

WAMC Lab Template

Math Concept(s): Credit Cards

Source / Text: Financial Algebra, 3-5

Developed by: Traci Washington

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Date: June 2024

Attach the following documents:

- [Lab Instructions](#)
- [Student Handout\(s\)](#)
- [Activity Slide Deck](#)

Short Description

- This activity can be done in your classroom or somewhere that has room for six stations to be set up around the space. Students will rotate through the stations, roll a die that corresponds to a credit card charge that they must track. After they rotate through the six stations simulating a month of charges, they will calculate the ending balance, average daily balance, interest charge, minimum payment, and their credit card utilization as a percentage.

Lab Plan

Lab Title: Credit Card Craze

Prerequisite skills:

- They should have previous practice and understanding of how to calculate:
 - average daily balance
 - interest charges
 - minimum payments
 - credit card utilization
- They should understand how their credit scores affect the APR on their credit card, how their credit card utilization impacts their credit score, and how making only minimum payments affect the interest they pay and how long it takes to pay off a credit card.

Lab objective:

- Get up and move while calculating credit card fees

Standards:

Mathematics K–12 Learning Standards:

- HSS-IC.B Make inferences and justify conclusions
- HSA-SSE.B Write expressions in equivalent forms to solve problems
- HSA-CED.A Create equations that describe numbers or relationships
- HSA-REI.A Understand solving equations as a process of reasoning and explain the reasoning

Standards for Mathematical Practice:

- MP1 Make sense of problems and persevere in solving them.
- MP2 Reason abstractly and quantitatively.

- MP6 Attend to precision
- MP7 Look for and make use of structure
- MP8 Look for and express regularity in repeated reasoning

K-12 Learning Standards-ELA (Reading, Writing, Speaking & Listening):

- College and Career readiness anchor Standards for reading
 - 10. Read and comprehend complex literary and informational texts independently and proficiently

K-12 Science Standards

-

Technology

-

Engineering

-

Leadership/21st Century Skills:

<p><u>21st Century Interdisciplinary themes</u> (Check those that apply to the above activity.)</p> <input type="checkbox"/> Global Awareness <input checked="" type="checkbox"/> Financial/Economic/Business/Entrepreneurial Literacy <input type="checkbox"/> Civic Literacy <input type="checkbox"/> Health/Safety Literacy <input type="checkbox"/> Environmental Literacy			
<p><u>21st Century Skills</u> (Check those that students will demonstrate in the above activity.)</p>			
<p>LEARNING AND INNOVATION <u>Creativity and Innovation</u> <input type="checkbox"/> Think Creatively <input checked="" type="checkbox"/> Work Creatively with Others <input type="checkbox"/> Implement Innovations <u>Critical Thinking and Problem Solving</u> <input type="checkbox"/> Reason Effectively <input type="checkbox"/> Use Systems Thinking <input type="checkbox"/> Make Judgments and Decisions <input checked="" type="checkbox"/> Solve Problems <u>Communication and Collaboration</u> <input checked="" type="checkbox"/> Communicate Clearly <input checked="" type="checkbox"/> Collaborate with Others</p>	<p>INFORMATION, MEDIA & TECHNOLOGY SKILLS <u>Information Literacy</u> <input checked="" type="checkbox"/> Access and Evaluate Information <input type="checkbox"/> Use and manage Information <u>Media Literacy</u> <input type="checkbox"/> Analyze Media <input type="checkbox"/> Create Media Products <u>Information, Communications and Technology (ICT Literacy)</u> <input type="checkbox"/> Apply Technology Effectively</p>	<p>LIFE & CAREER SKILLS <u>Flexibility and Adaptability</u> <input type="checkbox"/> Adapt to Change <input type="checkbox"/> Be Flexible <u>Initiative and Self-Direction</u> <input type="checkbox"/> Manage Goals and Time <input type="checkbox"/> Work Independently <input type="checkbox"/> Be Self-Directed Learners <u>Social and Cross-Cultural</u> <input checked="" type="checkbox"/> Interact Effectively with Others <input type="checkbox"/> Work Effectively in Diverse Teams</p>	<p>Productivity and Accountability <input type="checkbox"/> Manage Projects <input type="checkbox"/> Produce Results <u>Leadership and Responsibility</u> <input type="checkbox"/> Guide and Lead Others <input checked="" type="checkbox"/> Be Responsible to Others</p>

Teacher Preparation: (What materials and set-up are required for this lab?)

Materials:

- 6 dice
- Tracking sheet for each student
- Scenario for each station (printed slide deck)
- “Credit card” for each student

Set-Up Required:

- create 6 stations with 1 die each and post one of the activity slides at each station
- give each student a tracking sheet and a “credit card”
- divide class up between the stations

<https://wa-appliedmath.org/>

Lab Organization Strategies:

Leadership (Connect to 21st Century Skills selected):

- 1.B Work Creatively with Others
- 2.A Reason Effectively
- 2.C Make Judgments and Decisions
- 2.D Solve Problems
- 3.B Collaborate with Others
- 9.B Work Effectively in Diverse Teams

Cooperative Learning:

- Traveling to each station in groups and helping each other with the calculations and answering questions within the group

Expectations:

- Have fun!
- Be respectful of each other and keep voices at a level conducive for completing the game

Timeline:

- 1 class period (variable/flexible depending on how many rounds you play)

Post Lab Follow-Up/Conclusions:

