

Engaging K-12 Students & Teachers in Learning About TRANSPORTATION

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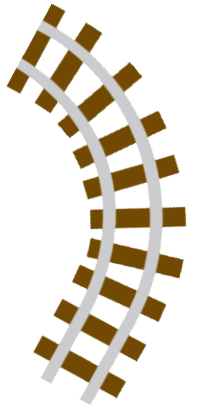
5-Day Summer Teacher Institute
Great Lakes Maritime Transportation



Teacher Workshops in Detroit



Transportation Lessons developed by Teacher Workshop Participants (Spring 2015)



1. *Take a Boat or Take a Train!* by Maris Bakker, Detroit Public Schools (Pre-Kindergarten)
2. *Freighters and the Great Lakes* by Patience Raiford, Detroit Public Schools (Pre-K & Kindergarten)
3. *Wheels on the Bus* by Yolanda Massey, Detroit Public Schools (Kindergarten)
4. *Stop. Look. Listen: How to Cross the Road Safely* by Linda Yousif, Detroit Public Schools (2nd Gr., Social Studies)
5. *Designing A Safe Intersection for Cars & People* by Theresa Clayton, Detroit Public Schools
(3rd Grade, Social Studies or Math)
6. *Traffic Safety & Service Learning in Our Community* by Megan Gschwender, Detroit Public Schools
(5th Grade, Math or Social Studies)
7. *Analyzing Traffic Data* by Virginia Callaghan, Detroit Public Schools
(8th grade Science)



Family Transportation Activity Night



| Chassell Elementary School K-6 Family Transportation Night Activities Roads, Rails, Ships & Planes ~ 6:00-7:45 pm, Thursday, April 11, 2013 ~ | | |
|--|---|--|
| School Contact: Kirsten George Stockero, Superintendent 323-4491 | | |
| 6:00-6:25 pm Short Activities | Cafeteria | Joan Chaddie |
| Traffic Counter Tools | Make a traffic sign, speed radar, intersection counter, packaging, Pam Engrin | 1 Nick Lanoue, Civil Engin & REAC student |
| Family Engineering Openers | Against the Wind Boxing Beams Learning from Failure/Floating a Boat Let's Communicate What Do Engineers Do? Who Engineered It? Wrap It Up | All |
| 6:30-7:05 pm & 7:10-7:45 pm | Room Location | Presenters |
| K-1 Activities | | |
| 1. Make a Hoop Glider! | 101 | Nick Lanoue, Civil Engin & REAC student |
| 2. Five Points Traffic Jam | 102 | Kara Oikarainen, Superior AmeriCorps/WUP Math/Science Center |
| Gr. 2-3 Activities | | |
| 1. Plot the Path | 103 | Britney Fowler, Clinical Lab Sci YES (will drive) |
| 2. Blast Off | 104 | |
| Gr. 4-6 Activities | | |
| 1. In the Driver's Seat | 106 | Michelle Miller, Western UP Math/Science Center |
| 2. Building Bridges | 106 | Sarah Reed, Civil Engin |

Family Transportation Activity Fun Night

Events begin at
5:15-6:00 pm with a
P.T.O. raffle &
Hounds gear sale

6:00-8:00 pm
Hands-on activities &
TWO interactive labs

8:00-8:15 pm
Cookies & Punch

Ocean Springs Upper
Elementary School
2320 Government St.
Ocean Springs, MS 39564
P: 228-875-4367

**PTO
Raffle!**

**REGISTER
YOUR FAMILY BY
FEB. 18 !!**

Hands on investigations!

5:15-5:55PM ~ Hounds Spirit
Store & PTO Raffle tickets
Snacks!

**Transportation & Engineering
Family Activity Fun Night!**

6:00-8:00 PM, Tuesday, Feb. 25

Coordinated by

Michigan Tech
Michigan Technological University



Hands On Activities (on your own in the cafeteria)

- ♦ Against the Wind
- ♦ Boxing Beans
- ♦ Soundproof Package
- ♦ Let's Communicate
- ♦ What Do Engineers Do
- ♦ Who Engineered It
- ♦ Make A Traffic Sign
- ♦ Intersection Car Counter

PLUS

**TWO very cool 35-minute learning
labs in classroom groups of 25!**

- ♦ Learning From Failure
- ♦ Boats or Trains?
- ♦ Label the Parts of a Ship
- ♦ Wrap It Up
- ♦ Who Engineered It?
- ♦ Match Cargoes & Products
- ♦ Speed Radar
- ♦ What Does the Captain of Ship Need?



Registration Information

Tear off this portion and return to your teacher; keep the top portion as a reminder.

Students' Names _____ Number of adults attending _____

Homeroom Teacher _____ Parent Signature _____



Great Lakes Maritime Transportation Activity Kit



Cost \$500 without grant; \$150 with grant.

Contents List:

- Great Lakes floor map with port labels
- Posters
- DVDs
- Activity Guides
- Children's tradebooks
- Cargo samples



New! Transportation Activity Kit

HANDS-ON TEACHING SUPPLIES

Bagged samples of cargo shipped: Bananas, Coal, Containers,

Limestone, Salt, Sand, Taconite, Wheat

Ship "Saltie" (bulk carrier)

Train

Semi-truck

Airplane



CHILDREN'S LITERATURE

Planes

Eyewitness books: Flight

Trains

Eyewitness Books: Train

My Big Train Book, by Roger Priddy

Maritime

The Great St. Lawrence Seaway by Gail Gibbons

Trucks & Automobiles

Drawing Book of Trucks and Trains by Ed Emberly

Eyewitness Books: Car

Careers in Transportation, by Diane Dakers

Eyewitness Books: Transportation

NOTEBOOK OF LESSONS

Short Opener Activities (supplies provided)

Label the Parts of a Ship

Make a Traffic Sign

Match the Cargoes & Products

What Does A Mariner Need?

