Welcome!

Please introduce yourself in the chat and tell us, did you learn about finance growing up?
A Focus on Finance for Engaging Elementary-Aged Girls

May 16, 2024
NGCP Vision

The vision of the National Girls Collaborative Project is to support and create STEM experiences that are as diverse as the world we live in.
Our Goals

Connect + Create + Collaborate

1. Build and sustain a network of advocates to provide equitable and inclusive STEM opportunities.

2. Catalyze equity in STEM from research to practice by providing actionable knowledge that transforms the STEM experience.

3. Increase our collective impact by strengthening organizational effectiveness and enhancing our fiscal sustainability.

A Focus on Finance for Engaging Elementary-Aged Girls
NGCP Resources

• National Webinars
  o Monthly on relevant topics, speakers include educators, researchers, authors, and diverse STEM professionals

• Monthly Newsletter
  o National events, STEM resources for girls and youth, professional development opportunities for educators, and research and reports

• NGCP Website
  o Exemplary Practices pages on Engaging Girls in STEM and Access and Equity, blog posts, and statistics and research related to girls and women in STEM
A FOCUS ON FINANCE FOR ENGAGING ELEMENTARY-AGED GIRLS

MAY 16, 2024
11:30 AM PT/2:30 pm ET
Girls and Math

Girls/women and boys/men do not differ in mathematics ability, but research has shown…

• Teachers and parents often underestimate girls’ math abilities.
• Parents talk more about spatial relations and use spatial language with boys than girls.
• Girls are hard on themselves. They self-assess lower than boys with similar math achievement.
• Teachers — who are predominantly women in early education and elementary schools — often have their own anxiety about math that they pass on to girls.

Source: The AAUW’s “Fast Facts: Early Barriers to Girls and Women in STEM”
Early Exposure

• Early exposure to hands-on math can….
  • Build girls’ STEM confidence and competence
  • Counter STEM stereotypes

• Exploring mathematics concepts through the lens of finance can…
  • Teach math concepts in concrete ways
  • Explore math with relatable real-world contexts
  • Help girls develop the skills necessary to achieve financial success later in life
Jackie Morgan
Outreach Senior Adviser
The Federal Reserve Bank of Atlanta – Nashville Branch
A Focus on Finance for Engaging Elementary-Aged Girls
Discussion

Question...

Which is bigger – a penny or a dime?
Discussion Question...

Which is bigger – a penny or a dime?

https://www.richmondfed.org/education/for_teachers/topics/my_money
<table>
<thead>
<tr>
<th>Denomination</th>
<th>Cent</th>
<th>Nickel</th>
<th>Dime</th>
<th>Quarter Dollar</th>
<th>Half Dollar</th>
<th>Dollar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Composition</td>
<td>Copper Plated Zinc</td>
<td>Cupro-Nickel</td>
<td>Cupro-Nickel</td>
<td>Cupro-Nickel</td>
<td>Cupro-Nickel</td>
<td>Manganese-Brass</td>
</tr>
<tr>
<td></td>
<td>2.5% Cu Balance Zn</td>
<td>25% Ni Balance Cu</td>
<td>8.33% Ni Balance Cu</td>
<td>8.33% Ni Balance Cu</td>
<td>8.33% Ni Balance Cu</td>
<td>88.5% Cu 6% Zn 3.5% Mn 2% Ni</td>
</tr>
<tr>
<td>Weight</td>
<td>2.500 g</td>
<td>5.000 g</td>
<td>2.268 g</td>
<td>5.670 g</td>
<td>11.340 g</td>
<td>81 g</td>
</tr>
<tr>
<td>Diameter</td>
<td>0.750 in. 19.05 mm</td>
<td>0.835 in. 21.21 mm</td>
<td>0.705 in. 17.91 mm</td>
<td>0.955 in. 24.26 mm</td>
<td>1.205 in. 30.61 mm</td>
<td>1.043 in. 26.49 mm</td>
</tr>
<tr>
<td>Thickness</td>
<td>1.52 mm</td>
<td>1.95 mm</td>
<td>1.35 mm</td>
<td>1.75 mm</td>
<td>2.15 mm</td>
<td>2.00 mm</td>
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<tr>
<td>Edge</td>
<td>Plain</td>
<td>Plain</td>
<td>Reeded</td>
<td>Reeded</td>
<td>Reeded</td>
<td>Edge-Lettering</td>
</tr>
<tr>
<td>No. of Reeds</td>
<td>N/A</td>
<td>N/A</td>
<td>118</td>
<td>119</td>
<td>150</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Example Inquiry Questions:
- Stacked on top of each other, how many nickels would it take to equal the height of the Washington Monument?
- Laid side by side, how many quarters would it take to circle the globe at the equator?

