

Curriculum topics:

- Financial Literacy
- Exchange Rates
- Real Life Math
- Digital Multiplication & Division
- Solving Real-world problems involving Rates

Subject:

Mathematics

Grade range: 6 – 9

Who we are:

Resource Area for Teaching (RAFT) helps educators transform the learning experience through affordable “hands-on” activities that engage students and inspire the joy and discovery of learning.

For more ideas and to see RAFT Locations

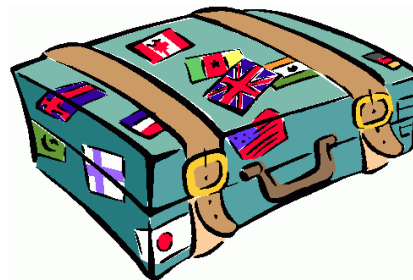
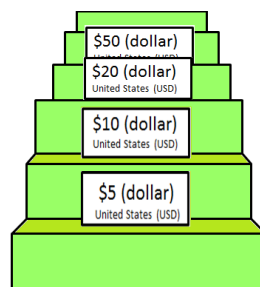
www.raft.net/visit-raft-location

FOREIGN CURRENCY EXCHANGE

Buy goods on a “trip” to a foreign country with exchanged currency!



A visit to a country’s “bank” gives travelers on vacation a chance to exchange homeland money for a foreign currency. Travelers visit the country’s “store” and select items to purchase from a “shopkeeper” with the foreign money they have available to spend.



Materials required

For each group (“country”) of 3 to 6 students:

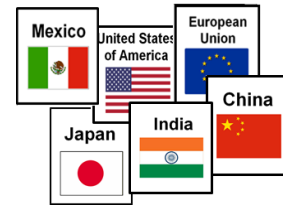
- Country Cards, 1
- Role Cards, 1 each for Traveler(s), Banker(s), and Store employee(s)
- Bank Chart sheet, 1 per country
- Currency sheets (see numbers of copies under “**Currency**” below).
- Envelopes, 8
- Country Product Sheet, 1 per country
- Bank and Store ledgers, 1 per round
- Traveler’s Journal, 1 per traveler
- Bank money tray, 1
- Store money tray, 1
- Optional: calculator, envelopes for wallets
- Optional: Store Receipts, 1 per traveler/round

[*Download templates at <http://www.raft.net/raft-idea?isid=753> for Currency & Country/Region Product Sheets, Country cards, Role cards, Bank Charts, Store & Bank Ledgers, and Traveler’s Journals.

Preparation before the activity

Country Cards:

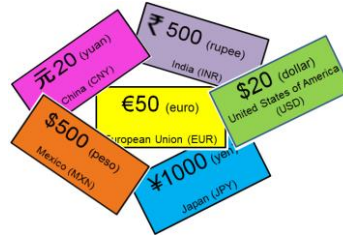
If not pre-cut, cut apart the Country cards. Shuffle them into deck. Set aside.



Currency Cards:

Make the appropriate number of copies of the currency template for each country/region. Cut “bills” apart; put each of the same type of currency into an envelope and label the outside of the envelope with the county/region name. (Suggestion – copy each country’s currency onto a **different** color of paper):

- USA (USD) – 2 copies
- European Union (EUR) – 2 copies
- India (INR) – 5 copies
- Mexico (MXN) – 3 copies
- China (CNY) – 5 copies
- Japan (JPY) – 2 copies



Journal/Ledgers:

For every round each country/region will need 1 copy of the Store Ledger, 1 copy of the Bank Ledger, and 1 or 2 traveler’s Journals (depending on the number of travelers).

[If 4 countries play 3 rounds: copy 12 store and bank ledgers, and 12-24 traveler journals]

Role Cards: Copy all Role cards. Fold the Bank & Store cards to make a tent.

At the beginning of the activity:

Note: Divide class into groups of 3-6 students.

- 1) Every group draws a country card – this is that group’s “home” country. Drawn country cards are returned to form a “travel deck”.
- 2) Role choices: Banker(s), Store Employee(s), and Traveler(s). Each group member selects a role to play which will rotate each round (1 to 2 students for each role) and then receives a Role Card informing them what to do during an activity round.
- 3) Each member selects the following materials to use during a round:
 - **Banker(s):** home Bank Chart, envelope with home currency, a Bank Ledger, & bank money tray.
 - **Store employee(s):** Country/Region Product sheet, a Store Ledger, and the store money tray.
 - **Traveler(s)** Traveler Journal(s) and envelope(s) to use as a “wallet”.
- 4) According to the Bank Chart, the banker(s) hands the correct amount of currency to its store employee(s) and to the traveler(s).
- 5) Store employee(s) record the starting currency amount on the store ledger as the “Starting Store Balance,” and then place currency denominations into the folds of the Store money tray.

- 6) Traveler(s) record the amount of money into their journal(s) in the “starting money in home currency” section, and then place all the money into a “wallet(s).”
- 7) Banker(s) places all remaining currency denominations into the Bank’s money tray, and then counts and records the amount on the Bank Ledger as the “Starting Bank Balance.”

To Do and Notice:

First travel round:

Each group draws a different card from the “travel deck” – this will be the country that its traveler(s) will visit. If a group draws its home country, draw another card. Traveler(s) take a “trip” to the foreign country and start with a visit to the local foreign bank. Each country will receive exactly one set of traveler(s) from one other country per round.