Activities from Family Engineering Activity & Event

Planning Guide:

Learning from Failure

Let's Communicate

Classroom Lessons (supplies provided)

Five Points Traffic Jam

Packaging Bananas

Plot the Path Into the Harbor

What Floats Your Boat?

Posters

Diagram of the Parts of a Ship & labels

BNSF railway intermodal map

RITA Intermodal Transportation Map

Highway Signs Poster

U.S. Map poster showing highways, rail, ports, airports

BNSF Intermodal maps

Transportation Summer Camp: Gr. 1-3 & 4-6



Electric train; Maglev track; online RR shunting game; design boats, planes, and cars; traffic management; and more.



6TH ANNUAL SUMMER YOUTH PROGRAM RAIL & INTERMODAL TRANSPORTATION

JULY 26 TO
AUGUST 1, 2015



PLEASE JOIN US FOR A FANTASTIC WEEKLONG EXPLORATION!

Rail and Intermodal Transportation Explorations all week long! Hands on and classroom activities. Explore how ballast affects rail stability! Operate a computer locomotive simulator! Investigate logistics management operations! Classroom and field trip experiences in Michigan, Wisconsin and Minnesota!

SPACE IS LIMITED, SO SIGN UP EARLY!
APPLICATION DEADLINE IS MAY 2
FULL SCHOLARSHIPS PROVIDED!

Information and applications available at Michigan Tech Summer Youth Program site:
[HTTP://WWW.SYP.MTU.EDU/COURSES-SCHOLARSHIP.PHP](http://www.syp.mtu.edu/courses-scholarship.php)

[GRADES 9 -11]



PAST FIELD VISITS HAVE INCLUDED:

- BNSF** - Railyards, freight dispatch center, car and locomotive shop
- LS&I Railroad** - Locomotive shop, open pit mine activity, ore dock and yard facilities
- Halvor Lines** - Freight dispatch center, truck maintenance shop, truck driving simulator, truck cab experience
- CN** - Ore dock, interface between rail and marine transportation systems ... 80 feet above the water level!
- North Shore Scenic Railroad** - Train ride and visit to the best railroad museum in the midwest

QUESTIONS? CONTACT US:

David Nelson, dannelso@mtu.edu,
906-487-1734;

or Please Visit: <http://www.rail.mtu.edu/summer-youth.html>

HOSTED BY:



PROGRAM SPONSORS:



New! Interactive Web Module

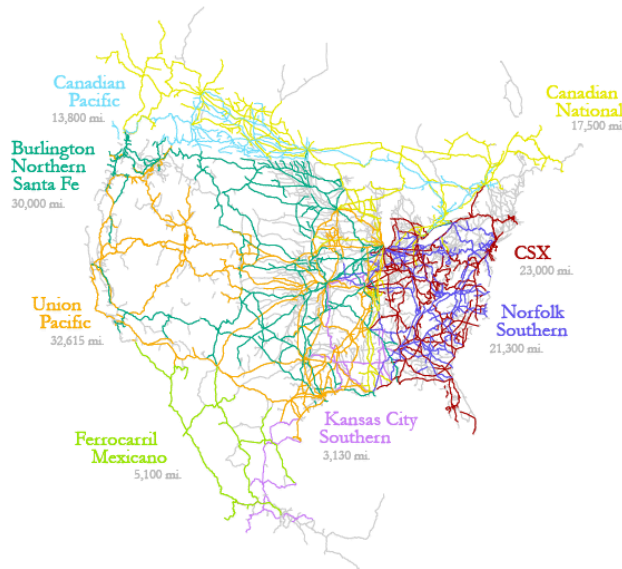
Educational Materials

What is Intermodal Transportation?

Find out how different modes of transportation are used to transport a good from
A raw material to a finished product delivered to your door.

Transportation:

Transportation is the movement of passengers or freight from one location to another, by the use of automobiles and railways on land, ships at sea and planes in the air.



Inter-Modal Transportation:

Inter-modal transportation involves the movement of passengers or freight using two or more modes of transportation. For freight, the cargo is containerized and does not need to be handled in-between modes of transport, only the load unit such as a pallet or container is carried.

Rail

Air

Highways

Maritime

Click on a button to see the transportation routes throughout the United States.

Related modules: <http://techalive.mtu.edu/series.htm>



Train



Educational Materials

Plane



How will your
"stuff"
get to you?



Ship



Packaging
Materials



Truck



MichiganTech



There are many ways to reach K-12 students, directly & indirectly:

- Summer teacher institutes and school-year teacher workshops
- Lesson plans that meet NGSS & Common Core
- Transportation events— Family Transportation Activity Nights, etc.
- After school classes, summer camps, STEM explorations
- Classroom materials—activity kits, posters, powerpoints, web modules



Michigan Tech

FOR MORE INFORMATION:

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Online: http://wupcenter.mtu.edu/education/great_lakes_maritime/index.htm

<http://www.wistrans.org/cfire/education/k-12/>