

Unit Lesson Plan

Teacher Information

Teacher Name: Elizabeth Dahlberg

Grade Level: 1st Grade

Subject Area: Math

Lesson Title: Using Clocks to Tell Time

Date: 6/1/2026

Length of Lesson: Four 30/40 min sessions

Standards

Common Core Standard(s)

Measurement and Data 1.MD

Tell and write time.

3. Tell and write time in hours and half-hours using analog and digital clocks

Science

1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.

Learning Objectives

Content Objective

Students will be able to read time by the hour on a digital and analog clock.

Vocabulary

Academic Vocabulary Student-Friendly Definitions:

- Hour: A unit of time equal to 60 minutes. One complete rotation of the minute hand around a clock.
- Minute-hand: Longer, faster moving, hand on an analog clock, it shows how many minutes have passed per hour
- Hour-hand: Slower moving hand on an analog clock that shows the current hour.
- Analog clock: Traditional time-telling device. Uses a round face with numbers (1-12) and moving hands to show time.
- Digital clock: Time keeping device that shows the time by using numbers on a screen instead of moving hands.
- Time: The way we measure how long things take to happen and when they occur.

Materials

- *The Grouchy Ladybug* by Eric Carle
- Response Judy clocks for each student
- Large Judy clock for the teacher
- Paper and Pencils
- Various Colored Pencils/Crayons
- Jack Hartman *Hip Hop Around the Clock* YouTube Video
- Anchor Chart Paper
- Sticky Notes

Lesson 1	Lesson 2	Lesson 3	Lesson 4
Picture Book Introduction	Math: Sorting & Data	Science: Animal Structures	STEM Project

Engage & Explain- Lesson 1: What Can Nature Teach Us? Picture Book Introduction.

Book: *The Grouchy Ladybug* by Eric Carle

Day/Time: Day 1 or 2: 30-40 minutes

Objective: Students will identify

Standard: 1-LS1-1. Use materials to design a solution to a human problem by mimicking how plants and / or animals use their external parts to help them survive, grow, and meet their needs.

Materials: *The Grouchy Ladybug* by Eric Carle, anchor chart paper, sticky notes, pencils/ crayons, & individual student paper.

Essential Question: How do the body parts of plants and animals help them survive and how could those same ideas help people solve problems?

Academic Vocabulary

- Structure: A body part of a plant or animal (ex. Shell, root, leaf, scale).
- Function: What a structure does, the job it has for a living thing.
- Survive: To stay alive and get what you need: food, water, shelter.
- Biomimicry: When people copy (mimic) an idea from nature to solve a human problem.
- External: On the outside of the body, something you can see or touch.

Teacher Actions

- Show the cover of *The Grouchy Ladybug*. Ask “what do you notice about the animal on the cover? Why might that animal have those wings?”
- Conduct a picture walk, pausing to name structures shown (quills, claws, teeth).
- Introduce the phrase: Structure= body part. Function = the job it does.
- Create a two-column anchor chart: Animal Structure, What it does for the animal.
 - Complete with class.
- What helps each of the animals win against the grouchy ladybug?

Student Actions

- On a sticky note, students draw or write one animal body part they already know and its job.
 - Add the sticky notes to the anchor chart.
- Pair and Share: What animal part would you want to have if you were trying to be safe outside?

Read Aloud

Teacher Actions

- Read *The Grouchy Ladybug* aloud pausing at each animal to ask “what kind of structure do they have? What problem does it solve for the animal?”
- Model thinking aloud: “An elephant’s tusk is super strong, it helps them dig holes for water. If people had a tool like that what would they build?”
- After reading, return to the anchor chart and add a third column: How could this help people?

Student Explanation Opportunities

- After discussing the different animals and their structures have table partners explain to each other their written sentence frames.
- Ask students to share their thinking with the sentence frames given.

Sentence Frames

Emerging

“The _____ has a _____.”

Expanding

“The _____ has a _____ that helps it _____.”

Bridging

“The _____ uses its _____ to _____, and people could use this idea to _____.”

Formative Assessment

- Observe anchor chart contributions.

- Exit reflection: students complete the sentence frame “One animal structure I want to learn more about is _____ because_____.”

Explore- Lesson 2 & 3: Telling Time by the Hour

Day/Time: Will take multiple days, up to 4 with 35-45 minute lessons.

