

Learning Guide



A Brief History of the American Southwest for Kids Episode 2: Settling Down

We hope you enjoyed learning all about how early Southwestern settlements, including those in Chaco Canyon, were interconnected and flourished. Extend your learning with this print-ready Learning Guide!



What's in this Learning Guide?

Get Set to Listen:

Check your knowledge before and after listening to the episode by determining if statements are TRUE or FALSE.

Vocabulary

Discussion Questions

CCSS.ELA-Literacy.SL.3-8.1; CCSS.ELA-Literacy.SL.3-8.3

Writing Prompts and Extension Projects

CCSS.ELA-Literacy.W.3-8.1; CCSS.ELA-Literacy.W.3-8.2; CCSS.ELA-Literacy.W.3-8.3; CCSS.ELA-Literacy.W.3-8.4; CCSS.ELA-Literacy.W.3-8.7; CCSS.ELA-Literacy.W.3-8.8

Historical Map of the American Southwest

Listen & Imagine: Writing & Drawing Activity

CCSS.ELA-LITERACY.W.5.3; NAEA: Creating (VA:Cr2.1.5a); Connecting (VA:Cn10.1.5a); Responding (VA:Re7.1.5a); NCSS: Themes 1 & 2

Listen & Imagine: Writing & Coloring Activity

CCSS.ELA-LITERACY.W.5.3

Passive Solar Design: Activity

NGSS 5-PS1-3 / 5-PS3-1; NGSS 3-5-ETS1-2; CCSS.MATH.CONTENT.5.MD.A.1; NCSS: Themes 3 & 6

Track the Sun: Sun Daggers & Sun Dials Activity

NGSS 5-PS1-3 / 5-PS3-1; NGSS 3-5-ETS1-2 / 5-ESS1-2; NGSS 5-ESS1-1; CCSS.MATH.CONTENT.5.MD.A.1; NCSS: Themes 2, 3, & 6

Understanding Solstice Markers

NGSS: ESS1.A; ESS1.B; 3-5 ETS1; NCSS: Themes 1; NMSS: Historical Inquiry

Additional Resources & Book List



The Children's Hour
kids public radio



Get Set to Listen

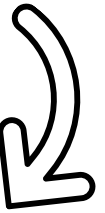
1. Before listening!

Read each statement and write TRUE or FALSE based on what you already know.



2. After listening!

Based on what the experts said in the episode, write TRUE or FALSE.



Before Listening	TRUE or FALSE?	After Listening
	1. People began settling in Chaco Canyon over two thousand years ago.	
	2. The buildings at Chaco Canyon were constructed over a thousand years ago.	
	3. People came to Chaco Canyon from as far away as 500 miles.	
	4. One of the furthest-hailing artifacts found at Chaco Canyon was remnants of Scarlet Macaws.	
	5. Tens of thousands of people inhabited Chaco Canyon all year round.	
	6. There are no written records from Chaco Canyon to study.	
	7. People often left Chaco Canyon in the winter because it was too cold to live comfortably.	
	8. The people living in Chaco Canyon largely ate beans, corn, and squash.	
	9. People abandoned Chaco Canyon because of a new religious calling.	



Get Set to Listen

Answer key

1. FALSE. It actually wasn't until the third century.
2. TRUE
3. Sort of TRUE. People probably came to Chaco regularly from about 50 miles away, but goods came from 500 or more miles away. Traders may have brought those goods with them, or they were traded through many people, each not traveling too far.
4. TRUE. Even though they come from tropical areas, Scarlet Macaws somehow ended up in Chaco Canyon.
5. FALSE. Although Chaco Canyon had extensive living space, the year-round population was probably only a few thousand, although many more people lived there on and off for special events.
6. TRUE. Everything we know has been deduced from the buildings, tombs, oral histories, and relics left behind.
7. FALSE. The buildings were constructed with **passive solar design** to keep the temperature reasonable all year round.
8. TRUE. Much of the food we eat now, like pigs, cows, and chicken, wasn't available then, so they lived off of deer, rabbits, and, most of all, beans, corn, and squash.
9. FALSE. Chaco Canyon is not considered abandoned since it's still an important part of many people's history and culture. However, most theories indicate that people moved away from Chaco Canyon because of an extreme drought that lasted perhaps as long as 15 years.



