



Sequence and Patterns: Grades 6–8

OVERVIEW:

Both scientific and historical reasoning require students to make sense of chronology in order to identify patterns and relationships that allow them to identify scientific rules or historical themes. A "sequence" refers to an ordered list of numbers or elements that follow a specific rule or pattern, while a "pattern" is the underlying rule or repetition that governs the arrangement of elements within a sequence; essentially, a pattern describes the "how" behind a sequence, allowing you to predict the next element based on the established order.

Mini-Lesson I

Organizing Events in Sequence (20 minutes)

Background: Organizing events in sequence is a valuable skill in social studies and history that helps students understand the flow of historical events and how certain actions or decisions led to significant outcomes. When students place key events in order, they can narrow down a complex event into key points, helping them focus on the most significant aspects of the event. This approach simplifies the learning process by highlighting the main causes, effects, and turning points, allowing students to grasp the core elements without being overwhelmed by too much information. It also encourages critical thinking, as students must identify and prioritize the most impactful details, which helps them retain and communicate their understanding of historical events more effectively. Note that while the instruction can be applied to any lesson within *Expedition: Learn!*, the following examples are based on the lesson "Plessy v. Ferguson."

- Explain to students that organizing events in sequence makes it easier to remember historical facts and understand them within a larger narrative of history.
- Discuss how students will be able to visualize the timeline of a historical event more clearly and break it down into manageable, understandable parts.
- Either read the text together, divide students into groups to read the text in chunks, or assign students to read the text individually.
- Display the [Organizing Events in Sequence graphic organizer](#).
- Ask students to identify what they think should be the first key event in *Plessy v. Ferguson*.
- Model how to complete the first event in the sequence organizer as follows:
 - In 1892, Plessy was arrested for sitting in a whites-only train car.

- Work through the remainder of the events, guiding students to identify the most important details that summarize key developments in the case. Use the following sample responses to guide the sequencing process:
 - *Judge Ferguson ruled Plessy guilty of breaking segregation law.*
 - *Plessy appealed the decision to the U.S. Supreme Court.*
 - *Plessy's lawyers argued the law violated the 13th and 14th Amendments.*
 - *In 1896, the Court upheld segregation under "separate but equal."*
 - *The ruling reinforced segregation laws across the United States.*
- Debrief by asking students how to organize the details of the case into manageable parts helped their ability to identify key causes, effects, and turning points.
- To extend learning, students can apply this skill to other landmark cases or events in history, such as *Brown v. Board of Education*, allowing them to look at outcomes and explore the lasting impact of judicial decisions on society.

Mini-Lesson II

Chronological Thinking in Social Studies (20-30 minutes)

Background: Chronological thinking is a foundational skill in social studies that allows students to understand how historical events unfold in relation to one another. This skill helps students not only remember when events occurred but also grasp how one event leads to or influences another. This enables them to identify sequences, patterns, and trends across different historical periods. Note that while the instruction can be applied to any lesson within *Expedition: Learn!*, the following examples are based on the lesson "The Reconstruction Amendments."

- Explain to students that chronological thinking helps show how events are interconnected.
- Discuss how history is not a series of isolated events; rather, it is shaped by a web of causes and consequences. Chronological thinking helps build context and sometimes causality as well. This can help identify the root causes of historical events and understand their outcomes.
- Building context helps students trace the immediate and long-term consequences of historical events. For instance, the immediate aftermath of the American Civil War included Reconstruction policies and the abolition of slavery, but the long-term effects—such as Jim Crow laws and the civil rights movement—show how these changes unfolded over decades.
- Define context as needed:
 - *context:* the circumstances or conditions surrounding an event that help explain why it happened.
- Read the text to identify the three key amendments of the Reconstruction era. As students encounter them, model how to fill out the [Building Context Through Time graphic organizer](#).
- For each event, guide students in identifying the impact and thinking through both the immediate and long-term consequences.
- Complete the organizer as follows, guiding them through the series of amendments by thinking aloud:
 - **Event:** *The 13th Amendment is passed in 1864.*
Impact: *Slavery is abolished.*
 - **Event:** *The 14th Amendment is passed in 1868.*
Impact: *Black Americans were granted citizenship and due process.*
 - **Event:** *The 15th Amendment is passed in 1870.*
Impact: *Black American men were guaranteed the right to vote.*
- After identifying the three Reconstruction amendments, ask students to identify one final key event that majorly impacted the passage of these amendments. Complete the final fourth box:
 - **Event:** *Reconstruction ends.*
 - **Impact:** *States find ways around the Reconstruction amendments with Jim Crow laws.*
- Regroup by asking students what they noticed about the amendments and the final event. They might observe a pattern of progress followed by resistance (e.g., the passing of the Reconstruction Amendments followed by the rise of Jim Crow laws).

