> ❖ provided sufficient details so my ideas are clear to everyone: my students, my Associate Teacher, my Faculty Adviser AND ME 	
<ul style="list-style-type: none"> ❖ ensured the students know the learning goal of the lesson (W.A.L.T.) 	
<ul style="list-style-type: none"> ❖ provided a connecting sentence so the “MINDS ON” flows into the “ACTION” well 	
<p>ACTION: I have:</p>	
<ul style="list-style-type: none"> ❖ modeled the new learning – strategy/skill/concept 	
<ul style="list-style-type: none"> ❖ provided a step by step procedure showing how I will explain the new learning to my students 	
<ul style="list-style-type: none"> ❖ organized the content in a logical and sequential manner 	
<ul style="list-style-type: none"> ❖ included enough details in order to communicate the new learning clearly 	
<ul style="list-style-type: none"> ❖ made my lesson interactive so my students will be actively involved 	
<ul style="list-style-type: none"> ❖ kept my lesson focused on the learning goal. 	
<ul style="list-style-type: none"> ❖ provided opportunities for my students to practice <u>under my guidance i.e. guided practice</u> 	
<ul style="list-style-type: none"> ❖ checked for understanding 	
<ul style="list-style-type: none"> ❖ scripted any questions or “think alouds” 	
<ul style="list-style-type: none"> ❖ used appropriate technology (White board, youtube, Google documents, etc.) 	
<p>CONSOLIDATION/DEBRIEF I have:</p>	
<ul style="list-style-type: none"> ❖ provided opportunities for discussion 	
<ul style="list-style-type: none"> ❖ scripted key questions to drive the thinking in my summary discussion 	
<ul style="list-style-type: none"> ❖ circled back to the essential questions and enduring understandings 	
<ul style="list-style-type: none"> ❖ provided opportunities for my students to practice and consolidate the new learning (strategy/skill/concept) 	

❖ communicated to my students what I am looking for in assigned tasks (W.I.L.F.)	
Part 4: Teacher Reflection I have:	
❖ reflected on the success of my lesson	
❖ thought about what might be changed next time	
❖ considered what future lessons might occur	
❖ recorded my reflection(s) on my day-plan or in my journal	

*NOTE: Checked items must be evident in the Lesson Plan. Having all items checked will not necessarily result in a Level 4 standing.