Vocabulary

Listening for Words

1. Make a four-column chart and label the columns “I don’t know,” “I’ve seen or heard, but don’t know the meaning,” “I think I know the meaning,” and “I know the meaning.”
2. Write the vocabulary word in the column that describes how well you know the meaning of the word.
3. Listen to [the episode](#). Note how the speaker uses the words.

Matching Words with Definitions

1. Print and cut apart the word and definition cards.
2. Spread out the word cards so you can see them all. One by one, attach a definition card to each word card.

Writing with New Words

After working with the words and definitions, write a one-page essay or story that uses at least three of the words.

kiva

A Pueblo structure that is usually round and partly underground, where religious ceremonies are performed.

three sisters

The physical and spiritual sustainers of life; Indigenous people planted corn, beans, and squash together in a shared space where the plants nourished and protected each other, and these crops provided a solid diet.



Vocabulary

monument

Something that serves as a memorial, especially a building or statue honoring a person or event.

passive solar design

The dwellings at Chaco were constructed with passive solar design so that they were warmed by the sun in winter and shaded in summer; they could be lived in all year around.

relic

An object from the past that helps us learn about history or ancient people.

abandon

To give up completely; to withdraw from, often in the face of danger.



Discussion Questions

1. What makes Chaco Canyon an important place in the history of the Ancestral Puebloans?
2. What questions would you want to ask someone who lived in Chaco Canyon 1,000 years ago?
3. How do you think the Chacoan people built multi-story “Great Houses” without modern tools?
4. Why would knowing the exact timing of solstices and equinoxes be important for a farming community?
5. Why might large gathering places be important for strengthening identity and community?
6. What might have caused people to eventually leave Chaco Canyon? Can we be sure?
7. Why is it important to include Indigenous voices—such as Pueblo, Navajo, and Hopi communities—when interpreting Chaco Canyon’s history?
8. Why should we protect ancient places like Chaco Canyon today?
9. How did learning about Chaco Canyon change how you think about Indigenous history?

Group Discussion Strategies

Think Pair Share:

1. Individually, student writes down their answer to a question.
2. Students pair up and tell each other their answers.
3. Teacher calls for volunteers to share with the whole class their answer (and/or their partner’s answer). Teacher notes key words/phrases on board.

Round Robin:

1. Teacher poses one question (written on top of a large page) to students, who are assembled into small groups of 3 or 4.
2. Students take turns brainstorming the answers. The recorder of the group writes down all answers.
3. The leader reads the group’s ideas to the entire class. Teacher moderates.



Writing Prompts

Narrative Prompts

1. Imagine coming to a celebration in Chaco Canyon to celebrate a solstice. What do you see, eat, and do? How is it different than coming to Chaco now?

Extension: *Research real Chacoan solar alignments and explain which one inspired your story.*

2. Tell the story of a traveler from a faraway village arriving at Chaco Canyon. Why have they come? What do they bring?

Extension: *Create a “trade item list” with real goods that moved through Chaco’s trade network.*

Informative/Explanatory Prompts

1. Describe how Chacoans used the sun, moon, and stars to guide farming, ceremonies, and building design.

Extension: *Create a simple model or illustration showing how a solstice alignment works.*

2. Explain how the Chacoan people constructed their Great Houses, roads, and kivas using only stone tools and teamwork.

Extension: *Include a labeled diagram of one building feature (e.g., core-and-veneer walls).*

3. Write an informative piece about how people in Chaco Canyon found water, grew food, and survived in the desert environment.

Extension: *Compare ancient Chacoan strategies with modern desert farming or water conservation.*

