



IN THE NEWS

THEN AND NOW

3.3.3

CURRICULAR FOCUS:
SOCIAL STUDIES, MATH, SCIENCE
GRADE LEVELS: 2-6

Faster. Faster! Faster!!

What travel technology will win the race around the world? It's the tortoise and the hare all over again — or is it?

Objective: Students representing the century's dominant forms of travel race each other around the world, learning important history lessons and practicing math facts in the process.

Background

No technology has undergone more fundamental change during the past 100 years than the methods people use to travel. In 1900, the automobile had just been invented and was still decades away from coming into widespread use. Flight meant balloons, not airplanes (the Wright brothers flew their plane at Kitty Hawk in 1903). Railroads and steamships were the dominant forms of transportation between cities, and both were unreliable, subject to weather conditions and undependable technology.

It's easy for children today to take the ease with which we travel great distances for granted. A simple trip to visit a friend or relative who lives 45 highway minutes away would have meant a two-day journey a hundred years ago. Today, business travelers routinely fly across the globe for meetings and back again a day later. Committing Miss Columbia to an around-the-world excursion in 1900, however, was an act of faith for her owner that must have been done with only partial confidence that she could complete such a journey. In this activity, children will engage in an around-the-world "race" that will demonstrate, when it comes to travel, exactly how far we've come.



Materials

- ◆ Tape measure or yardstick
- ◆ Paper and pens or pencils
- ◆ Construction paper, yarn, hole-punch to make signboards if desired

Getting Started

Ask your students about the last time they went anywhere that took longer than an hour by car. At older grade levels, work out some mileage totals by estimating miles-per-hour and calculating the distance of a few of the students' trips. Now ask them to estimate how long the same trip would have taken in the year 1900. How would they have traveled? (Presumably by horse, carriage, stage coach, or train.) How would their lives be different if a trip that takes an hour today were to take two days instead?

**FASTER. FASTER!
FASTER!!!****Procedures**

1. Brainstorm with the class a list of ways people traveled in 1900. Write them on the blackboard or on an easel pad. (See Box on page 89 if you need help.)
2. Ask the class to estimate how far each mode of transport could take a passenger in one hour. At this point, you can include a research component in this activity by asking students to check their estimates against facts they can find in any good encyclopedia — or you can simply use the table included on page 89. Create a table on the blackboard (or ask students to create their own) showing accurate measurements for an hour's worth of travel for each transportation mode, along with the distance one could travel using each mode for a day (assuming nonstop travel). Use the table included here as a model if you want, but part of the learning is asking the students to do the calculations themselves.
3. Divide the class into teams of two students each. Write the name of each mode of transportation on a slip of paper, and have each team draw a slip. (There should be as many slips as there are teams, even if you have to repeat some modes of transportation.) If you want, have teams create identities for themselves by making and wearing construction-paper signboards.
4. Tell the teams that their two members live exactly 60 miles away from each other. One member will take a trip to visit the other, using the mode of transportation they represent. On an "Around the World Travel Ticket" they can create, each team should calculate how long it will take to travel 60 miles using their mode of transportation. Each team should then do another calculation, pretending that each hour equals one minute (so they'll divide their first number by 60).
5. Ask one team member from each team to line up along one side of the classroom, and the other member to line up opposite their teammate along the opposite wall. (You may want to use a hallway or other open area for this exercise, if desks are in the way. You'll also want to mark off where the quarter, half, and three-quarter points are between the two lines of students.) Keeping time with a watch, set one line of students off on their "journey" towards the other line, calling out 5-second intervals as they proceed. Some students, representing jet plane travel, will literally need to race across the gap to symbolize the speed of their travel mode, while others will simply shuffle along. When one minute is up, call "Stop!" and compare where students using the same mode of transport ended up. If there is a wide variance, consider repeating the activity.
6. Talk with students about what they just experienced. Remind them that this was a *model*, and that they were using mathematics to help them visualize times and distances that would have been impossible to duplicate inside of a classroom during a school day. Were they surprised at the dramatic differences between the century-old and the modern modes of transportation? Ask them to think about this exercise the next time they hop in a car to visit a friend an hour away.



◆ **Extension:** You can connect this activity more explicitly to *Around the World with Miss Columbia* by turning your classroom into a “globe.” Designate one spot in your classroom as your home community, and other areas as destinations along a trip around the world. Use your mapped route of Miss Columbia’s journey if you’ve already completed Activity 3.3.2, or create your own itinerary (for example: London, Moscow, Tokyo, Honolulu, San Francisco, etc.). Using a scale on a world map, ask students to calculate the distances between your “destination points” along the proposed journey. Then have them propose and come up with a new ratio to make the worldwide journey workable within a given time period in their classroom. (Covering the 25,000-mile girth of the globe in a 60-mph car — if you could — would take 417 hours or about 37 days of nonstop driving. If each day were made to equal one minute, the trip would take 37 minutes. If each week of driving were made to equal one minute, the around-the-world tour would take a little more than five minutes.) Once the arithmetic is worked out and teams know how slowly (or quickly) they should proceed around the room, start them off from your classroom’s “home base.” You might designate one team to represent the speed of Miss Columbia’s journey, which took almost exactly 1000 days.

Modes of Travel

	Miles Per Hour	Global Trip*	If Week = Minute**
Walking	4	6250 hours	37 minutes
Jogging	8	3125 hours	19
Horseback/Carriage	15	1666 hours	10
Auto in 1900	15	1666 hours	10
Train in 1900	30	833 hours	5
Ship in 1900	20	1250 hours	7
Auto in 1950	50	500 hours	3
Propeller plane in 1950	250	100 hours	36 seconds
Auto in 2000	60	417 hours	2.5 minutes
Train in 2000	80	313 hours	2 minutes
Ship in 2000	40	625 hours	4 minutes
Jet Plane in 2000	500	50 hours	18 seconds
Supersonic plane in 2000	1200	21 hours	7 seconds

* 25,000-mile circumference of the Earth divided by the Miles-per-hour figure

** Global Trip figure divided by the 168 hours in a week = number of weeks taken for trip. So, if a student were to “walk around the world” in your classroom, using this scale he/she should take 37 minutes to walk the route, as it would take 37 weeks of nonstop walking to travel 25,000 miles. By comparison, the student representing the auto today would take 2.5 minutes and the student representing a supersonic plane would take just 7 seconds!