Discuss real world application of learning from lab

- Making choices when deciding to use a credit card or not
- Calculating charges and payments

Career Applications

- Accounts payable/receivable, credit counselor, bookkeeping, accounting, personal finance advisor

Optional or Extension Activities

- Make a spreadsheet to organize and track spending
- Graph the spending/earning of interest

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Credit Card Craze

Materials Needed:

- ★ 6 dice
- ★ Tracking sheet for each student
- ★ Scenario for each station (printed slide deck)
- ★ “Credit card” for each student

Set Up:

- ★ Set up
 - create 6 stations with 1 die and post one of the activity slides at each station
 - give each student a tracking sheet and a “credit card”
 - divide class up between the stations

How to Play the Game:

- ★ The teacher will provide the starting date at the beginning of each station rotation to progress throughout the simulated month
- ★ Each student will roll the die and then record the corresponding transaction(s) on their tracking sheet
- ★ At the end of the “month,” aka once they have visited all the stations, they will calculate their:
 - ending balance
 - average daily balance
 - interest charge
 - minimum payment
 - Credit card utilization as a percentage
- ★ After doing those calculations, they will decide how much they want to pay--only the minimum, the whole balance, or anything in between.
- ★ Complete at least one more round (or more depending on time)

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CREDIT CARD CRAZE TRACKING

Date	Who/What	Amount	Balance

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At the end of month 1, calculate:

- ★ What is your ending balance? _____
- ★ What was your average daily balance? _____
- ★ What is the amount of your interest charge for the month?

- ★ What is your minimum payment? (3% of ending balance+interest)

- ★ What is your credit card utilization as a percentage? _____

At the end of month 2, calculate:

- ★ What is your ending balance? _____
- ★ What was your average daily balance? _____
- ★ What is the amount of your interest charge for the month?

- ★ What is your minimum payment? (3% of ending balance+interest)

- ★ What is your credit card utilization as a percentage? _____

At the end of month 3, calculate:

- ★ What is your ending balance? _____
- ★ What was your average daily balance? _____
- ★ What is the amount of your interest charge for the month?

- ★ What is your minimum payment? (3% of ending balance+interest)

- ★ What is your credit card utilization as a percentage? _____

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- ★ What is the amount of your interest charge for the month? _____
- ★ What is your minimum payment? (3% of ending balance+interest) _____
- ★ What is your credit card utilization as a percentage? _____

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- ★ What is your minimum payment? (3% of ending balance+interest) _____
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At the end of month 2, calculate:

- ★ What is your ending balance? _____
- ★ What was your average daily balance? _____
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- ★ What is your minimum payment? (3% of ending balance+interest) _____
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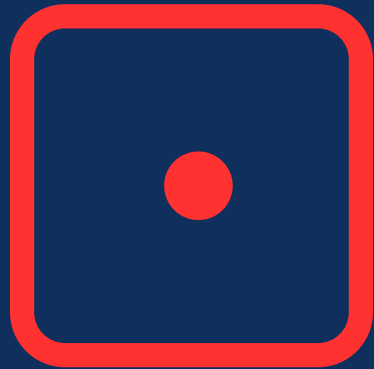
CREDIT CARD CRAZE

How to play the game:

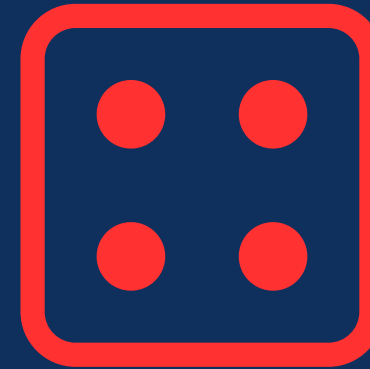
- Each student will roll the die and then record the corresponding transaction on their tracking sheet
- At the end of the “month,” aka once they have visited all the stations, they will calculate their ending balance, average daily balance, interest charge, and minimum payment.
- After doing those calculations, they will decide how much they want to pay--only the minimum, the whole balance, or anything in between.
- Play at least one more round (more if time allows)
- At the conclusion of the game, students will calculate their credit card utilization as a percentage



Station 1: Food



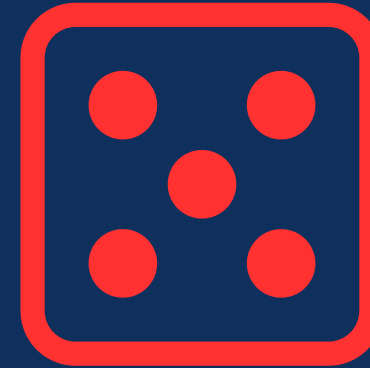
\$90 for a night out to dinner.
ROLL AGAIN!



\$50 to fill up the Starbuck's card
for your daily caffeine fix



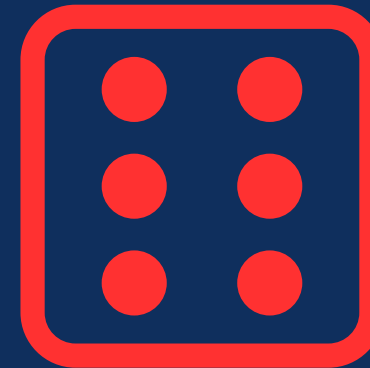
4 charges of \$125 for weekly
date night with your boo (\$500
total)



\$45 late night Doordash for you
and the homies. ROLL AGAIN!



