MONEY MATTERS (LEVEL 3)

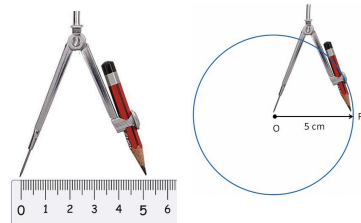| Description	Learners will promote financial literacy in the school/ community by setting up a mock bank. They will use and apply concepts of simple interest, area, perimeter and operations on money to do so.
Leading question	How do I spread awareness about money among my friends?
Subjects covered	Math, Art
Total time required	40-60 min a day for 4 days
Resources required	Paper, pencil, currency notes, currency coins
Learning outcomes:	By the end of this project, learners will be able to: **Knowledge-Based Outcomes:** 1. Measure and calculate the circumference of a circle. 2. Measure and calculate the perimeter of a rectangle. 3. Perform operations on money (add, subtract, multiply, divide). 4. Calculate Simple Interest. 5. Identify the different functions of money. 6. Describe the different types of services that banks provide. 7. Compare the different types of accounts that can be opened in a bank. **21st Century Skill Outcomes:** 1. Think creatively while designing the currency and different services that their banks will provide. 2. Communicate effectively while educating friends on the different services that their bank provides. 3. Think critically while deciding how much interest they should offer on accounts and charge on loans to ensure that the bank is profitable.
Previous Learning	Operations on whole numbers, fractions, and decimals
Supervision required	Medium

Note: *The US Dollar has been used as a placeholder currency throughout the project. Please feel free to replace it with the currency that is used in the country in which the learners live.*

Day 1 -
Today, you will learn about the concept of money, the features of currency, and design your mock currency.

Time	Activity and Description

10 minutes	**Introduction** What are the different things that they can buy with a $10 bill? Can you use the same $10 bill to buy things in a different country? - We use money to buy different things that we need and want, such as food, clothes and toys. - Different countries use different types of money or **currency**. The currency that we use is called the US Dollar. We cannot use the money from one country in another country. - We take care of most of our needs using money. When we grow up, we will also use money to pay for our college. Because money is such an important part of our lives, it is useful to learn about it and understand how to use it wisely. - The **Leading Question** that we will answer in this project is: How do I spread awareness about money among my friends? - To answer the leading question, you will learn about money, and set up your bank that your friends can visit to learn about money!

15 minutes	**Features of Currency:**
	- What are the different notes/ bills and coins that we use in our country?
	- These different values of notes/ bills and coins are called **denominations**. To set up our banks, we will design our currency notes/ bills and coins of different denominations!
	- Let us first observe the different features of the currency notes/ bills and coins of our country to get some ideas!
	
	Note: Distribute a currency note/ bill and coin each to learners and ask them to observe different features (photographs, symbol of currency, amount, name of the country, watermark, security thread etc)
	
	- Why do you think there are so many features on coins and notes/ bills? Why not a simple piece of paper with the denomination printed on it?
	- Some features, such as the watermark and the security line, make it difficult for currency to be copied. Whenever you buy something, check for these features to make sure you don't get fake currency!
	- Now, think and decide:
	  - at least 3 denominations of notes/ bills and coins that you will design for your bank.
	  - features that you would include in your currency to make it difficult to copy!

15 minutes	**Circumference and Perimeter** - To make all notes/ bills and coins of the same denomination look similar, we need to make sure that they are the same size. - Let us measure the sizes of a currency note/ bill and a coin. *Note: Ask learners to use a ruler to measure the length of the boundary of the coin and the note. If needed, suggest*

	they first wrap a thin strip of paper/ thread around the coin and mark the point at which the paper/thread completely wraps around the coin, then measure the length of the paper to get the length of the coin (as shown).
	
	How will you make sure that the size of all the notes of the same denomination is equal?
	
	We need to cut out paper rectangles of the same length and breadth to do this.
	
	Tip: *If needed, explain to the learners that using the length of the boundary of the note: Perimeter of a rectangle (P) = length (l) + bread (b) + length (l) + breadth (b) = 2 (l + b).*
	
	How will you make sure that the size of all the coins of the same denomination is equal?
	
	Note: *Using the board/ chart paper, explain to the learners that:*
	   - *The length of the boundary of the coin*
	     = Circumference of a circle (C)
	     = 2πr, where π =
	     $\frac{22}{7}$ *or 3.14 and r = radius of the circle*
	   - *They will need to decide the radius of each coin* *that they* *design.*
	
	As a class, learners agree on the dimensions of each note and coin that they will design.
	