Opinion/Persuasive Prompts

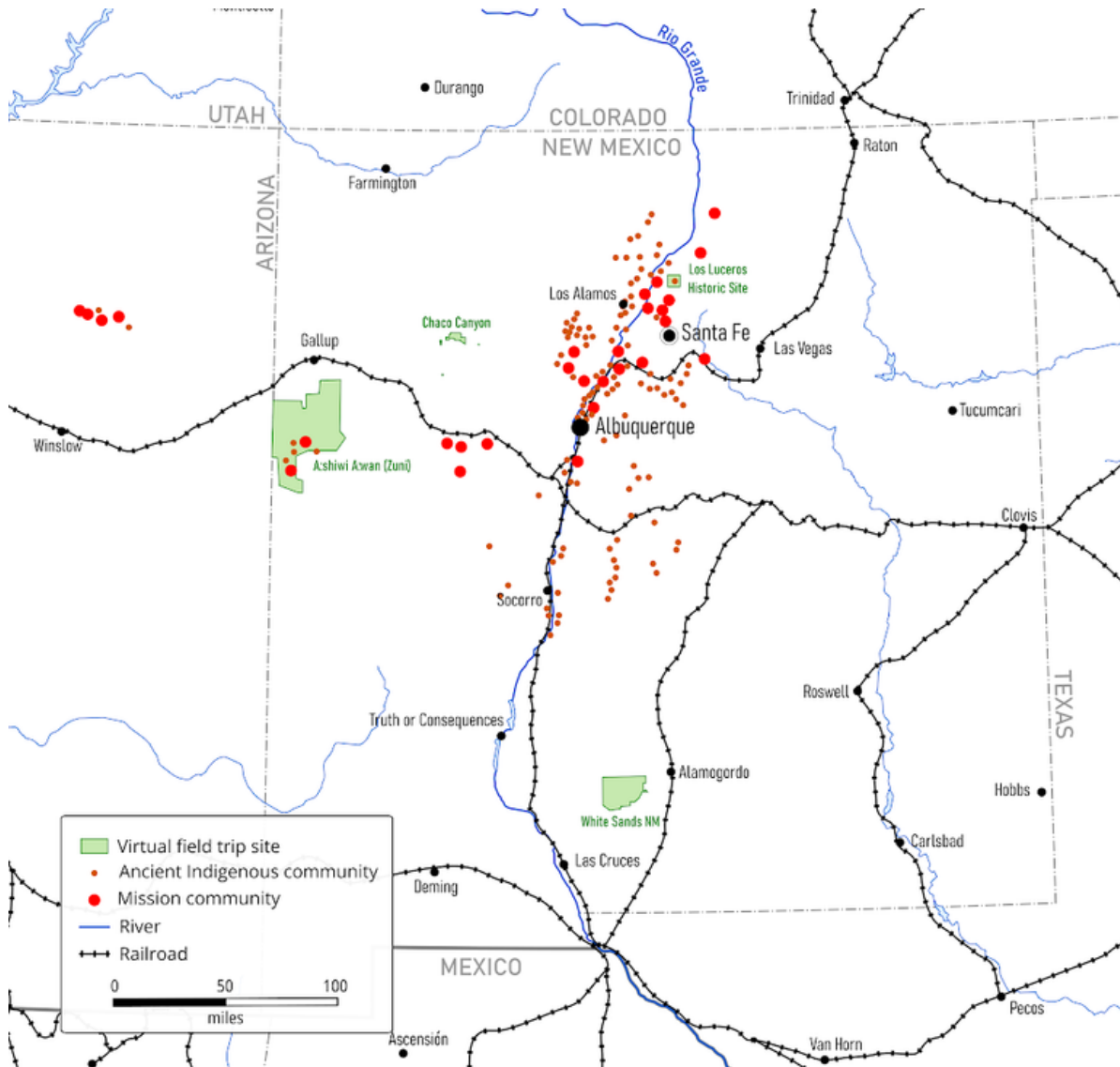
1. Explain whether you think the U.S. should add stronger protections for Chaco Canyon because of its cultural and historical importance.

Extension: *Include evidence from tribal perspectives, archaeologists, and environmental concerns.*



Historical Map of the American Southwest

On this map, the places that we “visited” with our experts are shown in green. Each place was important in the history of the American Southwest. Have you ever been to any of these locations?



Along with the modern cities, you can also see where the many ancient communities existed, long before the Spanish colonizers arrived (shown as orange dots). How many can you count?

After the Spanish arrived, they built missions (shown as red dots). How many of these mission communities were located near the Rio Grande?

To learn the names and locations of the 19 modern Pueblo nations, you can study [this map](#). Can you label the Pueblo nations on this map?



Listen & Imagine: Drawing Activity

Listen

to [The Children's Hour "A Brief History of the American Southwest, episode 2: Settling Down"](#) (segment 10:26-11:41).



Picture yourself as Pueblo royalty, lifting a cup of rich, precious cocoa—a luxury few people ever experienced. Draw it here!