- Through this sequence of events, students can see the immediate outcomes (e.g., abolition of slavery) and the long-term challenges (e.g., resistance to equal rights, the rise of discriminatory laws).
- This process demonstrates how changes introduced by these amendments had lasting impacts on American society, influencing events well into the 20th century.

Mini-Lesson III

Historical Patterns and Continuity (30 minutes)

Background: Recognizing historical patterns and continuity is essential in social studies because it helps students make sense of complex events and understand the connections between different historical moments. Historians use the skill of identifying historical patterns by looking at recurring themes, trends, and structures over time, allowing them to draw connections between past and present events. By identifying sequences and recurring themes, students can observe what has changed and what has stayed the same across different periods, deepening their understanding of societal evolution. Recognizing patterns over time offers students a powerful way to understand how ideas, structures, and institutions can persist or evolve across centuries. By studying these long-term patterns, students can see how events and foundations laid in the past continue to shape the world today. Note that while the instruction can be applied to any lesson within *Expedition: Learn!*, the following examples are based on the lesson “Roman Contributions to Republican Governance.”

- Explain to students that identifying patterns helps connect events across time periods.
- To spark students’ background knowledge, ask them:
 - Have you ever seen how certain older trends, like styles of clothing or music, keep coming back even though they seem new? What are some examples you can think of? Why do you think that happens?
- Explain that history works similarly: it often repeats or builds upon past ideas, systems, or events, even if they seem new or different at first glance.
- For example, how the Roman Republic structured its government can be seen in modern systems like the U.S. government thousands of years later.
- Read the text and inform students that they will focus on two key elements of Roman governance that mirror two key elements of U.S. governance.
- Display the [Patterns and Continuity graphic organizer](#).
- Model how to complete the first two boxes using the following sample responses as a guide:
 - *In the Roman Republic, power was divided among three branches: the consuls, the Senate, and the assemblies.*
 - *The Roman Senate played an advisory role, influencing laws, foreign policy, and financial matters.*
- Ask students to identify how the U.S. modeled its government based on these two elements thousands of years later. Use the following sample responses as a guide to complete the remaining two boxes:
 - *In the U.S., power is divided among three branches: legislative, executive, and judicial.*
 - *The U.S. Senate represents states and plays a role in lawmaking, approving presidential appointments, and shaping national policy.*
- To wrap up the exercise, ask students why they think ancient ideas can persist over time. Ask them to reflect on how and why those ideas continue to shape modern society.
- Consider extending the exercise in recognizing patterns and continuity throughout history by asking students to research another ancient civilization, such as Greece or Egypt, and look for patterns in governance, society, or culture that have influenced modern systems.

Science Mini-Lessons

Sequence and Patterns in Science

Background: In middle school, students build off their understanding of sequences and patterns developed in elementary school as they apply their knowledge in new ways. Students examine the interconnectedness of atomic-level structures and macroscopic patterns. They learn to use patterns in rates of change and numerical relationships to explore both natural phenomena and human-designed systems. Their analysis of patterns allows them to identify cause-and-effect relationships, which is crucial for their understanding of the rules around them. Graphs, charts, and images are used to convey data that reveals patterns, building students' skills in the analysis and interpretation of complex information.

- Use graphic organizers and flow charts to help students keep track of information learned and to visualize and analyze the patterns that emerge.
- Ask students to share data and observations with the class to identify patterns. This allows students to draw on a larger set of data and observations from which clear patterns and trends, as well as exceptions in the data, may become more visible.
- The following *Expedition: Learn!* lessons can be used to engage students in the identification and analysis of patterns:
 - "Patterns in the Fossil Record"
 - "Patterns in Development"
 - "Predators and Prey"
 - "What Causes Tides?"

Check for Understanding

If you observe ...

Then try ...