2 charges of \$150 for two
trips to the grocery store
(\$300 total)



5 charges of \$15 each because
you were too lazy to make your
lunch at home

Station 2: Automotive



\$250 for new brakes. ROLL AGAIN!



You splurge on new rims--pay \$1200 (don't tell mom!) ROLL AGAIN!



4 charges of \$40 for weekly gas fillups (\$160 total). ROLL AGAIN!



You lock yourself out and have to pay the roadside dude \$75 to get in



You got a chip in your windshield--you pay \$100 for the replacement deductible



You get a ticket for texting and driving and have to pay \$250. ROLL AGAIN.

Station 3: Medical



You go to Urgent care-- they don't take your insurance. Pay \$250 for the visit



You go to weekly chiro appointments and pay a \$30 copay for each visit (\$120 total)



You broke your arm wrestling your teacher--pay \$100 for the ER visit co-pay. ROLL AGAIN!



Allergies are bothering you and you need all the meds...pay \$35 for your daily medications.



The duct tape won't work anymore and you must pay \$300 for new glasses



You twisted your ankle and have to buy crutches. Ouch! Pay \$40. ROLL AGAIN!!

Station 4: Life



You throw a football through your cranky neighbor's window. Pay \$350. ROLL AGAIN!



Beauty isn't cheap...you pay \$60 twice this month for your nails (\$120 total). ROLL AGAIN!



Someone breaks into your house and you have to replace the locks--pay \$300



Your cat needs to go to the vet because they have a massive hairball, pay \$225



You are asked to be in a wedding and have to pay \$250 for the outfit.



Your doggo needs to go to the vet because she got into your chocolate stash. Pay \$400

Station 5: Adulting



You get a new job, yay! You need to buy work boots, boo! Pay \$150. ROLL AGAIN!



You start school and need a new laptop--pay \$450. ROLL AGAIN!



Your job requires you to wear black slacks and button up shirt, which cost you \$100



You don't have enough Financial Aid and use your credit card for your books, \$300



You get sick, miss 3 shifts at work and use your credit card to pay your cell, which is \$75

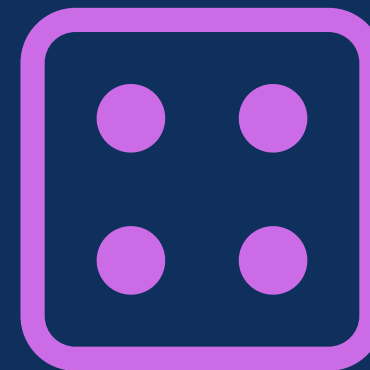


You need to buy a parking pass for your college classes, pay \$200 for the quarter.

Station 6: Fashion



The new Jordan's dropped and you have to have them.
Pay \$275



You are obsessed with Purple Brand hoodies...suck it up and pay \$345 for it!



Those Yeezy slides need to come home with you--pay \$200. ROLL AGAIN!!



Summertime is here and you buy Prada sunglasses for \$415. ROLL AGAIN!



Mom says you need to wear a belt to keep your pants up.
Pay \$115 for a Gucci belt.



You buy a Kate Spade leather crossbody bag and it costs you \$280

It's the end of the month...

Now that the month is over, calculate your:

- ending balance
- average daily balance
- interest charge
- minimum payment

Write these charges on your tracking sheet.

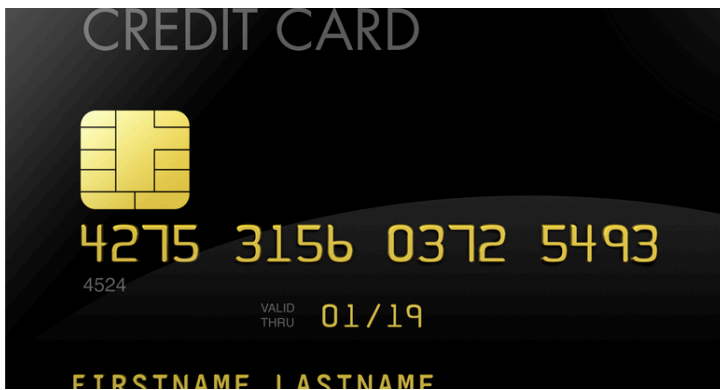
Decide how much you will pay--the minimum balance, the whole balance, or anything in between.

At the end of the game, calculate your credit card utilization as a percentage.