Objective: Students will be able to read time by the hour on a digital and analog clock.

Standard: Measurement and Data 1.MD Tell and write time. 3. Tell and write time in hours and half-hours using analog and digital clocks

Materials: *The Grouchy Ladybug* by Eric Carle, Response Judy clocks for each student, Large Judy clock for the teacher, Paper and Pencils, Various Colored Pencils/ Crayons, Jack Hartman *Hip Hop Around the Clock* YouTube Video, Sticky notes, Anchor Chart paper.

Vocabulary

Academic Vocabulary Student-Friendly Definitions:

- Hour: A unit of time equal to 60 minutes. One complete rotation of the minute hand around a clock.
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- Time: The way we measure how long things take to happen and when they occur.

(Day 1& 2) Purpose

How will students become interested and curious about the topic?

- Students will be engaged with schedules and real-life experiences, including school, bedtime

Teacher Actions

- Conduct a picture walk of *The Grouchy Ladybug* by Eric Carle to familiarize students with the book.
- Discuss how Eric Carle represents the movement of time with the placement of the sun on each page.

- Draw students' attention to the small clock printed on each spread and model thinking aloud: "I wonder what this symbol means..."
- Create an anchor chart: What do we know / want to know / learned about clocks and time.
- Play Jack Hartmann's *Hip Hop Around the Clock* to engage students with a musical element. (Can be played in each step)

Student Actions

- Students look closely at the cover and title of the book, discussing what they see, identifying characters, and scenes.
- Based on visual cues, students will identify characters, setting, and mood.
- Share what they already know about clocks, contributing to the anchor chart.
- Discuss: "How do you know when it's time for lunch? Bedtime?"

Guiding Questions

- Teacher asks open-ended questions, "*Who is this?*" Or, "*what is happening here?*" Or, "*What time of day is it?*" Follow up with, "*how do you know?*" "What does a clock look like? Where have you seen one?"
- Pair and Share: Give students labels A and B and have them pair up, asking each other, "Do you think the story happens over a whole day or just a few minutes? Why?"

Formative Assessment

Observation of student participation during the picture walk and anchor chart contributions.

(Day 1 & 2) Purpose

How will students investigate the concept through hands-on learning?

- Using physical hand-clocks, students will be able to connect time to movement, building their own observations about clocks before formal instruction is given.

Activity Description

- After the picture walk, introduce the hand clocks. Give each student their own clock and allow 1-3 minutes of free exploration.
- Then guide a structured exploration in which students manipulate the hands and observe what happens.
 - Have them differentiate the different sizes and movements of the hands.
- Introduce vocabulary: hour-hand, minute-hand, analog, digital.

Teacher Role

- Explain “We are going to be clock detectives. Look at your clocks, what do you notice?”
- Model how to move the clock hands slowly and encourage students to do the same.
- Use the large demonstration clock to model how the short hand moves from one number to the next as one hour passes.
- Explain that the hour-hand is like a baby-hand because it’s smaller. We read it first because “babies always go first” (use of silly saying).

Student Role

Pair and Share: Have students examine their clocks, “*What do they observe?*” “*What happens when you move a hand?*”

Data Collection/Observations

Students label the parts of a clock on a given worksheet.

Formative Assessment

Review students’ works and labels for misconceptions, watching to see if they mix up which hand is which.

(Day 2 & 3) Purpose

How will students make meaning of their investigation?

- Students connect their clock exploration to the reading of the picture book and vocabulary. Using their hand-clocks, they connect the movement of time to the reading of *The Grouchy Ladybug*.

Discussion/ Mini-Lesson

Read *The Grouchy Ladybug* aloud to the class. Before reading aloud, explain “As I read, the ladybug is going to meet different animals. Each time, I’ll stop and we’ll figure out what time it is. Your job is to show me that time on your clock!”

- Using the big demonstration clock, model the story’s starting time (6:00). Note that the minute hand is always pointing to the 12 on the hour.
- Show the matching digital display (6:00) side by side on the whiteboard.
- Read aloud, pausing at each new hour for students to set their clocks and hold them up.
- Reconnect vocabulary: hour-hand, minute-hand, analog, digital.

Academic Vocabulary Introduced

- Hour, minute-hand, analog, digital.
- Place vocabulary on the board with visual supports (picture + word + and student-friendly definition).

