



**Darius Goes West “Know About It”  
LESSON PLAN**  
**Subject: MATHEMATICS**  
**Age range: 6th - 12th grade**  
**Created by: Doug Hatch**

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## **Darius Went West...Now Bring Him and the Crew to Your Town**

**(Measurements, Fractions, Percents)**

### **OVERVIEW**

This lesson provides students with the opportunity to apply mathematical skills while planning a trip from Athens, Georgia, to their home town and to compare their estimates of categorical costs to those of the actual trip documented in *Darius Goes West: The Roll of His Life*.

### **LESSON OBJECTIVES**

Students will:

- 1) Apply their knowledge of **measurement** to plan a route to bring Darius and the Crew from Athens, Georgia, to their hometown.
- 2) Brainstorm cost categories for such a trip.
- 3) Research cost categories and estimate a dollar amount for each category.
- 4) Apply their understanding of **fractions** and **percents** to compare their estimates to those of the actual Darius Goes West Adventure.

### **Inclusion**

Each Learning Objective is correlated to the NCTM’s Focal Points as a guide to identifying which of your state’s standard(s) best fits this lesson. The Focal Points are vertically aligned across grade levels. Instructors may differentiate instruction by matching an individual learner’s estimated level of performance with the appropriate Focal Point.

[http://www.nctmmedia.org/cfp/focal\\_points\\_by\\_grade.pdf](http://www.nctmmedia.org/cfp/focal_points_by_grade.pdf)

### **MATERIALS/PREPARATION**

For this lesson plan, you will need:

1. DVD of *Darius Goes West: The Roll of His Life*
2. Road maps to plan the route
3. “Budget Categories” worksheets to organize the activity (see Math Addendum)
4. Internet or phone access to research cost categories.
5. “Budget Comparison” sheet to compare costs by percent of total (see Math Addendum)

## INSTRUCTIONAL PLAN

Review or recap the movie *Darius Goes West: The Roll of His Life*. Highlight their itinerary:

7/22	Athens, GA to Panama City, FL	350 miles
7/23	Panama City, FL to New Orleans, LA	300 miles
7/24	New Orleans, LA to San Antonio, TX (This is where the RV broke down.)	550 miles
7/25	San Antonio, TX to Carlsbad, NM	500 miles
7/26	Carlsbad, NM to Flagstaff, AZ	800 miles
7/27	Flagstaff, AZ to Grand Canyon Nat'l Park	80 miles
7/28	Grand Canyon Nat'l Park to Las Vegas, NV	270 miles
7/29	Overnight in Las Vegas	
7/30	Las Vegas, NV to Temecula, CA	300 miles
7/31	Temecula, CA to San Diego, CA	60 miles
8/01	San Diego, CA to Los Angeles, CA	120 miles
8/02	Overnight in Los Angeles	
8/03	Overnight in Los Angeles	
8/04	Los Angeles, CA to San Francisco, CA	400 miles
8/05	Overnight in San Francisco	
8/06	San Francisco, CA to Elko, NV	500 miles
8/07	Elko, NV to Laramie, WY	600 miles
8/08	Laramie, WY to Vail, CO	250 miles
8/09	Vail, CO to Kansas City, MO	700 miles
8/10	Kansas City, MO to St. Louis, MO	300 miles
8/11	Overnight in St. Louis	
8/12	St. Louis, MO to Cookeville, TN	400 miles
8/13	Cookeville, TN to Chattanooga, TN	100 miles
8/14	Chattanooga, TN to Atlanta, GA	60 miles
	Atlanta, GA to Athens, GA	70 miles

23 nights / 24 days; approximately 7,000 miles

Resources: Itinerary as Power Point slide (see Addendum)

*Inclusion: NCTM Grade 2 — Measurement*

## LEARNING ACTIVITIES AND DISCUSSIONS

### 1. Plan a route to your hometown from Athens, GA.

Darius and the Crew didn't just "Go West" — they stopped at interesting places along the way. Brainstorm with your students about interesting places along your route.

Don't forget about accessibility – Darius and the Crew found out that some places along their route were difficult, if not impossible, for Darius to use. Brainstorm with your students about how they could find out about accessibility along the route you planned. Most tourist destinations have web sites. There may be a Center for Independent Living near you. They

have information on accessibility and a wide range of other topics of interest. A list of Centers is available at: <http://www.ilusa.com/links/ilcenters.htm>

There are about 500 Centers in the United States, helping people with disabilities live independently in their own communities.

Lead the class towards finding the total mileage round trip. A good resource for this is: <http://maps.google.com/maps>

*Inclusion: NCTM Grade 2 – Measurement, Grade 6 — Algebra*

## 2. Brainstorm with your students about costs for such a trip.

All trips need planning, but this one had some special considerations. Brainstorm with your students about the following:

- A. Why was such a large RV needed? Darius not only needed a vehicle with a wheelchair lift, but it needed to be large enough inside for him to drive his power chair – wide aisles, wide doorways, no crowded placement of furniture, etc. AND, it had to act as “Command Central” out on the road..
- B. Why 12 guys? Darius, obviously, + someone to help Darius do those things he had difficulty doing, i.e. getting dressed + RV driver. That’s 3 people. Why the other 9? The trip was filmed. Many of the additional people served as film crew. But, most importantly, this was a group of FRIENDS taking a road trip! They didn’t want to leave friends behind!

