What is on the dice?

Die 1: Density of habitat

Downtown (businesses with lots of Mail)

Apartment buildings (dense condos)

Townhouses (dense small houses)

Suburbia (lots of small houses)

Factories and Malls (big businesses far away from each other)

Rural America (few houses in a large territory)

Die 2: Volume of Mail

10 pounds

20 pounds

50 pounds

100 pounds

500 pounds

1,000 pounds

Die3: Landscape

Very flat (Florida)

Hills (San Francisco)

Mountains & snow (Colorado)

Islands (Hawaii)

Alaska

Swampy (Louisiana)

Die 4: Distance from the Post Office:

1 mile

2 miles

3 miles

4 miles

5 miles

6 miles

Tip:

You can decorate or write on the dice to translate these ideas. Nice way to adapt: visitors can choose to use as many dice/parameters as they want! For younger kids, start out with just one die!

Rocky Roads: Going Green on the Mean Streets

General idea:

From dirt roads to super highways, mountainous country to flat land, and dense neighborhoods to scattered ranches, every home and business receives mail. Figuring out how to get it there is a challenging job! "Green" transportation like feet, bikes, or electric vehicles may not be an option in certain environments. (Want to ride a Segway up a mountain in the snow?) When plotting the path a mail carrier takes to deliver mail to each address (a postal route) and the vehicle they use to get it there, many factors affect your choices. Roll the dice to find out what your delivery region is like and then hop into the driver's seat! (It might be a bumpy ride!)

Audience:

- Families
  - For younger kids, consider using just one or two sets of factors and vehicles.
  - For adults and older visitors, challenge them to think of additional factors!

Goal:

- America is a big country with a lot of mail!
- When plotting a postal route in any region, many factors impact your vehicle choice.
- "Green" vehicles are not always an option when confronting environmental challenges.

Materials:

- Four large dice. Each die represents a factor of postal routes that impacts vehicle choice, such as Distance from the Post Office, Landscape, Volume of Mail, and Density of Habitat. ("What is on the Dice?" explains how to label them.) Note: if you don't have dice, use index cards labeled with each factor.
- Vehicle ID cards containing a photo of each vehicle and essential facts.

Checklist:

- ○ Imagine that you are planning a postal route around the Postal Museum. What types of vehicles would be best for this environment, considering the landscape, density, etc. Would "green" transportation be possible in this area?
- ○ Imagine that you are planning a postal route in a mountainous, snowy region very far from the closest post office. What types of vehicles would be best for this environment? What about "green" transportation?
- ○ Get familiar with the factors impacting postal routes and the menu of vehicle options.
- ○ Design your dice
- ○ Create a sign explaining the benefits and drawbacks of each vehicle

What do you need to know?

Many parameters are used to both design mail routes and pick the perfect vehicles to ride them. The parameters used in this activity are examples of what USPS might consider.

Postal Fun facts:

203 billion: Total mail volume processed in 2008, in pieces

221,000: Number of vehicles in our fleet — the largest civilian fleet in the world

1.2 billion: Number of miles driven each year by letter carriers and professional truck drivers

121 million: Number of gallons of fuel used in 2008

USPS operate the world's largest fleet of **alternative fuel-capable vehicles** — **more than 43,000** — that can use clean fuels such as ethanol, compressed natural gas, liquid propane gas, electricity and bio-diesel.

Electric vehicles have been delivering mail in New York City since 2001.

USPS is constantly **streamlining mail delivery routes** to reduce driving time and fuel consumption.

USPS has a "fleet of feet," delivering in the most environmentally friendly way possible. More than 10,000 letter carriers never get in a vehicle at all.

The Postal Service moves mail using planes, trains, trucks, cars, boats, ferries, helicopters, subways, float planes, hovercrafts, T-3s, street cars, mules, bicycles and human feet.

Most Unusual Delivery Method — mule trains in Arizona. Each mule carries about 130 pounds of mail, food, supplies and furniture down the 8-mile trail to the Havasupai Indians, averaging 41,000 pounds per week.

Another Unusual Delivery Method — the JW Westcott is a 45-foot contract mail boat out of Detroit, MI, that delivers mail to ships passing by the Detroit River. The JW Westcott even has its own ZIP Code (48222).

The longest rural delivery route in the country is 176.7 miles in Fordville, ND.

Most Isolated — Located in the farthest reaches of northern Alaska, the Anaktuvuk Pass Post Office is the only link to the outside world for the residents who live there. There are no roads to the town and everything must be flown in. (So how do they order pizza?)

Connections?

What if you could design your own mail vehicle? Go visit the Invention Lab!