Classroom Resources — Free on This Site

Every resource below is free on ChineseZodiac.com — print it or project it, no login needed.

REFERENCE

Heavenly Stems & Earthly Branches

Plain-language explainer of the ten stems and twelve branches.

chinesezodiac.com/learn/heavenly-stems-earthly-branches

REFERENCE

Nayin & the Sixty-Year Cycle

The full sixty stem-branch combinations table.

chinesezodiac.com/nayin

REFERENCE

Zodiac Year Chart (1924-2031)

Year-by-year chart to check the cycle arithmetic.

chinesezodiac.com/years

REFERENCE

Regional Zodiac Variations

Reading on Vietnamese, Korean, and other regional zodiac traditions.

chinesezodiac.com/learn/regional-variations

PRINTABLE

Primary Source Analysis Worksheet

The sourcing worksheet (origin, purpose, point of view, reliability) used in the source-analysis activity.

chinesezodiac.com/printables/sourcing-worksheet

PRINTABLE

Source Evaluation Rubric

Rubric for rating source reliability, bias, and perspective.

chinesezodiac.com/printables/source-evaluation-rubric

REFERENCE

Chinese Zodiac Library Guide

Curated museum and encyclopedia sources for the research project.

chinesezodiac.com/teachers/library-guide

Learning Objectives

- Students will explain how the ten Heavenly Stems and twelve Earthly Branches combine to form a 60-year cycle.

- Students will calculate, using least common multiple, why the combined cycle lasts sixty rather than twelve years.
- Students will analyze an adapted primary source for its origin, purpose, and point of view.
- Students will corroborate a claim by comparing a primary source with a secondary reading.
- Students will compare zodiac and lunar-new-year traditions across at least three Asian cultures.
- Students will explain how a shared tradition can vary across regions without any one version being 'correct.'

Standards Alignment

CCSS.ELA-LITERACY.RH.6-8.2 — Determine the central ideas or information of a primary or secondary source; provide an accurate summary.

CCSS.ELA-LITERACY.RH.6-8.6 — Identify aspects of a text that reveal an author's point of view or purpose.

CCSS.ELA-LITERACY.WHST.6-8.7 — Conduct short research projects to answer a question, drawing on several sources.

C3 D2.His.14.6-8 — Explain multiple causes and effects of events and developments in the past.

C3 D2.His.10.6-8 — Detect possible limitations in the historical record based on the sources' authorship and context.

Materials

- A chart of the ten Heavenly Stems and the twelve Earthly Branches
- A printed table of the sixty stem-branch combinations
- One or two short adapted primary-source excerpts that reference cyclical dating
- A sourcing worksheet (origin, purpose, point of view, reliability)
- Reference readings on Vietnamese, Korean, and Chinese zodiac traditions
- A map of East and Southeast Asia
- Calculators or scratch paper for the least-common-multiple work
- Chart paper for group presentations

Key Vocabulary

sexagenary cycle: A sixty-year cycle made by pairing the ten Heavenly Stems with the twelve Earthly Branches.

Heavenly Stems (tiangan): A set of ten signs that combine with the Earthly Branches to name years in the traditional Chinese calendar.

Earthly Branches (dizhi): A set of twelve signs that correspond to the twelve zodiac animals and pair with the Heavenly Stems.

least common multiple: The smallest number that two numbers both divide into evenly. For 10 and 12, it is 60.

primary source: A record created at the time of an event by someone who took part in or witnessed it.

corroboration: Checking a claim against another source to see whether they agree.

point of view: The perspective and purpose of the person who created a source, which shapes what it says and leaves out.

