During the past 12 weeks, bestology has dug into the history, exploration and excavation of various mined commodities. Since BEST mimics business and industry, the next step is to transport and deliver the product to the buyer.

The majority of real-world mined products are transported in bulk, i.e., coal, iron ore, salt, lithium. The modes of transport often include sea, road, rail, pipeline and air. Choosing the most efficient transport system must be based on a sound business decision.

Let’s move forward to deliver our bestology-mined products!

**Resources:**

- Transporting Mined Materials and Minerals
- Safe handling and transport of Lithium
- Coal Transportation
- Bombardier Products
- Tanker Ships – According to Encyclopedia Britannica
- MacGregor Gravity System in Ships
- Hopper Railcar – According to Wikipedia
- Transportation Costs and International Trade
- Freight Rate – According to Wikipedia
- Supply Chain Management – According to Wikipedia
- The Geography of Transport Systems
- Freight Rate Calculator
- Glossary of Freight Terms
- State Facts Sheet – list of commodities and more
- International Imports and Exports listed by State
- Reports list for each State of the Impact of Foreign Trade
- Freight 101

**Data Mining:** Many jobs and careers are associated with the transport of mined commodities such as ship captains, truck drivers, pilots, supply chain managers, etc. Brainstorm and list all of the careers associated with the transport of the following products: lithium, coal, salt and iron ore. Research and identify the training or education needed to be successful at each career.
Writing: Create a Microsoft Excel spreadsheet. Title your spreadsheet as *Evaluating Efficient Modes of Transportation*. Label six cells on the Y-axis (mode of transport): ship, barge, train, truck, airplane, and pipeline. Label four cells on the X-axis (commodity to be transported): coal, salt, lithium, and iron ore. Complete the chart by filling in each cell of whether the mode of transport is feasible for the commodity. For example, coal can be transported by ship but not by air. Take into consideration the load method, load time, weight of product, safety during transport and whether each mode of transportation is realistic. Based on your final evaluation, highlight in red your recommended transport mode for each commodity. Research real-world transport systems and compare/contrast with your spreadsheet.

Challenge: Why does UPS restrict the shipping of lithium batteries? What is the potential danger when lithium batteries are exposed to water or high humidity. How is the mode of transportation impacted by the reactive properties of this metal?

BEST Connection: Pay Dirt, a mining game, will challenge BEST teams from across the nation this fall. Search the internet for photos and videos of previous BEST robots and assess the effectiveness of their design system for:

- Hauling
- Dumping
- Lifting heavy objects
- Grasping objects of various sizes
- Maneuvering around obstacles
- Rapid collection of game pieces
- Performing refined movements

Using various design ideas found on the web, sketch new innovative designs. Review the 2014 BEST Consumable Kit List and select possible materials to create each design. Save each sketch and review once Kick-Off Day has taken place. Include your sketches as a visual in your team’s exhibit booth!

Challenge: Advance your sketches from paper and pencil to SolidWorks drawings. Include measurements and materials to be used.

Community Connection: Each community in America has natural resources and many of these resources are mined to be used locally as well as being exported to other states or countries. Determine what mined commodities are exported from your community and the mode of transport used. Embracing the “T” in BEST (technology), schedule a Skype meeting with a local export company. Interview the Skype guest to determine the exported natural resources, the mode of transport, the final destination and the end user.
Bloom's Taxonomy: assess, brainstorm, choose, compare, complete, consider, contrast, create, determine, find, identify, include, interview, label, list, research, review, save, schedule, search, select, sketch, title.

Workforce Skills: reading comprehension, active listening, critical thinking, speaking, active learning, writing, systems analysis, materials selection and evaluation, science, judgment and decision making

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