	Tip: *If needed, teach learners how to draw a circle of a given radius using a compass so that they can create coins of the same size after school. If they don't have a compass, use the video linked in **Appendix 1** to teach them how to draw a circle using a string or thread*

At-home activities	Each learner in a group uses paper to design one note and coin of each denomination, based on agreed-upon features and dimensions. They will use the currency on the last day when they set their banks up.

Day 2
Today, you will understand the functions of money and banks, and start planning for your mock bank.

Time	Activity and Description
15 minutes	**Functions of Money** Imagine that you receive $10 every day for one month. What can you do with all the money collected at the end of the month? We use money for three things:

	-	Consumption: We use the money to buy things that we need and want, such as clothes, books, and groceries (just like some learners would use the money they receive).
		- Saving: We store some amount of money to either
		   - buy bigger things, such as a vehicle or a house (just like some learners would save the money and buy something they like at the end of the month); or
		   - use during emergencies, such as when we fall ill and need to be admitted to a hospital.
		- Investment: We can also use our money to earn more money! For example, some people buy or invest money in
		   - gold because the price of gold keeps increasing. This way, one day when they sell the gold, they will get more money back than they spent to buy it.
		   - houses to rent them out and earn money.
		cows to sell their milk and earn money.

20 minutes		**Introduction to Banks**
		- Would it be safer to keep the $300 you collect at the end of the month lying on a table or inside the cupboard/ drawer?
		- Just like a safe cupboard or drawer, banks store money for people.
		   - Banks provide various services to people. One of them is **accounts** in which people can store their money.
		   - If we store money at home, it may easily get stolen. Banks are safer places to store money because they offer high security. Because of this, it is difficult to steal money from a bank!
		- Banks offer different types of accounts and also pay us to store money in some of them! This money is called **interest**.
		- To set up our bank, we need to learn about the different services that banks provide. Let us start with accounts!
		
		Note: *Explain that banks provide two main types of accounts to store money:*

Type	Savings	Current
Purpose	*Used by individuals, including students, to save money*	*Used by businesspeople or organisations as a wallet where larger sums of money can be easily put in and taken out frequently*
Features	- *There is no limit to how many times money can be deposited but there is a limit to how many times it can be taken out.* - *There is also a limit to how much money can be taken out at once.*	- *There is no limit to how much money can be deposited or taken out.* - *There is no limit to how much money can be taken out at once.*

	Let us now think of a name for our bank!
5 minutes	**Name of the Bank** Think of a name for your bank!
At-home activities	Talk to family members or elders and find out about other services that banks provide.

Day 3 –

Today, you will learn about loans, calculate simple interest and the amount based on interest rates, and finish planning for your mock banks.

Time	Activity and Description

10 minutes	**Introduction to Loans**
	What are some services that banks provide in addition to accounts? (*Take responses - loans, lockers etc.*)
	Some other services that banks provide are.
	- Lockers: People use lockers to keep valuables other than money, such as jewellery or important documents.
	- Loans: Loans are sums of money that people borrow, in case they don't have enough money for consumption. People borrow money to spend it on their needs or to make big purchases such as buying a vehicle or a house or even starting a business.
	    - Loans are given for a specific amount of time, such as 2 years, 5 years or 10 years. People need to return the money borrowed within this time!
	    - When people take loans, they usually need to pay interest on them.
	
	Do you know of anyone who has taken a loan from a bank or a moneylender?
	- Which of the two is a better idea?
	- Why?
	
	Loans from banks are a better idea than from moneylenders because:
	- Moneylenders usually charge higher interest rates than banks.
	- Moneylenders may follow unfair practices such as raising interest rates, taking control of property, and violence. Banks do not do this because they are regulated by the law.

15 minutes	**Simple Interest** Let us learn about how banks calculate interest on loans! *Note: Use the board to teach learners how to calculate Simple Interest using the example below:* - *Money that the bank gives as a loan = **Principal (P)** = $10,000* - ***Rate of Interest (R)** (usually always in percentage per annum, which means per year) = 10% p.a. (per annum)*

	- *Time after which loaned amount needs to be returned = **Time Period (T)** (usually in years) = 2 years* - ***Simple Interest (SI)*** *=* $\frac{P \, x \, R \, x \, T}{100}$ $= \frac{10000 \; x \, 10 \; x \, 2}{100}$ *= \$2,000* - *Amount that needs to be returned to the bank = **Amount (A)** = P + SI* *= \$10,000 + \$2,000* *= \$12,000* Imagine that a customer asks you for a loan of ₹50,000 for 3 years. - How much rate of interest you will charge? - Now, individually, calculate the simple interest and the amount to be repaid to the bank. ***Tip:*** *To challenge learners, give them the time period in months and ask them to calculate simple interest and amount for the same principal and rate of interest.*

15 minutes	**Planning for Bank Setups**
	Note: *If only one learner is participating in this project, ask them to bring a few friends to set up the bank with them.*
	
	Just like a restaurant or a grocery store, a bank is also a business. How do you think banks earn money?
	