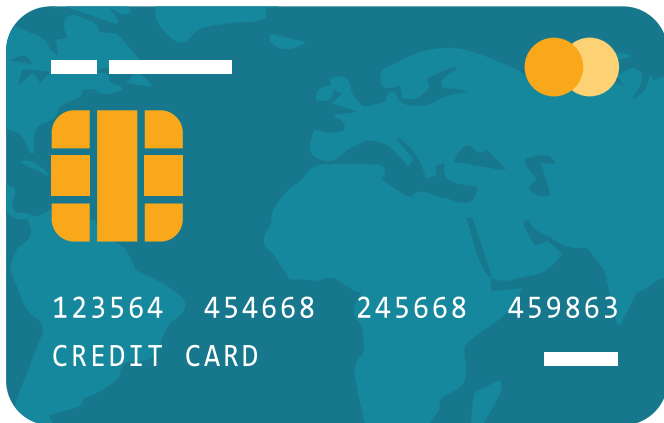
Charlotte

- 23.75% APR
- Starting balance 0



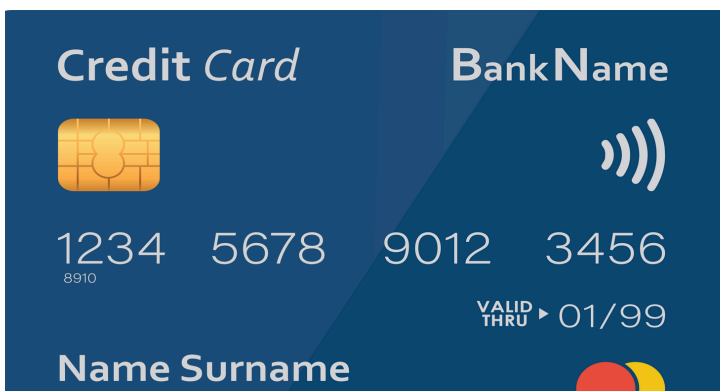
Tarique

- 18% APR
- Starting balance 0



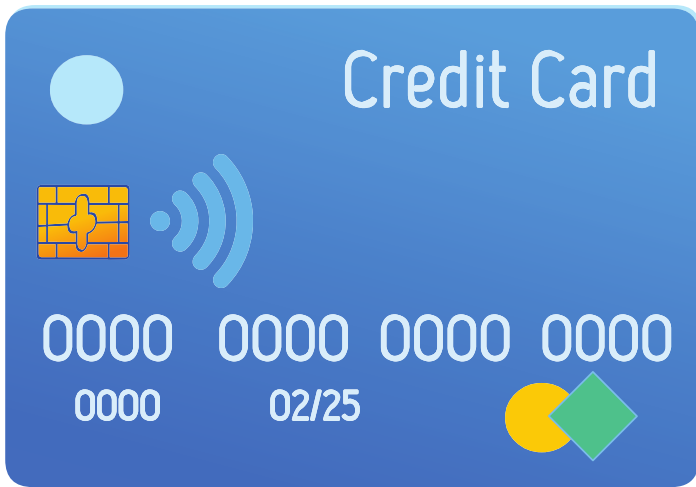
Ian

- 22.5% APR
- Starting balance 0



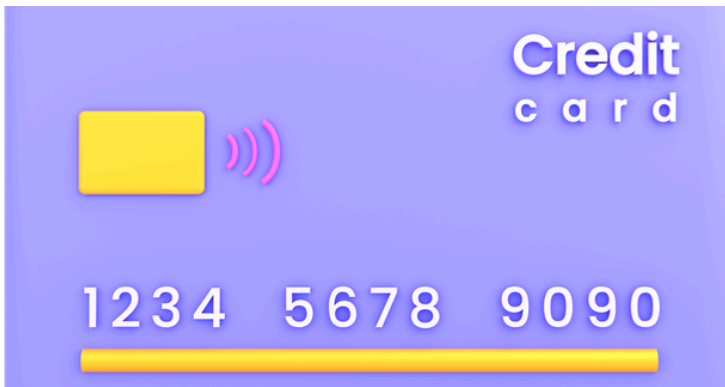
Kwasi

- 24.75% APR
- Starting balance 0



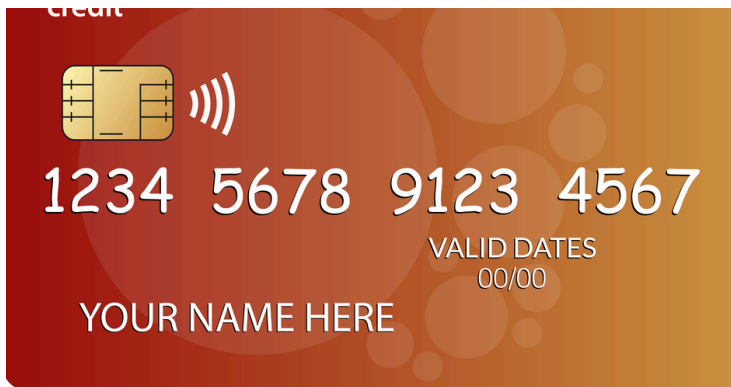
Antonio

- 12.75% APR
- Starting balance 0



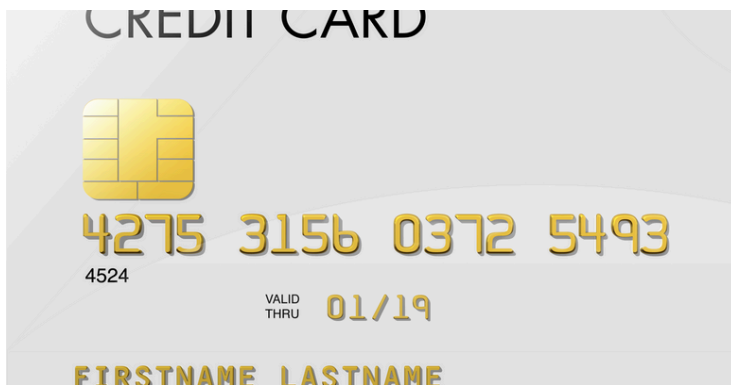
Nancy

- 12.5% APR
- Starting balance 0



Michaela

- 14.95% APR
- Starting balance 0