Student Explanation Opportunities

- After setting each time, have table partners explain to each other: “the hour hand is pointing to____, so it is _____ o’clock.”
- Ask students to share their thinking with the sentence frames given.
- At the end of reading, students write two times from the story on given worksheets in both analog and digital format.

Sentence Frames

Emerging

“I notice _____.”

Expanding

“I think it is _____ o’clock because_____.”

Bridging

“The evidence suggests _____ o’clock because the hour-hand points to_____ and the minute hand points to 12.”

Formative Assessment

- Move around the room while students fill in their clocks, ask them to hold up their answers.
- Check them at the end of the day, look for correct drawings and digital format.
- Note which students can correctly position the hour hand and which need additional support.

(Day 3 & 4) Purpose

How will students apply learning in a new or deeper way?

- Students apply their learning in a creative context, making decisions about the time and what animal they will write about. They will represent this knowledge in written and visual form.

Extension Activity: My Favorite Animal Meets the Grouchy Ladybug

Students are to imagine their favorite animal and write a sentence in which the ladybug meets it. Steps:

- Have them choose a time this is to occur. “At _____ o’clock, the grouchy ladybug met a _____.”
- The students will be provided with a piece of paper and coloring supplies. The students will draw the time in the upper right part of the page to represent the time, as modeled in the book. They will then create an illustration to accompany their sentence and analog clock.
- Optionally, include a drawing of the sun’s position to indicate the time of day.

Cross-Curricular Connections

- ELA: Sentence writing with proper grammar and use of descriptive language.
- Art: Illustrations with details and color.

Real-World Application

- Students make real-world connections by using their favorite animals as choices.
- Decide when their animal may wake up, play with the ladybug, or eat their dinner.

Formative Assessment

- Review students' pages for correctly drawn analog clock with hour-hand on their chosen hour and minute-hand on 12.
- Legible written sentence.

(Day 4) Purpose

How will students demonstrate understanding?

- Students will demonstrate their understanding of reading time on both analog and digital clocks through an exit ticket and a gallery walk.

Summative Assessment

Exit Ticket

- Students are shown different analog clocks with various times (all-hour time) and must write the digital time below each one.
 - Show their answers on whiteboards.
- Include digital clocks and have students translate the time onto an analog clock.

Gallery Walk

- Have students leave their work on their desks, using sticky notes. Students draw the digital time from a classmate's clock drawing.

Individual Meetings

- During the gallery walk, have individual students point and discuss the different parts of a clock and their understanding of time.

Student Product(s)

- Model
- Presentation
- Poster
- Exit Ticket
- Rubric/ Success criteria

Elaborate- Lesson 4: Animals & Plant Structures

STEM Project

Day/Time: Multiple 40-45 minute lessons (depending on students' needs).

Objective: Students will observe and record how specific external structures of plants and animals will help them survive and grow.

Materials: Science notebooks/ observation recording sheet, pencils, magnifying glasses, collection of real nature items (pinecone, acorn, feather, leaf, etc.), optional: short video clips of animal structures in action. (Optional inclusion: video clip of the WildKrat Brothers using animal technology to save animals). Recycled materials (foil, popsicle sticks, cotton balls, etc.).

Essential Question

How does what a plant or animal looks like on the outside connect to what it needs to stay alive?

Academic Vocabulary

- Observe: To use your senses carefully to learn about something
- Adaptation: A behavior or structure that helps a living thing survive in its environment.
- Environment: The place where a plant or animal lives, the weather there, and other animals.
- Mimic: To copy or imitate something from nature.
- Engineer: A person who uses science and math to design solutions to problems.
- Biomimicry: When people copy (mimic) an idea from nature to solve a human problem.

Teacher Actions

- Show a close-up photo of a Velcro strip, then a close-up photo of a burdock burr. Ask "What do you notice? What do these have in common?"
 - Reveal the connection: Velcro was invented by an engineer who noticed how burdock burrs stuck to his dog's fur. This is biomimicry!
- Bring up the anchor chart and add this example to the "how could this help people?" Column.
- Prose: Today we are going to be scientists. We will observe real structures from nature and figure out what job they do.
 - Using the animals the grouchy ladybug fights, let's look at traits that help animals.