Help your students develop the following budget categories:

- \* Gas for the RV – 1 huge van, with wheelchair lift for Darius and half the Crew
- \* Gas for the minivan – smaller vehicle for the rest of the Crew
- \* Lodging – stayed in a lot of motels
- \* Campsites – a couple of nights, just for fun
- \* Food – 12 guys . . . lots of food!
- \* Miscellaneous fees (national park fees, theme park entrance fees)
- \* Other stuff (souvenirs, etc.)

Fill in these categories on the “Budget Categories” worksheet and Power Point slide (see Addendum)

## 3. Investigate a total cost figure for each budget category

Working as a class or in small groups, investigate each category at school or at home – what is the current cost of gas per gallon? What do area motel rooms cost per night? The Crew used the following estimates:

Gas for the RV ..... 7000 miles ÷ 5 mpg X \$2.63/gallon

Gas for the minivan ..... 7000 miles ÷ 20 mpg X \$2.63/gallon

Lodging ..... 3 rooms per night (4 guys per room) X 20 nights  
X average room cost of \$70 per night

Campsites .....	2 sites per night (6 guys per site) X 3 nights X average site cost of \$45 per night
Food .....	\$6 breakfast + \$8 lunch + \$10 Dinner + \$3 snacks = \$27 per day X 24 days X 12 guys
Miscellaneous fees (national park fees, theme park entrance fees) .....	total of \$2,050
Other stuff (souvenirs, etc.) .....	\$25 per day X 24 days

Resources: Fill in estimates on the “Budget Categories” worksheet (See Addendum).

**4. Guide students as a class to finalize costs per category and come up with a grand total.**

Guide a class discussion about the possibility of comparing your class budget to the actual budget. Discuss that direct comparison will not work since each budget is based on different mileage, number of days, etc. Guide the discussion towards looking at each budget category as part of the grand total, expressed as percent. Each category may then be compared to the actual budget.

Resources: Excel Spreadsheet (see Addendum)

*Inclusion: NCTM Grade 3 – Number and Operation, Grade 6 – Number and Operation, Grade 7 – Number and Operation, Algebra and Geometry*

**ADDITIONAL MATHEMATICS QUESTIONS**

Assign these as homework or discuss in class:

1. Duchenne is the most common and most severe form of muscular dystrophy. It has a 100% fatality rate, with most children dying in their late teens or early twenties. DMD affects boys of every ethnicity and geographic location.

Approximately one in 3,500 boys is born with DMD. This is called the “incidence rate”, a ratio. We commonly see ratios written in any of the following ways:

- 1:3500
- 1 to 3500
- 1 out of 3500
- 1/3500
- 1 per 3500

Use this ratio in a proportion to find out how many male students in your school may have DMD? How many in your town? Your school district?

2. When the Crew returned to Atlanta, Darius called his Mom. She wanted him to come on into Athens. She said, “I’ll walk to Atlanta!” That’s about a 70 mile walk! How long would it have taken her to walk to Atlanta? Measure your comfortable walking pace to get an estimate.
3. There are many routes from the state line to your school. Each route is of a certain distance and takes a certain amount of time. Determine the optimum route to bring Darius and the Crew from the state line to your school based on minimal distance and minimal time. Consider that some routes may be shorter in distance, but longer in time because of traffic. How can you take this into account?

4. ***Pimp his ride*** – Design a cool power chair. What are some of the design requirements you need to think about? Are there “wheelers” at your school? How about a cool design for them??
5. By raising awareness of DMD, *Darius Goes West* also hopes to raise money, and any profits from the film will be funneled directly into DMD research. Historically, most of the funds raised for DMD have subsidized the tremendous cost of caring for children with this brutal disease, not research to cure it. This film’s profits will be donated to Charley’s Fund ([www.charleystfund.org](http://www.charleystfund.org)), a nonprofit that directs money into the hands of researchers who have the best shot at developing a treatment or cure for DMD. Medical experts agree that for the first time in the history of DMD, the time is ripe for a major breakthrough. Over the past two years, scientists have made significant advances in molecular medicine and gene therapy. Major biotech and pharmaceutical companies are now investing in research that will bring DMD therapies to the market.

Holding an event is one way of raising money. On the [charleystfund.org](http://charleystfund.org) website is a link (<http://charleystfund.org/events.php>) to events which have raised money for research. What kind of event could you hold in your town to raise money for research? How many people might show up? How much money could you raise? Remember that there may be things you have to pay for just to hold the event, like printing posters, renting a location, etc.

## **ABOUT THE AUTHOR**

**Doug Hatch** is a math teacher at Cedar Shoals High School in Athens, Georgia. He also teaches math and sociology at Athens Technical College. Mr. Hatch taught Darius in middle school and worked with him as he learned to use a wheelchair. As an old pro, he felt he could pass along some wheeler tricks as Darius learned to use his new ride.

Mr. Hatch has been involved in community change efforts in Athens for a number of years. The one nearest to his heart is the independent living movement. “One lesson we can learn from that movement and *Darius and the Crew* is that we can adapt and deal with anything in life that comes our way,” he says. “Find your wheels and get back on the road so your wheels never stop spinning!”