

# World Time Zones

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**Grade Level** 5  
**Duration** 1 class period

## National Standards

### GEOGRAPHY

#### Element 1: The World in Spatial Terms

3. How to analyze the spatial organization of people, places, and environments on Earth's surface

#### Element 2: Places and Regions

5. People create regions to interpret Earth's complexity

## AZ Standards

### ELA

#### Speaking and Listening

#### Comprehension and Collaboration:

5.SL.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.

### MATHEMATICS

#### Standards for Mathematical Practice

5.MP.4 Model with mathematics. Mathematically proficient students apply the mathematics they know to solve problems arising in everyday life, society, and the workplace.

## Arizona Social Science Standards

### Geography

**Global interconnections and spatial patterns are a necessary part of geographic reasoning.**

5.G4.1 Describe how economic activities, natural phenomena, and human-made events in one place or region are impacted by interactions with nearby and distant places or regions.

## SIOP Elements

Preparation	Scaffolding	Grouping Option
Adapting content <b>Linking to background</b> <b>Linking to past learning</b> Strategies used	<b>Modeling</b> <b>Guided practice</b> Independent practice <b>Comprehensible input</b>	Whole class <b>Small groups</b> Partners Independent
<b>Integrating Processes</b> Reading Writing <b>Speaking</b> <b>Listening</b>	<b>Application</b> <b>Hands on</b> Meaningful Linked to objectives <b>Promotes engagement</b>	<b>Assessment</b> <b>Individual</b> <b>Group</b> <b>Written</b> Oral

## Arizona English Language Proficiency Standards

### Grade 4 and 5

#### Basic

#### Speaking and Writing

Standard 5 By the end of each language proficiency level, an English learner can adapt language choices to purpose, task, and audience when speaking and writing.

B-2: use grade-appropriate general academic and content specific words, phrases, and expressions with developing control.

#### Listening, Speaking, Reading, and Writing

Standard 6 By the end of each language proficiency level, an English learner can participate in grade-appropriate oral and written exchanges of information, ideas, and analyses, responding to peer, audience, or reader comments and questions.

B-1: participate in discussions about familiar topics and texts.

# World Time Zones

## Overview

Communications are instantaneous in current times. We often confer with people all around the world online or by phone for business or for pleasure. Therefore, it's necessary for us to know the time differences of places in other parts of the world.

## Purpose

In this lesson, students will learn about time zones and how to figure out the time in different places around the world.

## Key Vocabulary

**digital clock** - a type of clock that displays the time digitally only with numbers

**analog clock** - a type of clock that displays the time with an hour hand and a minute hand

**latitude** - an imaginary line that is parallel to the Equator and is measured in degrees north or south of the Equator

**Prime Meridian** – the line of 0° longitude which passes near Greenwich, England

**longitude** - lines that run from the North Pole to the South Pole and are measured in degrees east or west of the Prime Meridian.

**time zone** - an area that has a uniform time for legal, commercial and social purposes.

## Materials

- Vocabulary Cards
- Optional: Analog clock for practicing time
- Globe
- Small Map of Standard Time Zones of the World
- <https://geoalliance.asu.edu/sites/default/files/maps/timezone.pdf>
- YouTube video: Geography Lesson: Time Zones Explained (3.11 min)
- <https://www.youtube.com/watch?v=-j-SWKtWEcU>
- Lamp
- Small paper strips exactly the size of the lines used on the Map of Standard Time Zones of the World (12 white for the day and 12 black for the night time hours)
- Large paper strips exactly the size of the lines used on the Enlarged Map of Standard Time Zones of the World (12 white for the day and 12 black for the night time hours)
- Paper Clocks (12 with red faces representing the daytime hours and 12 black representing

nighttime) (print in color using custom scale at 40% for use with the Small Map of Standard Time Zones) (print in color using 100% scale for Enlarged Map of Standard Time Zones of the World)

- Enlarged Map of Standard Time Zones of the World (4 tiles to be assembled)  
<https://geoalliance.asu.edu/sites/default/files/maps/Time%20Zones%20-%204%20tiles.pdf>
- Vocabulary Test and Answer Key

## Objectives

The student will be able to:

1. Identify the time in different locations of the world using a map with time zones.
2. Explain the best time to contact people in different parts of the world.

## Procedures

*Prerequisite Knowledge: Students know how to read time on digital clocks and analog clocks. Students know how to identify latitude and longitude on a world map. Students should know the concepts of direction of revolution, rotation, and day and night.*

*Prior to the lesson: Small and enlarged strips and clocks need to be pre-cut or add additional time to complete this function during lesson. The enlarged map (4 tiles) needs to be printed in **landscape** layout and **assembled** prior to the lesson or add additional time for students to cut and tape the tiles together.*

1. Begin the lesson by projecting the Vocabulary Cards for analog and digital clocks and discussing each card as a review of past learning. If possible, have a clock with moveable hands and have students practice converting digital times to analog times.
2. Project the Vocabulary Cards for latitude, longitude, and Prime Meridian. Use a globe or project a map to have students practice finding latitude lines and longitude lines.
3. Use the globe or projected map to show where Greenwich England is located. Explain that this line of longitude is called the Prime Meridian and is 0 degrees longitude. Ensure that students know that the degrees of longitude go both west and east around the globe. **(Preparation: Linking to past learning)**
4. Project the Vocabulary Card for time zone. Explain the Standard Time Zones of the World by projecting the map found at:  
<https://geoalliance.asu.edu/sites/default/files/maps/Time%20Zones%20-%204%20tiles.pdf>