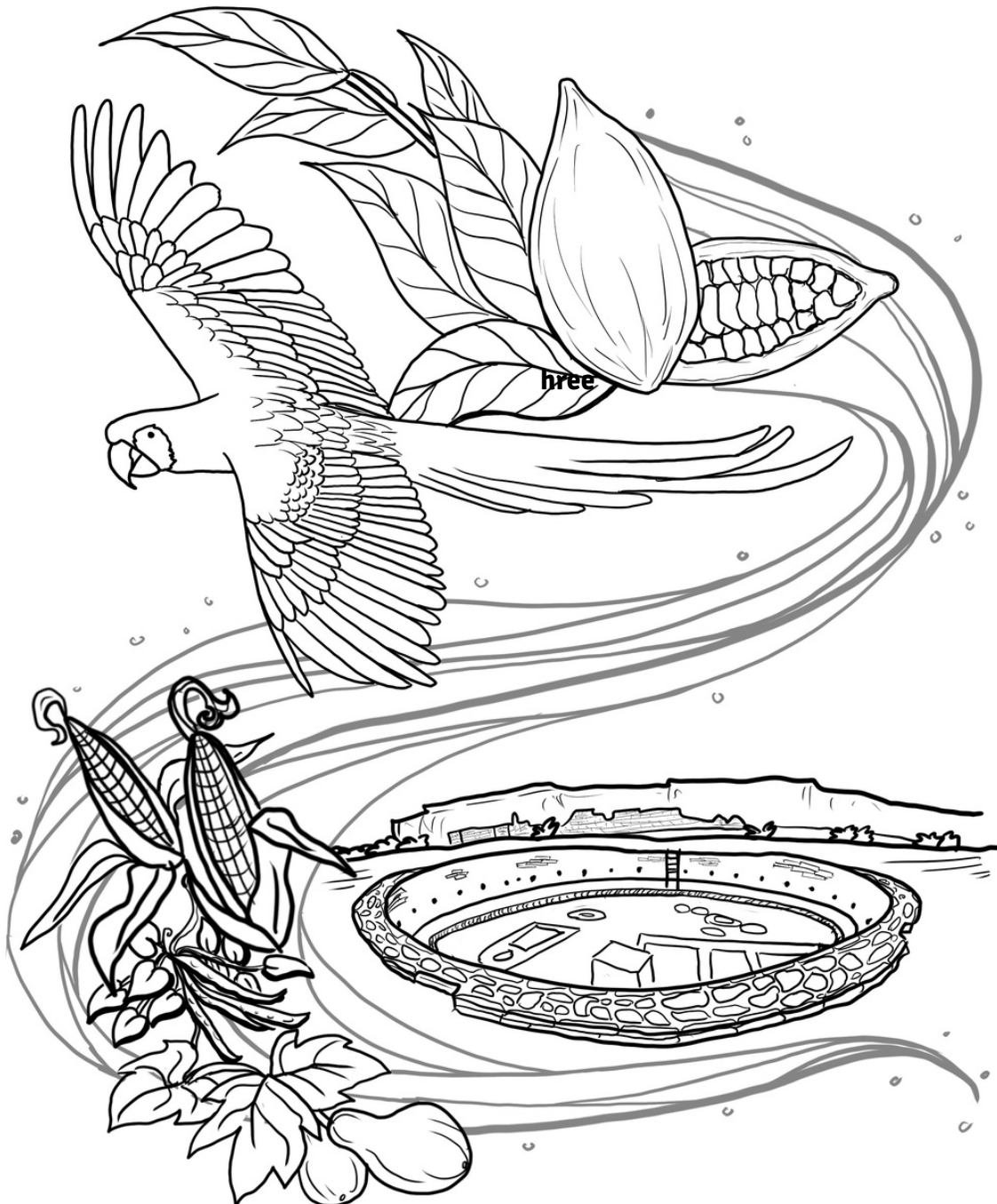


Listen & Imagine: Coloring Page

Listen

to [The Children's Hour "A Brief History of the American Southwest, episode 2: Settling Down"](#) (segment 8:57-10:09).

Imagine what it would be like to be in Chaco Canyon the day the first scarlet macaw arrived. How did it get there?



The many wonders of Chaco: cacao pods, scarlet macaw, and the Three Sisters.



Activity: Passive Solar Design

The people of Chaco Canyon designed buildings so sunlight warmed rooms in winter and stayed out in summer. This is called **passive solar design**, and we can recreate the idea with a simple model.

Explore

1. Build Your “Chaco Room”

- Find or make a small box or folded-paper “room.”
- Cut a south-facing window (or label one side “south”).
- Cover the window with plastic wrap or leave it open.