Activities

Building the 60-Year Cycle (45 minutes)

Grouping: Whole-class model, then pairs

1. Introduce the ten Heavenly Stems and twelve Earthly Branches using the chart. Note that the twelve branches correspond to the twelve zodiac animals.
2. Model the pairing on the board: stem 1 with branch 1, stem 2 with branch 2, and so on. Ask: "What happens when we run out of stems at ten but still have more branches?" Show that stem 1 pairs again with branch 11.
3. Pose the driving question: "If both lists keep cycling, after how many pairings does the very first combination return?" Have pairs work it out with calculators.
4. Guide students to the least common multiple of 10 and 12. Walk through it: 10 = 2 x 5, 12 = 2 x 2 x 3, so the LCM is 2 x 2 x 3 x 5 = 60. The cycle repeats after sixty pairings, not twelve and not 120.
5. Have students use the sixty-combination table to find which stem-branch name matches the current year, then a year a relative was born.
6. Discuss the historical payoff: before standardized year numbering, this system gave each year a unique name within a human lifetime, which mattered for records and dating.

Materials for this activity: Stems-and-branches chart; Sixty-combination table; Calculators

Differentiation & scaffolding:

- Support: Provide a partly filled pairing grid so students extend a pattern rather than start from zero.
- Support: Pre-teach LCM with a simpler example (gears with 4 and 6 teeth) before the 10-and-12 case.
- Stretch: Ask why the cycle would still be sixty if the lists were 10 and 12 but not if they were 10 and 15. (Different LCM.)

Reading Like a Historian (50 minutes)

Grouping: Independent, then pairs

1. Distribute an adapted primary source that uses cyclical (stem-branch) dating. Read it once together for the gist.
2. Students complete the sourcing worksheet independently: who created it, when, why, and for whom. Remind them that every source carries a point of view.
3. Pair students to compare a modern reference reading with the primary source. They list where the two agree and where the primary source is silent or unclear.
4. Discuss as a class what the source can and cannot tell us. A dated record proves a year was named a certain way; it may not tell us how ordinary people felt about it.
5. Each student writes a short paragraph corroborating one specific claim across both sources, naming each source.
6. Close by surfacing limitations: what voices or perspectives might be missing from a surviving official record?

Materials for this activity: Adapted primary source; Sourcing worksheet; Secondary reference reading

Differentiation & scaffolding:

- Support: Provide the sourcing worksheet with guiding sentence stems.
- Support: Annotate the primary source with two or three vocabulary glosses.
- Stretch: Ask students to write a follow-up question they would need a second source to answer.

One Tradition, Many Cultures (45 minutes)

Grouping: Small groups of 3-4, jigsaw

1. Assign each group one culture: China, Vietnam, or Korea. Give each the matching reference reading.
2. Groups read and record how the zodiac and the lunar new year are observed in their assigned culture, capturing the holiday name where relevant (for example, Seollal in Korea, Tết in Vietnam).
3. Each group identifies one clear similarity and one clear difference compared with the others. A known example: Vietnam's zodiac uses the cat in place of the rabbit and the water buffalo in place of the ox.
4. Groups present their findings briefly and mark their region on the class map of East and Southeast Asia.
5. Lead a closing discussion: "Why does variation across these cultures not make any version wrong or less authentic?"
6. Capture a class statement defining "shared heritage with regional diversity" in students' own words.

Materials for this activity: Culture reference readings; Map of East and Southeast Asia; Chart paper

Differentiation & scaffolding:

- Support: Provide a graphic organizer with the categories already labeled (holiday name, foods, the zodiac variation, one custom).
- Support: Assign roles within each group (reader, recorder, mapper, presenter).
- Stretch: Add a fourth culture or ask a group to research how diaspora communities adapt the holiday.

Discussion Questions

Why does pairing ten stems with twelve branches produce a sixty-year cycle instead of twelve or 120?

Sample answer: The full set of name combinations repeats only when both lists return to their starting point at the same time. That happens at the least common multiple of 10 and 12, which is 60. It is not 120, because 10 and 12 share a common factor of 2, so they realign sooner than simply multiplying them.

A surviving primary source records a year using stem-branch dating. What can it prove, and what might it leave out?

Sample answer: It can prove that a particular year was named and dated a certain way, and it shows the dating system in real use. It may leave out the experiences and views of ordinary people, the reasons behind decisions, or perspectives the author did not share. That is why historians corroborate with other sources.

Vietnam uses the cat where China uses the rabbit. Does that make one version of the zodiac correct and the other wrong?