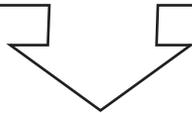
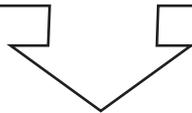
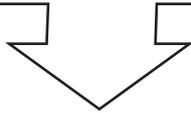
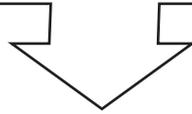
students having difficulty distinguishing between cause-and-effect relationships and sequences

use a flowchart to separate cause-and-effect relationships from sequences of events. Have students map out both types of connections. For example, in the life cycle of a butterfly, guide students to see how one stage leads to the next in a sequence, but not necessarily as cause and effect. Discuss the key differences, helping them build a clearer understanding of both concepts.

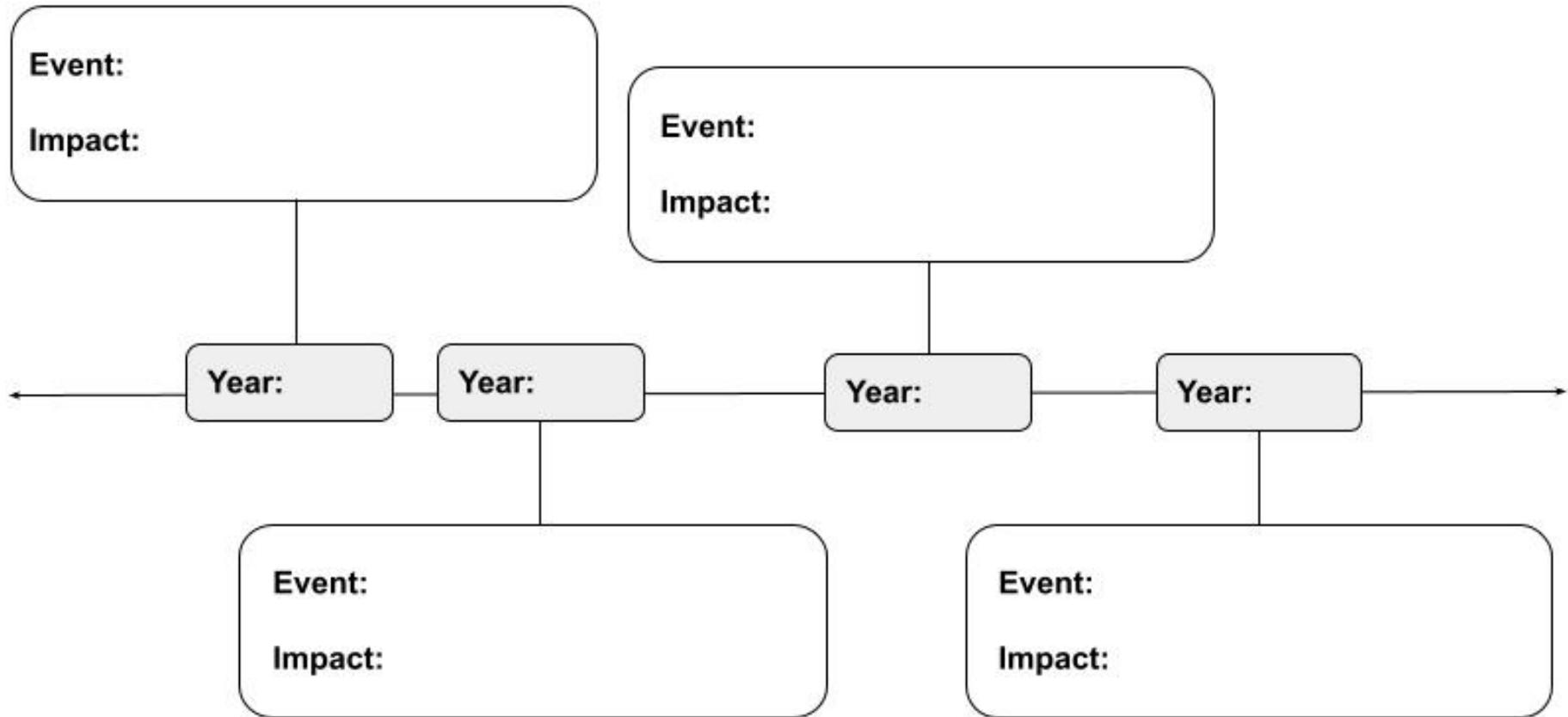
students having difficulty identifying patterns

providing students with additional practice using a card sort activity. Provide students with a set of cards related to the pattern or cycle being studied. Invite students to sort the cards into groups based on teacher-defined criteria that helps students see the similarities and differences.

Organizing Events in Sequence



Building Context Through Time





Patterns and Continuity