https://www.usmint.gov/learn/coin-and-medal-programs/coin-specifications
Educational workbook

Topics: Money, coin equivalents, jobs, goods, services, barter

PDF and print (no charge)

English & Spanish
### Characteristics of Money

**Divisible**
Money can be easily divided.

**Portable**
Money is easy to carry around.

**Durable**
Money does not wear out easily.

**Scarce**
Money is limited in supply.

**Generally Accepted**
Money can be used to buy goods and services.

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<table>
<thead>
<tr>
<th>Item</th>
<th>Portable</th>
<th>Divisible</th>
<th>Durable</th>
<th>Scarce</th>
<th>Generally Accepted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crayon/Marker</td>
<td>✓</td>
<td>✓</td>
<td>?</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Salt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chocolate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Book</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beads</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desk</td>
<td></td>
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</tr>
</tbody>
</table>

https://www.richmondfed.org/education/for_teachers/topics/my_money
My Money

Coin Comparison - Venn Diagrams

INSTRUCTIONS: Compare the coins below. List how the coins are different in the outside of the circles, and how the coins are alike where the circles overlap. The first one has been done for you.

- Penny
  - Round
  - Lincoln on front
  - Shield on back
  - Worth 1 cent

- Nickel
  - Gray
  - Jefferson on front
  - Building on back
  - Worth 5 cents

- Dime
  - Round
  - Roosevelt on front
  - Smooth edge
  - Worth 10 cents

Money Equivalents

- 5 Pennies = 1 Nickel
- 10 Pennies = 1 Dime
- 6 Pennies + 1 Nickel = 1 Dime

https://www.richmondfed.org/education/for_teachers/topics/my_money
Discussion

Question...

Is the one dollar bill more like an oak tree or a cotton plant?
Discussion Question...

Is the one dollar bill more like an oak tree or a cotton plant?

US Currency (Bills/Notes)
75% Cotton | 25% Linen

That’s why currency doesn’t dissolve if it goes through the washing machine

https://www.bep.gov/currency/how-money-is-made
More Fun Facts About U.S. Currency

Seven Denominations Currently Printed

<table>
<thead>
<tr>
<th>Denomination</th>
<th>Perimeter</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1</td>
<td>17.5 inches</td>
<td>16.0254 square inches</td>
</tr>
<tr>
<td>$2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Currently Featured on U.S. Currency

<table>
<thead>
<tr>
<th>Denomination</th>
<th>Featured On</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1</td>
<td>George Washington</td>
</tr>
<tr>
<td>$2</td>
<td>Thomas Jefferson</td>
</tr>
<tr>
<td>$5</td>
<td>Abraham Lincoln</td>
</tr>
<tr>
<td>$10</td>
<td>Alexander Hamilton</td>
</tr>
<tr>
<td>$20</td>
<td>Andrew Jackson</td>
</tr>
<tr>
<td>$50</td>
<td>Ulysses S. Grant</td>
</tr>
<tr>
<td>$100</td>
<td>Benjamin Franklin</td>
</tr>
</tbody>
</table>

Lifespan (From Entering Until Removed From Circulation)

- $1 = 5.8 years
- $100 = 15 years

https://www.uscurrency.gov/denominations
Discussion Question...

