HISTORIC DUMFRIES VA & THE WEEMS-BOTTS MUSEUM

PWC INDUSTRIAL HISTORY

CHILDREN'S DAY AT THE MUSEUM SPONSORED BY WALMART

SATURDAY, 04/18/2020

INDUSTRIAL REVOLUTION: NATIONAL

- First Industrial Revolution (Great Britain & Europe): 1750-1850
- Second Industrial Revolution (America): 1850-1914
  - Spread to America & trended in late 1700s – early 1800s
  - New inventions replaced local craftspeople & artisans
    - Better transportation allowed mass movement of raw materials, supplies and workers
  - Lower income families & children labored in those new industries – often with poor & unregulated working conditions with low/none safety measures

Photo Source: Boys repairing broken threads on machinery, George Textile Mill, 1909, Photographed by Lewis Hine, Library of Congress.

INDUSTRIAL REVOLUTION: LOCAL/REGIONAL

- Neabsco Company, Neabsco Iron Foundry, 1730-1820
  - Established in 1737 by John Tayloe I due to iron shortage in Great Britain
  - Operations: Farming, leatherworking, milling, shipbuilding, shoemaking, smithing, supplied raw materials for weapons during Revolutionary War
  - John Tayloe II purchased Occoquon Ironworks in 1756 eventually combining it with Neabsco
  - Declined in 1770s due to lack of natural resources, silting of Creek, better more efficient/modern ironworks elsewhere
  - Sources: Prince William County, primary sources (letters, business ledgers, runaway ads for enslaved persons, ads)
  - PWC Video: https://www.youtube.com/watch?time_continue=8&v=-IsdV3OUE64&feature=emb_logo

Photo Source: Site and remains of Tayloe's Iron Works, Historical Marker Database, 2007

ACTIVITY: COOKIE MINING

- Supplies: Chocolate Chip Cookie, Paper, Toothpicks, Paper Clips, Graph Paper (can be improvised)

- Goal: Carefully extract the chocolate chips from the cookie with your toothpick without breaking the cookie!

- Instructions from Earth Science Week:
  - The Weems-Botts Museum is *providing* you with $19.00 to start your operation!
  - Outline your cookie on the graph paper and leave it there – do not pick it up.
  - Take your toothpick and use it only to mine the chips – no fingers!
  - Advanced & Older Children: Complete the following table to see if you profited from this tasty venture!

Price of Cookie	(depends on type, Chips Ahoy: $5.00, Chips Deluxe: $7.00
Size of Cookie	(# of squares covered by cookie)
Equipment Used	(# of toothpicks, x $3.00)
	(# of paper clips, x $6.00)
Cost of removing chips	(minutes spent mining, x $1.00)
Total cost of mining (Add Rows 1-5)	
Total value of mined chips	(# of chips)
Reclamation costs (every square over original counted)	(# of squares over)
Did you make more than the total mining cost?	
You started with…	$19.00
	-
Total cost of mining	
	+
Total value of chips	
	-
Reclamation Costs	
Profit or Loss	=

COOKIE MINING WORKSHEET: PROFIT OR LOSS?

THANKS FOR DOING BUSINESS WITH THE WEEMS-BOTTS!

ACTIVITY FOR LATER: GUMDROP DOME

- Supplies: Toothpicks, Gumdrops (or other softer/jellied candies)

- Goal: Construct a "geodesic" dome using your toothpicks and candies and observe what shapes and patterns work the best = constructing a stable dome!

- Instructions from PBS Kids: Engineer's Notebook:
  - Use gumdrops to connect 5 toothpicks in ring – this is your base
  - Use 2 toothpicks and 1 candy to make a triangle on one side of the base.
  - Repeat all the way around the base until you have 5 triangles.
  - Use toothpicks to connect gumdrops at the tops of the triangles. How many traingles do you have?
  - Push 1 toothpick into each of the top gumdrops.
  - Use one last gumdrop to connect these toothpicks at the top.
  - Now – try different shapes! Make your own and see how or if it holds together!
  - Why is a "geodesic" dome so stable?

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