At the “local” foreign bank:

- Each Traveler exchanges the home currency for the local currency:
 - Banker checks the Bank Chart to find the amount of money to exchange for local currency based on the traveler’s home country (traveler and store employee check all calculations).
 - The Banker determines the amount of local money needed, then subtracts an exchange service fee, and records this entire transaction onto the Bank Ledger.
 - Traveler verifies the bank calculations and then gives the bank their home currency in exchange for the local amount. The traveler records the transaction in their journal.

At the “local” foreign store:

- Each Traveler visits the local foreign store to make “purchases”:
 - The store employee displays the Product Sheet of items for sale.
 - Traveler decides which items to “purchase” with local currency.
 - Traveler hands local currency to the shop employee for the items chosen.
 - Optional: The Store employee gives the traveler a hand-written receipt for the purchases showing date of purchase, items purchased, total price, amount received, and any change.
 - If needed, the store employee gives change back to traveler, rounding to the smallest denomination available. Both store employee and traveler double check the final amount.
 - The store employee records transactions in the store ledge, the traveler in their journal.

At the end of the travel round:

- Travelers return to their home countries and write in their journals.
 - Store employees count up money in the cash drawer and compare this amount with the Store Ledger’s running balance (verify all math involved).
 - Store employees calculate and record the amount of money acquired (final store balance less the starting amount). They deposit the money acquired into the bank; recording the deposit amount on the Store Ledger (verify all math involved).
 - The bank updates and records the store deposit into the Bank Ledger.
 - Store employees and bankers make sure the store’s cash drawer and the bank’s money tray have the correct number and denominations of bills (as shown on the Banker’s Chart), making change if needed at the bank.
 - Bankers from each country or region return currencies to respective home locations.

Second and Third travel rounds:

- 1) Students in the groups rotate roles. Home countries remain the same.
- 2) Distribute new copies of the Store Ledger, the Bank Ledger, and the Traveler Journals.
- 3) Each group draws a new country to visit. Repeat process as above.

Wrap Up Discussion:

Students return to homelands to share and discuss the activity, in groups and with class.

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|---|--|
| 1) Why do countries have their own currency? | 5) Why are exchange rates needed? |
| 2) Why do people want another country’s currency? | 6) What affects prices for goods and services? |
| 3) What is a foreign exchange rate? | 7) Why do exchange rates vary between countries? |
| 4) Why and what types of fees do banks charge? | Is having a ledger/journal a good idea? |

Curriculum Standards:

Percentage as a rate (Common Core Math Standards: Grades 6 & 7, Ratios & Proportions, 3)

Solve real-life problems using numbers and operations (Common Core Math Standards: Grades 6 & 7, Number System, 3; Equations and Expressions, 3)

Write, read, & evaluate expressions (Common Core Math Standards: Grade 6, Expressions and Equations, 2)

Problem Solving and Reasoning; Modeling with Math; Attending to Precision; Making use of Structure (Common Core Math Standards: Mathematical Practices Grades 6-9)

The math behind the activity

Foreign Currency Exchange gives students a model to experience visiting a foreign country, keeping track of money, and using math to compute currency exchanges at a bank and purchases at a store. In the “real world” this is a much more complex process! Changing roles for each round gives students a chance to engage in different scenarios for using the math. Reflections after the activity help students analyze and discuss why money is exchanged for goods and services. It also helps students complete a real-life math problem emphasizing the importance of precision in computation and keeping track of monetary interactions:

- Different denominations of currencies help students notice foreign monies vary in monetary value.
- Multiplying by an exchange rate to get an equivalent amount of money in another country, gives students practice with decimal multiplication and with decimal division.
- This activity presents a real-life reason for understanding percentages and for the usefulness of formulas for calculating repeated (iterated) procedures.

Learn more

- Survey foreign banks to determine foreign exchange rates from other countries and to obtain correct up to date quantities (since they fluctuate).
- Discuss the difference between money earned and money paid.
- Create a fee based on a percentage of the money that banks use to determine exchange rates. (e.g. a 5% fee based on 100 USD).
- Compare and contrast real exchange rates and fees between foreign countries.
- Explore and then report on why the money market changes daily.

Related activities: See RAFT Idea Sheets:

Brewing Coffee Mixtures -

http://www.raft.net/ideas/Brewing_Coffee_Mixtures.pdf

Checkbook Window Shopping -

http://www.raft.net/ideas/Checkbook_Window_Shopping.pdf

Happy Trails Mix -

http://www.raft.net/ideas/Happy_Trails_Mix.pdf

Interesting Interest-

<http://www.raftbayarea.org/ideas/Interesting%20Interest.pdf>

Resources

Visit www.raft.net/raft-idea?isid=738 for “how-to” video demos & more ideas!

Grades K-12 Financial Literacy Resources -

<http://www.cde.ca.gov/eo/in/fl/finlitk12.asp>

Financial literacy curriculum from PwC - <http://www.pwc.com/us/en/about-us/corporate-responsibility/commitment-to-youth-education/financial-literacy-curriculum.jhtml>

National Financial Educators Council - Financial Literacy Lesson Plans

<http://www.financialeducatorsCouncil.org/financial-literacy-lesson-plans/>

Acknowledgements:

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