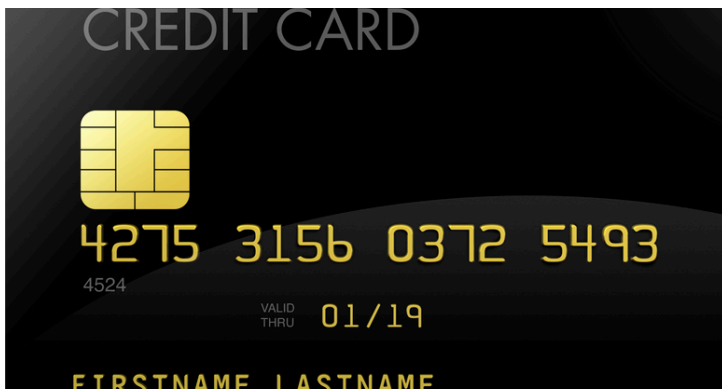
Ruby

- 15.5% APR
- Starting balance 0



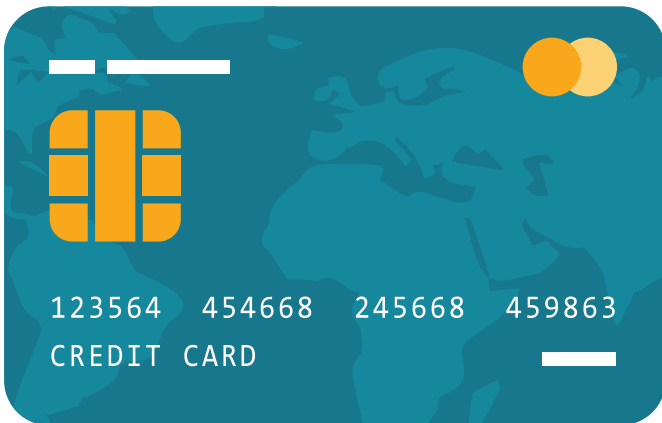
Sterling

- 18.75% APR
- Starting balance 0



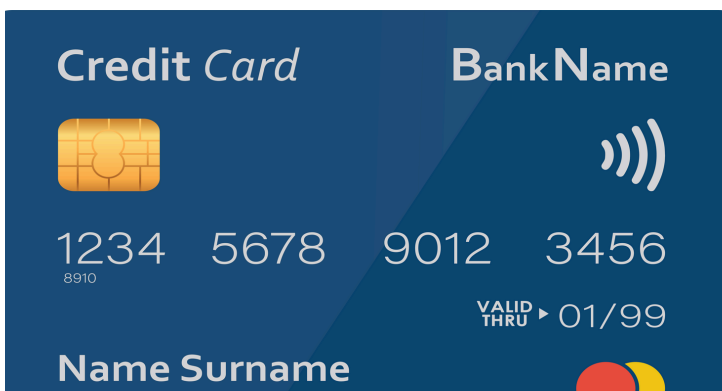
Beatrice

- 21.25% APR
- Starting balance 0



Marcus

- 15.45% APR
- Starting balance 0



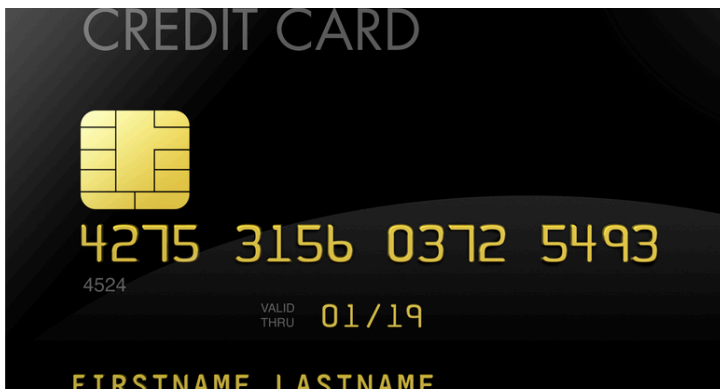
Kyleah

- 26% APR
- Starting balance 0



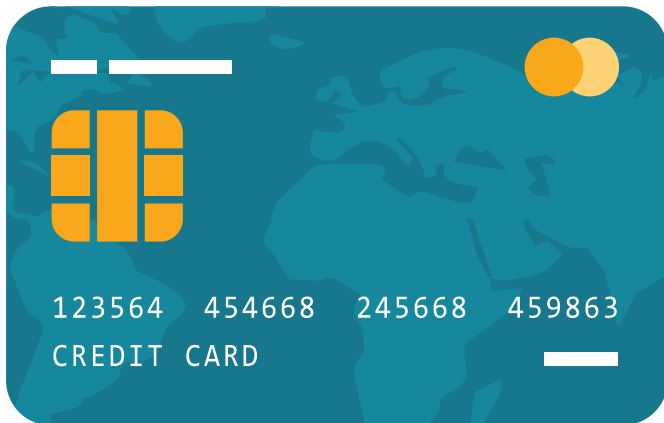
Imani

- 27.75% APR
- Starting balance 0



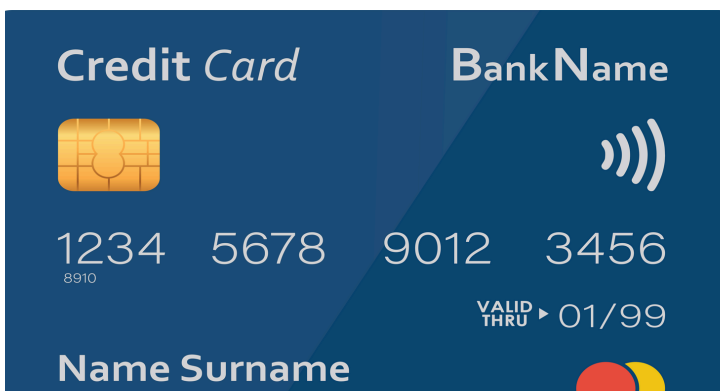
Solomon

- 19.71% APR
- Starting balance 0



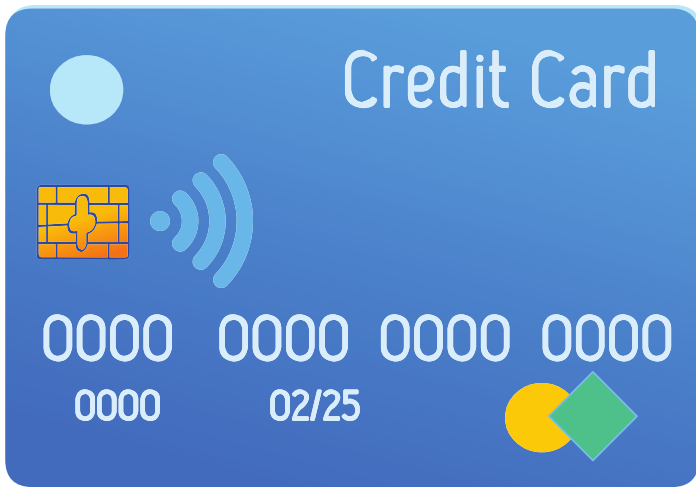