Observation Stations

Activity Description

- Set up 3-4 stations: (1) Pinecone & acorn shell, (2) Bird feather, (3) Photo of a thorny branch/replica, (4) Elephant/ fish scale replica/image.
- Students rotate through stations (5-6 min each), using magnifying glasses and recording observations on their sheet: What I see, what I think it does, how people could use this idea.

Teacher Role

- Circulate and prompt: "Feel the texture, why might it be useful?" Or "look at the shape, what does it remind you of?"
- Model specific language "I observe..." "I think the function is..."

Explain- Share and connect

- Bring students back together. Each table shares one observation.
- Show one or two short video clips (ex. Sharkskin to swimsuit fabric).
- Add new examples to previous anchor chart.
- Students write in their science notebooks: The _____ has a _____ that helps it. Engineers could use this idea to _____.

Sentence Frames

Emerging: "I see _____. I think it helps the animal _____."

Expanding: "The _____ has a _____ structure that helps it _____."

Bridging: "The _____ of a _____ helps it _____ in its environment. Engineers could mimic this to solve the problem of _____."

Formative Assessment

- Collect Observation sheets: look for structure-function connections.
- Check science notebook sentences for correct use of vocabulary: structure, function, mimic/engineer.
- Exit ticket: Show an image of a gecko's foot. "What structure do you see? What do you think it does? How could people use this idea?"

STEM Challenge

Scenario: You are a nature engineer! Your job is to choose a human problem and design a solution by mimicking (copying) a structure you found in nature. You will plan, build, and share your invention.

Problem Options	Nature Inspiration	Example Solution
Keep something safe from bumps	Turtle shell/ acorn cap	Protective helmet or ase
Keep water out	Lotus leaf/ duck feathers	Waterproof jacket or roof
Keep intruders out	Thorns/ porcupine quills	Protective fence or armor
Stay stable/ Do not fall over	Tree roots/ animal tail	Stabilizer for a building or bike

Teacher Role

- Introduce the challenge as a role: "You are a nature engineer."
- Have students pick from the guided inspiration pairs and discuss the six-step design process.
- Use simple, recycled materials (cardboard, foil, cotton balls, possible sticks) for student prototypes.

Engineering Design Process Steps

- Share with the class each step, asking students to use them in their project.
- Step 1: What problem am I solving? What do I know about nature that could help?
- Step 2: What animal or plant structure will I mimic? Sketch your ideas.
- Step 3: Choose your best design. List the materials you will need.
- Step 4: Build your design using available materials.
- Step 5: Does your design work? What would you change to make it better?
- Step 6: Share: Present your design to the class.

Gallery Walk and Celebration

- Students leave their prototype and planning sheet on their desk.
 - Give the students the opportunity to walk around the classroom and observe others' work. Leaving a sticky note with a comment of what they notice/like about others' projects.
- Teacher leads closing discussion: What did all of our designs have in common? What makes nature such a good teacher?

Student Product(s)

- Model
- Presentation
- Poster
- Exit Ticket
- Rubric/ Success criteria

Differentiation & Supports

English Learner Supports

- Provide bilingual glossaries with key vocabulary (ex. Analog clock, minute-hand).
- Use sentence frames such as "An analog clock shows the time with _____."
- Facilitate student pair activities where students can discuss their investigations.
- Offer visual connections to key vocabulary.

SPED/Accessibility Supports

- Discuss and establish learning expectations. Let students know they'll be learning how to read a clock/expected to write a sentence doing the lesson and how much time they'll need for the activity.
- Review previous lesson before jumping into next steps.
- Question individual students to gauge their mastery of the lesson's content.
- Offer visual connections to key vocabulary and use sentence frames.
- Reduce exit ticket problems (2 problems v. 4).
- Allow verbal response instead of written.
- Extended time for animal page.

GATE/Extension Opportunities

- Extend to half-hours
- Write their own short story with multiple clocks.

Universal Design for Learning (UDL)

Multiple Means of Engagement

- Story-based learning provides a narrative connection.
- Hand-clocks for physical manipulatives.
- Student choice of animal and time increased ownership of the activity.
- Student-led STEM exploration

Multiple Means of Representation

- Analog and digital clock formats shown side by side.
- Vocabulary word wall with visuals.
- Multiple visual aids.

Multiple Means of Expression

- Oral and written response.
- Artistic expression.

Technology Integration

What Technology Tools will students use?

- Include the use of an online interactive clock tool.
- Magnifying glass.