2. Add a “Sun”

- Use a flashlight to represent the sun.
- Hold the flashlight low and angled (winter sun).
- Then hold it high overhead (summer sun).

3. Observe

- *When the “sun” is low, how much “sunlight” enters the room? Do you think this makes the room warmer or cooler?*
- *Compare this to how much “sunlight” enters the room when the “sun” is high, as it is in the summertime.*

Discuss

- *Why might Chaco builders want winter heat but summer shade?*
- *How did the window placement help them survive desert temperatures?*
- *Where might we see passive solar design in homes today?*

Extension

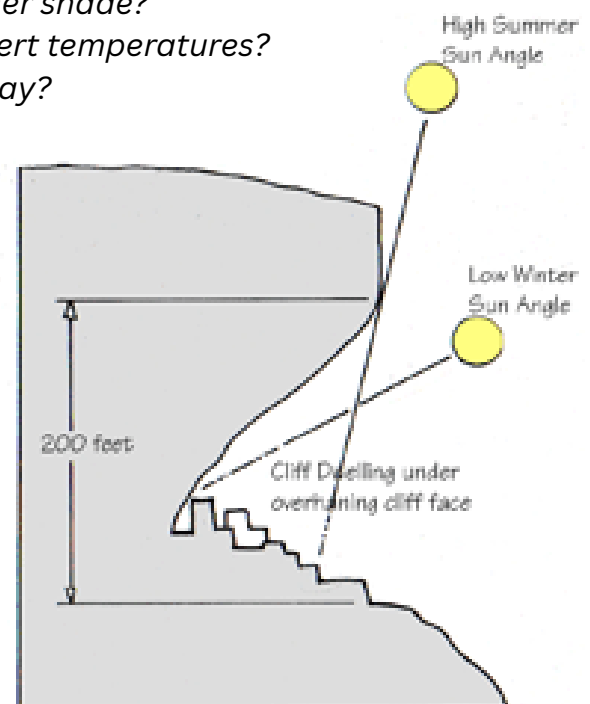
Redesign your model with:

- overhangs for shade,
- dark interior walls for heat absorption,
- added “rooms” facing different directions.

Additional Resources

[Historical Example of Passive Solar Design: Chaco Canyon](#)

[Modern Design Methodology for Passive Solar Houses](#)



Kiet Seel, a 12th-century Ancestral Puebloan village in Arizona, was built facing southeast so winter sun warmed the homes while the cliff provided summer shade.



Track the Sun: Sun Daggers & Dials

To "make" a sun dagger, you don't forge a physical blade but rather create an ancient solar calendar system by strategically placing large, thin stones (slabs) against a cliff face with carved petroglyphs (spirals) to catch precise beams of sunlight, marking solstices and equinoxes with moving "daggers" of light that align with the carvings. You can replicate the concept by finding a suitable sunny rock with a natural crack or creating your own simple sundial on a paper plate with a straw to observe shadow movements.

The Ancient Sun Dagger

Fajada Butte, Chaco Canyon

The Setup: Three large sandstone slabs lean against a cliff face, creating narrow slits.

The Marker: A spiral petroglyph is carved into the rock behind the slabs.

The Event:

- Summer Solstice: A thin, dagger-like beam of light passes through the central spiral.
- Winter Solstice: Two light daggers frame the main spiral.
- Equinoxes: Light daggers bisect smaller spirals nearby.

How to Make a Simple Sun-Tracking Device (DIY Sundial)

Materials: Paper plate, pencil, straw (or chopstick), tape, modeling clay, scissors.

Assemble:

1. Poke a hole in the center of the plate.
2. Insert the straw through the hole and secure it with clay underneath.

Use: Place outside on a sunny day at noon, mark the straw's shadow at intervals to see how it moves, demonstrating Earth's rotation.

