Spring Forward, Fall Back: What Time Is It?
Students learn about the world’s time zones.

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**Grade Level**
7

**Duration**
2 class periods

### National Geography Standards

**ELEMENT ONE**

**The World in Spatial Terms**

1. How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information.
2. How to analyze the spatial organization of people, places, and environments on Earth’s surface.

### Arizona Geography Strand

**CONCEPT 1**

**World in Spatial Terms**

PO 3 Interpret maps, charts and geographic databases using geographic information.

### Other Arizona Standards

**Mathematics Common Core Standards**

**The Number System**

7.NS.1. Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addition and subtraction on a horizontal or vertical number line diagram.

a. Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged.

b. Understand \( p + q \) as the number located a distance \( |q| \) from \( p \), in the positive or negative direction depending on whether \( q \) is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts.

c. Understand subtraction of rational numbers as adding the additive inverse, \( p - q = p + (-q) \). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts.

d. Apply properties of operations as strategies to add and subtract rational numbers.

**Standards for Mathematical Practice**

7.MP.1. Make sense of problems and persevere in solving them.

### Overview

Students know that different places in the world have different times, but they may not understand how time zones work. Students may know that the time in other regions can be later or earlier than their own time. By understanding how time zones work, they will have a better grasp of the world in which we live.

### Purpose

In this lesson, students will learn to use a time zone map to calculate the time in various places in the world.
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Materials
- Standard Time Zones of the World map (transparency and student copies)
- Background Information on Time Zones
- Student Practice Sheet and Answer Key
- Student Assessment and Answer Key

Objectives
The student will be able to:

1. Calculate the time in various world locations using a time zone map.

Procedures
SESSION ONE
1. Ask the students if they have ever called someone and found that they were asleep or the business was not open because it was too early or too late for office hours. Discuss how they would feel if they were called and awakened or how they would feel if you wasted money on a phone call only to not reach anyone.
2. Then have the students read orally and discuss the Background Information on Time Zones section of the Student Practice Sheet.
3. The student will complete the practice section of the Student Practice Sheet.
4. The teacher and students will go over the answers on the Student Practice Sheet to ensure concepts are understood.

SESSION TWO
1. The student will complete the Student Assessment.

Assessment
Students will answer ten questions on time zones. Mastery for geography is 4 or more questions correct on questions 1-5. Mastery for math is 4 or more questions correct on questions 6-10.

Extensions
Using airline schedules and time zone maps, students could figure how long it takes to travel to various places.

Read the book, *Nine O’clock Lullaby* by Marilyn Singer, to students before, during, or after the lesson. It discusses time zones, and provides a good introduction, example, and reinforcement for the lesson. ISBN 0-064433196
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