Sample answer: No. Different cultures adapted a shared tradition in their own ways. The variation reflects genuine regional diversity, not a mistake. Treating one version as the only "real" one would erase the others and misunderstand how living traditions spread and change.

Student Handout / Worksheet Prompts

Copy these prompts onto a worksheet or project them for students.

1. Show your math: explain, using least common multiple, why the stem-branch cycle is sixty years long.
2. Find the stem-branch name for the current year and for the year you were born.
3. Sourcing: For the primary source, answer (a) Who made it? (b) When? (c) Why? (d) For whom?
4. Corroboration: Write one claim that both the primary source and the secondary reading support, and name each source.
5. Comparison: Name one similarity and one difference between two of the cultures you studied.
6. Explain in two to three sentences why regional variation in the zodiac does not make any version wrong.

Extension & Homework

- Research how the lunar new year is celebrated in a diaspora community (for example, in a major city outside Asia) and present how the tradition adapts to a new setting.
- Build a timeline placing a few well-known historical years next to their stem-branch names.
- Write a short comparison of the sexagenary cycle with another culture’s historical calendar system, citing sources.
- Create an annotated map showing where related zodiac traditions are practiced across Asia.

Assessment

Assess the sourcing paragraph and the LCM explanation together. Strong work shows mathematical reasoning, careful sourcing, and an accurate, respectful account of regional diversity.

- Reasoning: The student correctly explains the sixty-year cycle using least common multiple, not just by stating the number.
- Sourcing: The sourcing worksheet addresses origin, purpose, audience, and at least one limitation.

- Corroboration: The student names a claim supported by two sources and identifies each source.
- Comparison: The student gives an accurate similarity and difference across at least two cultures.
- Framing: The student explains regional variation as diversity rather than error.

Teacher's Guide

The sexagenary cycle pairs ten Heavenly Stems (tiangan) with twelve Earthly Branches (dizhi). Because the least common multiple of ten and twelve is sixty, the full set of name combinations takes sixty years to repeat, not 120. Students sometimes guess 120 by multiplying; the shared factor of 2 between 10 and 12 is exactly why the answer is smaller. Have them reason through it with math rather than memorizing the number. Treat the zodiac primarily as a historical dating and cultural system rather than astrology. Astrology-style and fortune-telling uses do exist, but keep classroom analysis on history, sources, and culture. When working with the primary source, model the historian's questions and the habit of corroboration, and be explicit that surviving records carry the perspective of their authors and are often incomplete. Emphasize regional diversity and guard against treating "Chinese" as a single, flat culture. Vietnam's zodiac replaces the rabbit with the cat and the ox with the water buffalo; Korea observes the lunar new year as Seollal, and Vietnam as Tết, each with its own customs. Use correct pinyin where it helps, and frame variation as the natural result of a shared tradition adapting across places and centuries. Closing the unit on "shared heritage with regional diversity" gives students language they can carry into other comparative work.

Answer Key

Why is the sexagenary cycle sixty years long instead of twelve or ten?
Because it pairs ten Heavenly Stems with twelve Earthly Branches, and the least common multiple of 10 and 12 is 60, so the combination of names repeats only after sixty years.

Why is the cycle not 120 years long?
Because 10 and 12 share a common factor of 2, the two lists realign before you reach 120. The least common multiple, 60, is the first year both return to their starting point together.

Name one way the Vietnamese zodiac differs from the Chinese zodiac.
Vietnam uses the cat in place of the rabbit, and the water buffalo in place of the ox.

When analyzing a primary source, name two questions a historian should ask.
Sample answers: Who created it and when? Why was it made and for whom? Is it reliable, and what does it leave out?

What is the difference between a primary source and a secondary source here?
A primary source was created at the time, such as a dated record using stem-branch dating. A secondary source is a later explanation or analysis, such as a reference reading about how the system worked.

Does regional variation mean one version of the zodiac is wrong?
No. Different cultures adapted a shared tradition in their own ways. Variation reflects diversity, not error.