How is our money like animals in nature?
The shell of the armadillo has a unique texture—it is rough to the touch with raised bumps.

Raised Texture

U.S. currency also has a distinctive feel because of its special paper and the way that it’s printed. If you move your fingers across the shoulders of the people on the bills, you will notice a raised texture that feels like bumps and ridges.

https://www.uscurrency.gov/media/videos/you-d-be-surprised-special-features
This is a jewel bug. But is it green or is it copper? It all depends on what angle you look at it.

Color-Changing Ink

U.S. currency can also look green or copper because of color-changing ink. To see the colors change, all you have to do is tilt it from side to side.

Color-changing ink can be seen on bills worth $10 or more. You can find the color-changing ink on the front of these bills, on the number in the lower-right corner.

https://www.uscurrency.gov/media/videos/youd-be-surprised-special-features
Many animals have patterns on their skin. The cuttlefish can create any pattern it wants and can even make them move.

3-D Ribbon

$100 bills have a special pattern on its 3-D Ribbon. When you tilt it in different directions, the pattern will move and change. The images on the ribbon are bells and little “100’s”.
Some jellyfish are actually hiding a secret. Take a look at this one against the light—you can see a school of fish hiding under its bell.

Watermarks

U.S. currency also hides some secrets! All bills with a value over $5 have secret, hidden pictures on them that you can see if you hold a bill up to the light. These hidden pictures are called watermarks.

A watermark on a bill is usually the head of the person on the bill. But on the $5 bill, it is a number. These watermark numbers are on both sides of the bill.

https://www.uscurrency.gov/media/videos/youd-be-surprised-special-features
This millipede looks normal until you hold it under an ultraviolet, or UV, light. Then it glows brilliantly.

Special Thread

When you also hold U.S. currency up to light, you’ll also see a special thread hidden inside (in bills with a value of $5 or more). The thread is a narrow strip running up and down the bill. You can see it from both the front and back sides.

https://www.uscurrency.gov/media/videos/you'd-be-surprised-special-features
Money-Related Resources

Currency Academy for Kids
Are you ready to have some fun and learn all about U.S. bills?

Lesson Plans
The Federal Reserve's Currency Education Program has created fun, engaging activities that will help students better understand the currency in their pockets.

Money Adventure Mobile App
The Money Adventure mobile app is here to teach the next generation of cash users about U.S. currency.

Carnival Thrills and Dollar Bills
An illustrated book about U.S. currency for elementary students.

https://www.uscurrency.gov/educational-materials/classrooms
https://www.uscurrency.gov/media/videos/you’d-be-surprised-special-features
Lessons, Activities, and Q&A to Accompany Children’s Literature – These And Many More!

https://www.stlouisfed.org/education/resources#sreconed_education%20level=01%5EPre-K%20-%205
E-Books, Videos, and Activities

Shopping Wisely with Olivia Owl

Olivia Owl and Penny Pigeon share valuable advice with Rhoda Roadrunner to improve her shopping habits in this fable. The story is centered on the moral: “If you plan and compare before shopping, you will use your money more wisely.”

Teacher Resource: Olivia Owl Lesson Plan

Teacher Resource: Olivia Owl Story Printout

Alliteration Alert: Create a tongue twister sentence by using an alliteration example from the fable. (Ages 5-7)

Answer Key: Alliteration Alert

Be Aware and Compare: Choose the better shopping buy, using the measurement tips to compare prices. (Ages 8-10)

Answer Key: Be Aware and Compare

Olivia Owl Fable Coloring Pages

Family Extension Activities: Try these additional activities after reading the fable.

https://www.kansascityfed.org/education/fables/
Equipping Educators, Educating Students and Empowering Consumers
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