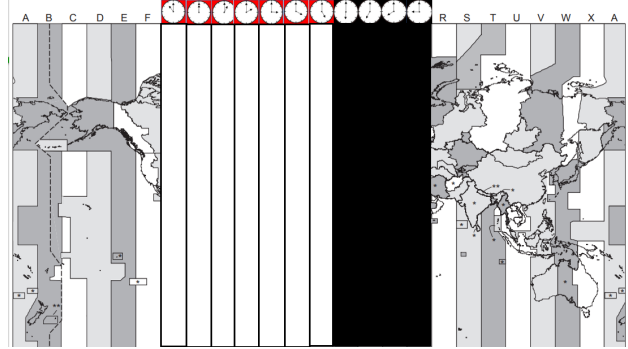
## World Time Zones

[ps/timezone.pdf](#) Emphasize how the time zones may be irregular due to preferences of countries. For example: China is all one time zone.

**(Scaffolding: Comprehensible input)**

5. Add Vocabulary Cards to Word Wall.
6. Project the YouTube video: Geography Lesson: Time Zones Explained (3.11 min)  
<https://www.youtube.com/watch?v=-j-SWktWEcU> After watching the video, review the main concepts with the students and emphasizing the important concepts of day and night, time differences, and different time zones. Perhaps have students share some experiences they have had with emailing or calling people around the world building on the idea of contacting people during the best time of the day in their part of the world. **(Preparation: Linking to background)**
7. Next use the globe to help the students understand more concretely about time zones. Place the globe on the table and turn on the lamp with the light facing the globe. Mark on the globe your location with a piece of clay.
8. Discuss the differences in day and night using different places on the globe. Compare the status of the sun in Phoenix, Brazil, Africa, Alaska, etc. at the same time. Help the students understand some places are ahead of us in time and some behind us. **(Preparation: Linking to past learning)**
9. Project again the Standard Time Zones of the World map.  
<https://geoalliance.asu.edu/sites/default/files/maps/timezone.pdf>
10. Using the black and white paper strips and the small black and red clock images you will show the students how time differs across time zones. First place the red clocks, representing daylight time, on the table, arranged vertically from 6am to 5pm and then the black clocks, representing night time, arranged vertically from 6pm to 5am. Tell the students that we will use our materials to find out the local time in Moscow (or your own destination). On the map, starting with the time zone of Phoenix, AZ (or your own local time zone), place the red clock showing 11:00am at the top of the map. Then lay a white paper strip to cover this time zone. Next continue placing red clocks and white strips, one by one across the map from left to right to show the time changes across time zones. At 6:00pm, use the black clock and black strip to indicate that it is now nighttime in this time zone. Continue to cover more time zones across the map to show the changes in time until you reach the time zone of Moscow. Ask the students what time it is in Moscow when it is 11:00am in Phoenix.

Standard Time Zones of the World



**(Scaffolding: Modeling; Guided Practice; Comprehensible input)**

10. Ask a student in the class who has a relative living in another country to come up and use the materials and the projected map to figure out what time it is for their relative in their country right now.
11. Divide students into groups of 4-6. Distribute the strips, clocks, a World Time Zones Worksheet, and the assembled Enlarged Standard Time Zones of the World map  
<https://geoalliance.asu.edu/sites/default/files/maps/Time%20Zones%20-%204%20tiles.pdf> to each group.
12. Have students in each group choose one person to take charge of the whole group. This person will gather each group member's information about the city they want to figure out and complete the worksheet. Each member of the group should participate in moving the strips and clocks and selecting the locations. **(Application: Promotes Engagement, Hands on; Grouping Options: Small groups)**
13. If time permits, have groups share out their learning with the whole class. **(Integrate Processes: Speaking & Listening)**

## Assessment

The World Time Zones Worksheet can be graded for completeness and accuracy. Mastery will be considered a score of 80% or higher. **(Assessment: Group, Written)**

Assess the students' understanding of time zones by orally asking them questions using the Standard Time Zones of the World map. Mastery will be considered a score of 80% or higher.

The Vocabulary Test can be given to assess language acquisition. Mastery will be considered a score of 80% or higher on the vocabulary test. **(Assessment: Individual, Written)**

# World Time Zones

## Extensions

- 1) The students can create their own word problems to figure out different times in different cities. These problems can be given to the class or a partner to solve.
- 2) Students can learn about daylight savings time: its history and its effects.

## Sources

<https://geoalliance.asu.edu/sites/default/files/maps/timezone.pdf>

<http://114.xixik.com/shicha/>

<https://www.youtube.com/watch?v=-j-SWKtWEcU>

<https://upload.wikimedia.org/wikipedia/commons/e/eb/Digital-clock-alarm.jpg>

[https://commons.wikimedia.org/wiki/File:Analog\\_clock\\_at\\_11\\_55.jpg](https://commons.wikimedia.org/wiki/File:Analog_clock_at_11_55.jpg)

<https://commons.wikimedia.org/w/index.php?search=lines+of+longitude&title=Special:MediaSearch&go=Go&type=image>

[https://commons.wikimedia.org/wiki/File:Prime\\_meridian\\_\(HU\).jpg](https://commons.wikimedia.org/wiki/File:Prime_meridian_(HU).jpg)

[https://commons.wikimedia.org/wiki/File:Magnetic\\_meridians\\_lat\\_0\\_long\\_270\\_1000x1000.png](https://commons.wikimedia.org/wiki/File:Magnetic_meridians_lat_0_long_270_1000x1000.png)

<https://commons.wikimedia.org/wiki/File:US-Timezones-post-2007.png>