Kristina

- 9.99% APR
- Starting balance 0

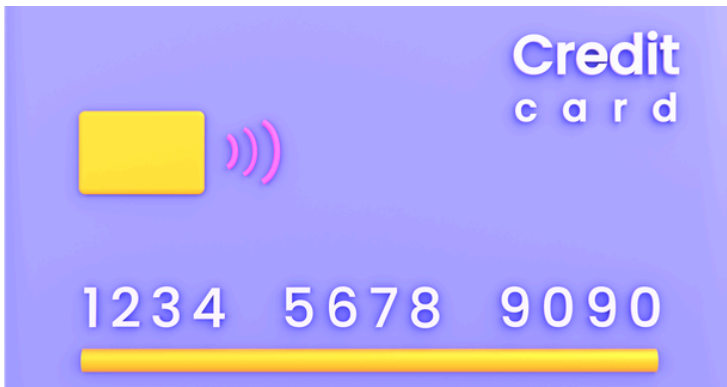


Darian

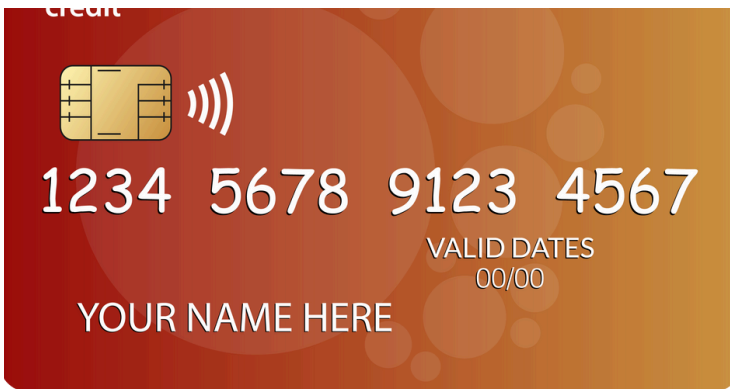
- 8.65% APR
- Starting balance 0



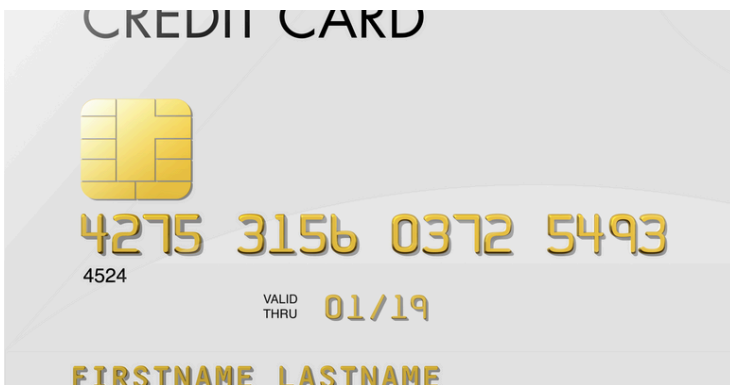
Dorothy
19.99% APR
Starting balance 0



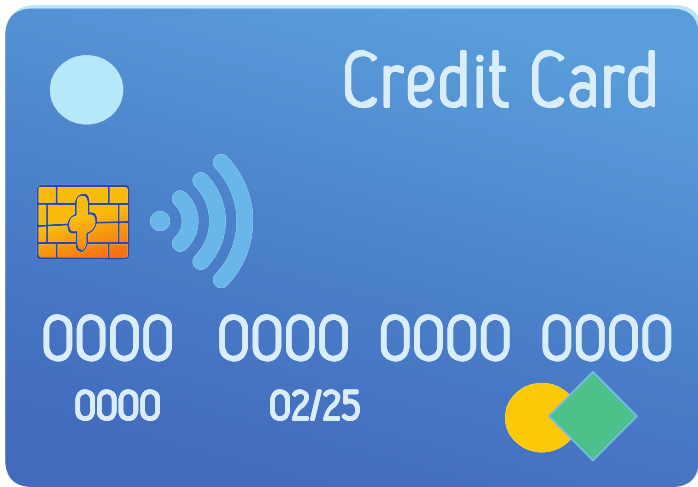
Matthew
24.99% APR
Starting balance 0



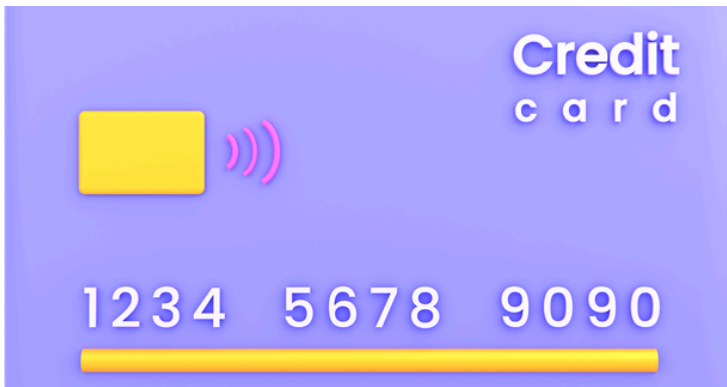
Brewster
23.5% APR
Starting balance 0



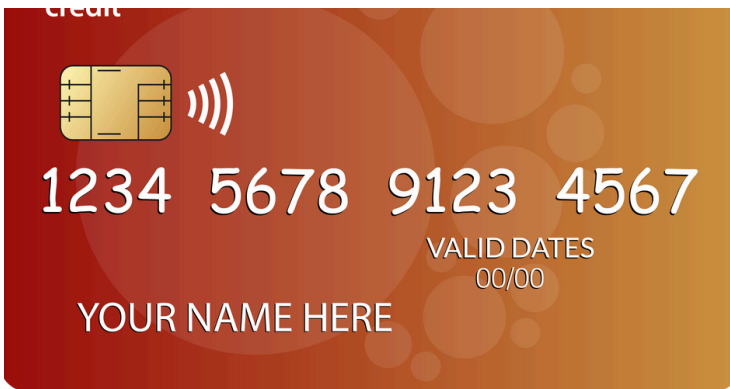
Mattox
24% APR
Starting balance 0



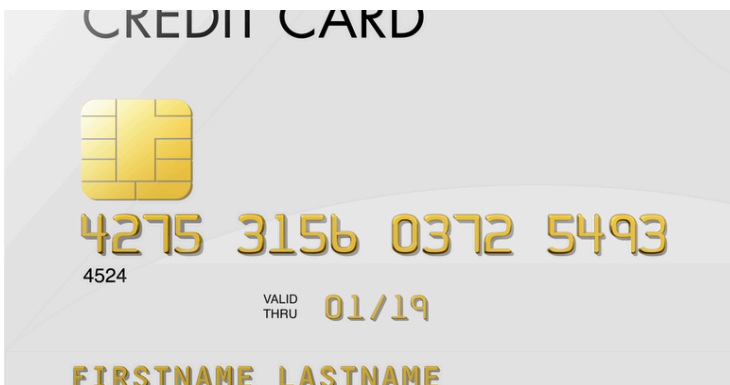
Aria
26.25% APR