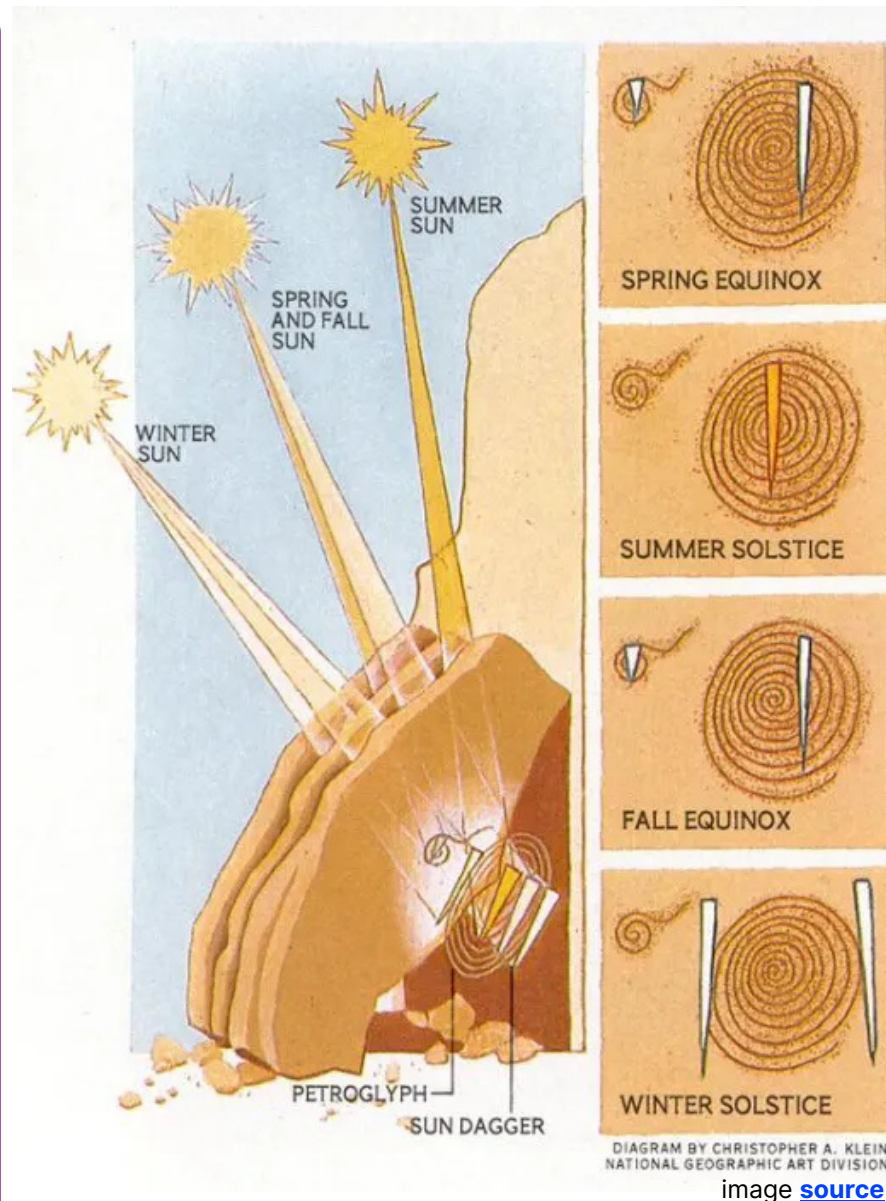


DIAGRAM BY CHRISTOPHER A. KLEIN
NATIONAL GEOGRAPHIC ART DIVISION
image [source](#)

Watch [this video](#) to learn how to make a simple sundial craft.

[Fajada Butte Sun Dagger article and diagram](#)



Understanding Solstice Markers

Many cultures built structures aligned with the sun to track solstices, guiding farming, festivals, and community life. Explore how and why, and build your own solstice marker in this lesson.

Materials

- Flashlight (or lamp)
- Globe or ball
- Paper plates or cardboard circles
- Straws, sticks, or pencils
- Modeling clay or tape
- Rulers
- Markers

Discuss

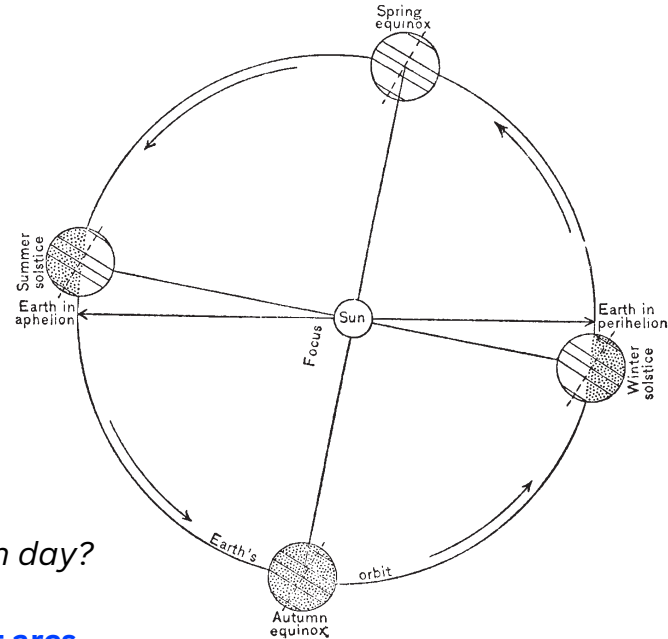
- *What does the sun seem to do across the sky each day?*
- *Have you heard of the winter or summer solstice?*