	Among other ways, banks earn money through interest on loans. We just saw how to calculate the simple interest on a loan.
	
	In the next class, we will set up our mock banks! You will now prepare for it!
	
	Note:
	- *Distribute members across these departments: Customer Support, Logistics, Loans, and Accounts.*
	
	- *Guide them to plan for their mock banks by thinking about these pointers:*
	  - *Customer Support*
	    - *These are the first people that customers meet when they visit a bank. It is their job to give customers an overview of the services the bank provides, identify their specific needs, and send them to relevant departments.*
	    - *How will they inform the customers about the different services they provide?*
	    - *Help them to think about making a chart that shows this. They will need to ask other groups about what services they are offering.*

	- *How will they identify the needs of the customers? and send them to the relevant department (savings account experts/ current account experts/ load experts) based on their needs.*
	- *Help them to think about writing different roles on chits, such as*
	   - *a farmer who wants to buy a tractor (needs a loan).*
	   - *a school teacher who wants to open an account to save her salary (needs a savings account).*
	   - *a businessman who wants to open an account for daily buying and selling (needs a current account).*
	   - *a student needing money to pay for his college fees (needs a loan)*
	- <u>*Savings Account & Current Account Experts*</u>
	   - *What incentive will they provide to the customer to open an account (they can offer a $100 sign-up bonus)*
	   - *What other services will they offer based on the needs of the customer?*
	- <u>*Loan Experts*</u>
	   - *How will they give a loan to a customer? (they can use the currency they created on the first day to do so)*
	   - *How much interest will they charge?*
	   - *How will they calculate and show the customer how much interest they will need to pay along with the principal amount at the end of the load period?*
	- <u>*Logistics*</u>
	   - *How many sections should the bank have? (can have four - savings, current, customer service, and loan departments)*
	   - *What material will they need to set the bank up? (such as desks for different departments, old bedsheets to spread on the desks, the name of the bank written on a chart paper etc.)*

At-home activities	Learners will plan for their mock bank setups in the next class.

Day 4 –
Today, you will set up your mock banks and educate your friends about the different services that banks provide.

Time	Activity and Description
10 minutes	**Bank Setup** Let us set up our banks! *Note: Remind members to take positions based on the division of roles among themselves.* - <u>*Customer Service Departments*</u> - *Give an overview of services*

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- Identify needs (customers choose a chit) and direct to the relevant department.
  - _Savings Account Department_
    - Describe the features of the account in detail.
    - Deposit money in a safety box (learners can make this using old cardboard boxes)
  - _Current Account Department_
    - Describe the features of the account in detail.
    - Deposit money in a safety box (learners can make this using old cardboard boxes)
  - _Loans Departments_
    - Describe the features of the loan.
    - Explain why it is better to take a loan from a bank than from a moneylender.
    - Calculate interest based on the loaned money, duration and rate of interest.

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20 minutes	**Spreading Awareness** **_Note:_** _Ask learners to invite their friends for this part of the day._ Ask learners to help their "customers" following the roles that they divided among themselves.
10 minutes	**Reflection** Congratulations on setting up your banks! Now that we have completed the project, let us think about our experience of it. - Which services that banks provide will you choose to take when you grow up? Why? - Are there any services that you would avoid? Why? - Could you make your schoolmates smarter about using money? How do you know? - What could you have done to make your bank better?

Additional enrichment activities:	Learners can calculate interest for savings accounts for a given duration. For example, if a customer deposits $1000 each month and the rate of interest is 6% p.a. - Interest earned at the end of the 1st month $= \frac{P \: x \: R \: x \: T}{100}$ $= \frac{1000 \: x \: 6 \: x \: 1/12}{100} = \$5$ - Interest earned at the end of the 2nd month $= \frac{(1000+1000+5) \: x \: 6 \: x \: 1/12}{100} = \$10$
Modifications for simplification	Learners can plan a bank set-up with two departments, such as accounts and loans or savings and current account.

EAA welcomes feedback on its projects in order to improve. For feedback please use this link
https://forms.gle/pVXs3vQEufuzSShs7

ASSESSMENT CRITERIA

A majority of my learners were able to:
☐ Design at least 2 notes and 2 coins using the concepts of the perimeter of a rectangle and circle.
☐ Make a budget to show possible savings and consumption on a salary of $20,000 per month.
☐ Calculate Simple Interest and Amount based on Principal, Rate of Interest and Time Period.
☐ Set up their mock bank and educate at least 3 other people on the different services that banks provide.

APPENDIX 1

A *video on how to draw a circle using a pencil and a string*.