Starting balance 0



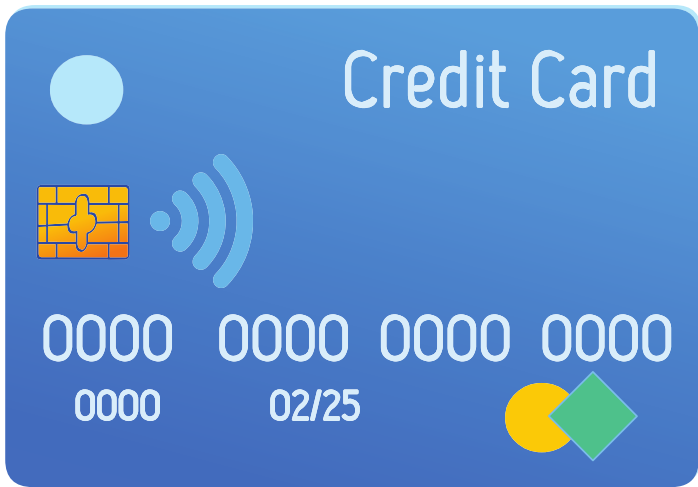
Liesel
14.99% APR
Starting balance 0



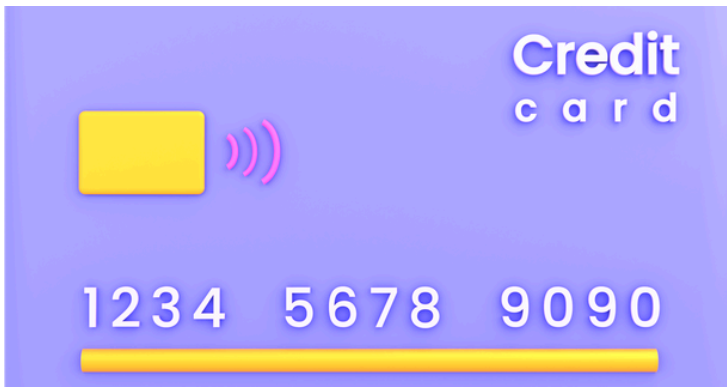
Ashton
22.9% APR
Starting balance 0



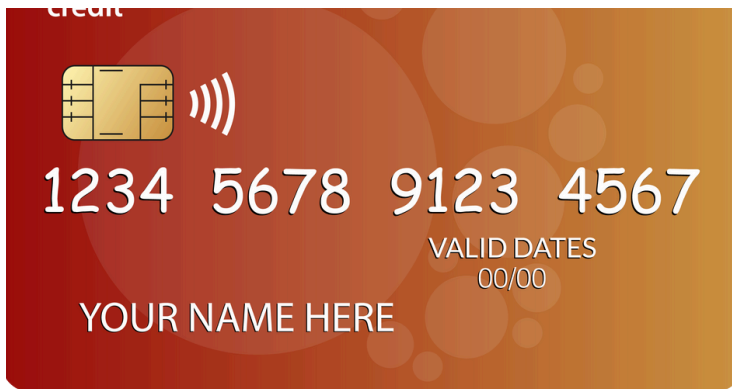
Porsche
28% APR
Starting balance 0



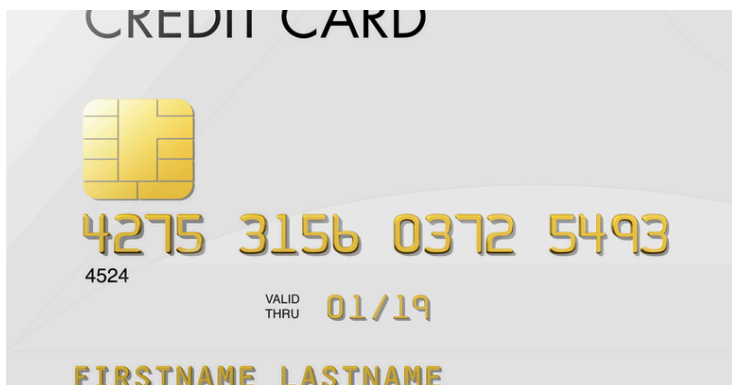
Eleanor
8.99% APR
Starting balance 0



Zion
7.99% APR
Starting balance 0



Camille
29% APR
Starting balance 0

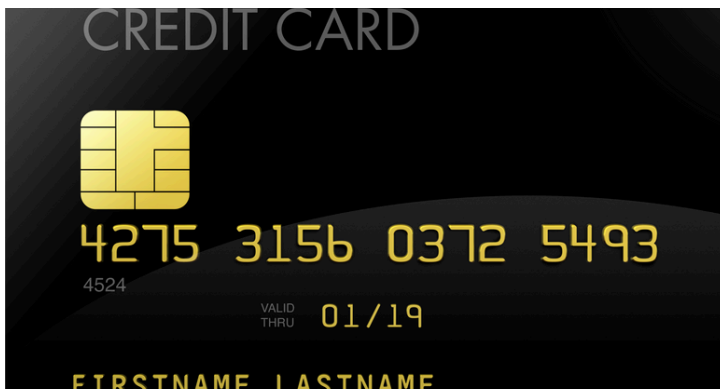


DeShay
22.55% APR
Starting balance 0



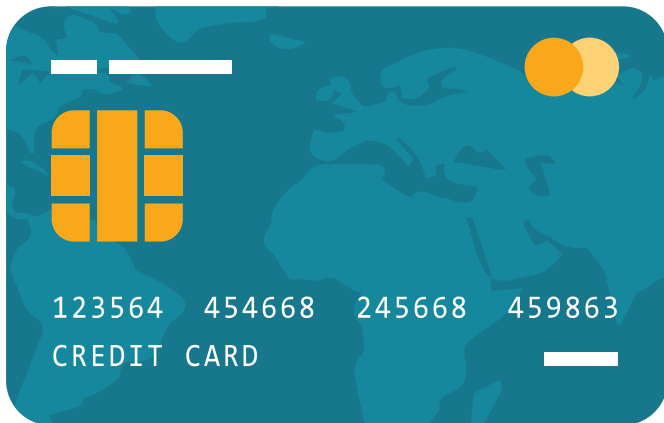
Jose

- 23.75% APR
- Starting balance 0