Show [a short time-lapse or diagram of sunrise/sunset arcs](#).

What Is a Solstice?

- Earth is tilted at 23.5° .
- As it orbits the sun, the height of the sun in the sky changes.
- Summer solstice: longest day/sun highest in the sky.
- Winter solstice: shortest day/sun lowest in the sky.

Demonstrate with a flashlight + globe.



Cultural Connections

Many cultures built structures to track the sun:

- Chaco Canyon (Fajada Butte): Sun Dagger marks solstices/equinoxes.
 - Stonehenge: Stones aligned with summer sunrise.
 - Maya cities: Pyramids create shadow patterns on solstices.
 - Ancient Pueblo communities: Built structures with window and wall alignments.
-
- *Why would tracking the sun be important for farming?*
 - *What ceremonies or events might be linked to solstices?*



Understanding Solstice Markers

Build a Solstice Marker

Steps:

1. Push a straw or pencil into the center of a paper plate or cardboard circle (like a mini-solar gnomon).
2. Place the model in sunlight or under a lamp “sun.”
3. Tilt the paper plate slightly, representing Earth’s tilt.
4. Observe where the shadow falls.
5. Move the “sun” higher and lower to mimic summer and winter solstices.
6. Mark the shadow lines on the plate.

Note that:

- Longer shadows = sun lower in the sky (winter).
- Shorter shadows = sun higher in the sky (summer).
- Ancient peoples used these exact shadow differences to mark seasons.

Reflect

- *What did you notice about the shadows?*
- *How might a solstice marker help a community?*
- *Why did different cultures care about the sun’s cycles?*

Extensions

- Design a more accurate model using protractors, compasses, clay bases, and popsicle sticks.
- Create an “observatory” and predict shadow positions.
- Compare three solstice markers: Chaco Canyon, Stonehenge, and a local Indigenous or historic site (if applicable). Create a Venn diagram or slideshow.
- Write a narrative titled: “The Day We Watched the Solstice at Chaco Canyon.”
- If possible, track a real shadow outside over several hours or days.





Additional Resources & Book List

[History Of Chocolate For Kids That Will Leave You Speechless](#)

[Chaco Culture NHP website](#)

Plan a visit to Chaco or browse relics in the Chaco Culture Museum Collection. Offers free Junior Ranger booklets for kids, curriculum materials (Ancient Observatories, Pottery), and scheduled ranger-led programs for 4th & 7th graders.

[The Sun Dagger](#)

Describes how shafts of light interact with a large spiral petroglyph during the summer solstice.

[A Taste of Traditional Native Foods: Three Sisters Bean Stew](#)

Videos

Watch the award-winning film The Mystery of Chaco Canyon:
<https://solsticeproject.org/the-mystery-ofchaco-canyon/>

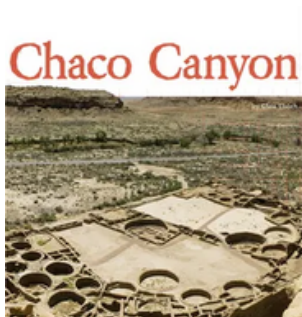
[Ancient Observatories: Chaco Canyon](#)

A 1-hour-long winter solstice video collaboration between Chaco Culture National Historical Park and the Exploratorium exploring ancient knowledge about the sun and modern solar science.

[Alignments at Chaco Canyon: Wijiji](#)

A 24-second video of the sun's alignment with a prominent petroglyph during the winter solstice.

Books



Digging Up the Past: Chaco Canyon

by Chris Eboch

Learn about the people who built Chaco Canyon, how it was discovered and studied, and efforts to protect it. Available on [Epic!](#)
ages 8-10