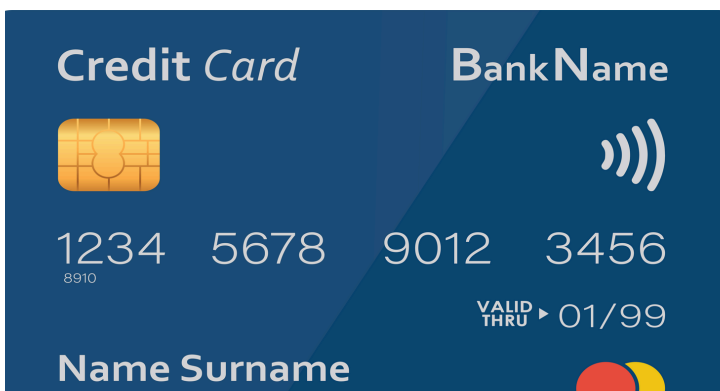
Kai

- 16.35% APR
- Starting balance 0



Hunter

- 22.5% APR
- Starting balance 0



Ella

- 27.75% APR
- Starting balance 0

Credit Card Craze

Materials Needed:

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- ★ The teacher will provide the starting date at the beginning of each station rotation to progress throughout the simulated month
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- ★ Complete at least one more round (or more depending on time)

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