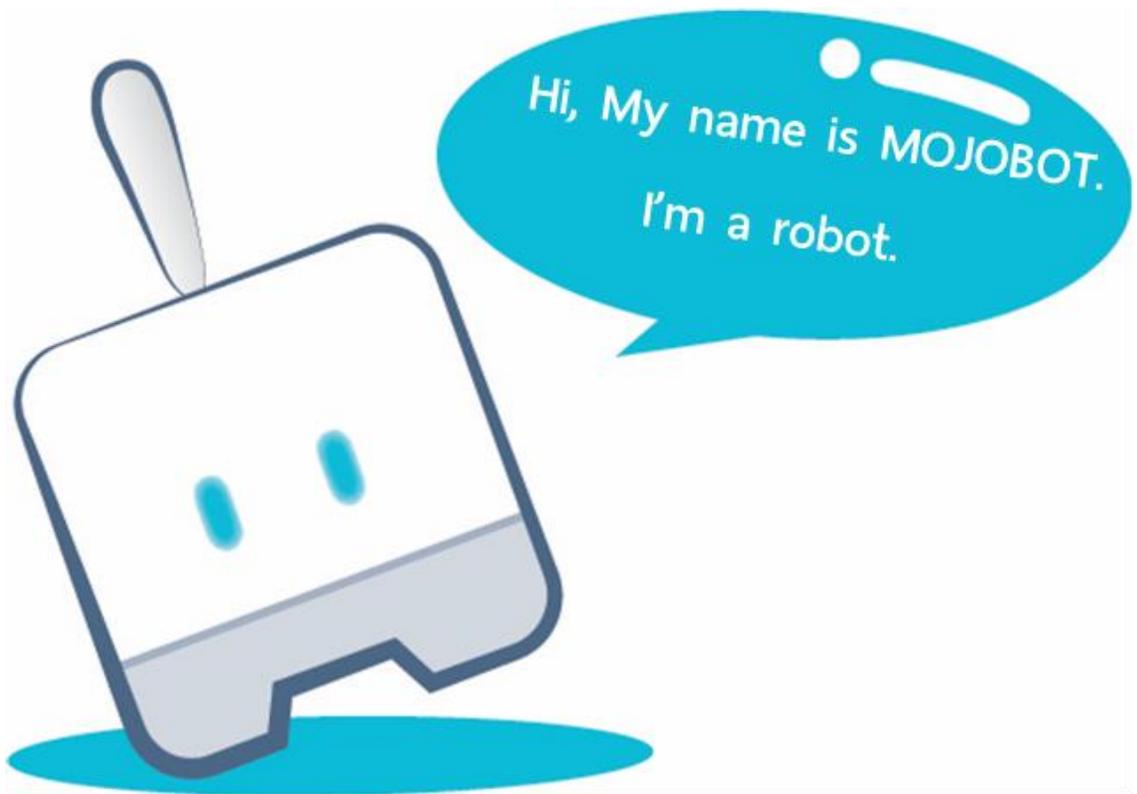


Mojobot Level 1



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Preface

In Mojobot level 1, students will learn about the basics of computer science and computational thinking. Learners will understand through practical activities that coding is a way to command robots and computers. This curriculum is designed primarily for 4-6 years old to experience and learn with screen-free coding tools. Coding knowledge content is integrated with math, language learning and general knowledge real life situations.

The activities in this Level 1 book will get kids to practice problem solving skills through the use of robotic systems and computer programs. This will require and improve students analytical skills, logical thinking and systematic thinking. Moreover students learn about navigation, map reading, directions, compass reading and path planning, and translate these physical concrete concepts into more abstract ideas in coding using symbolism. Therefore this is a great way to develop complex and critical thinking abilities in young children.

In addition to problem solving skills, students are also encouraged to show creativity and combine art with science when playing with Mojobot. Some of the activities include story telling and designing new artistic elements for Mojobot and the game map. Many of the activities also promote group and team work to foster collaboration skills among students. Overall Mojobot is not use a tool that teaches robotics and computer science, but is a truly holistic tool that combines together Science, Engineering, Technology, Art, and Math (STEAM).

Activity 1 - Let's Move Forward!

Purpose of the activity

This activity aims to teach students about movements of the robot and the concept to coding as the process of giving commands to the computer / robot. Students will test out forward movement commands and compare their code with real world observation and experiments.

Material



Teaching Steps

- Combine the maps as shown. Connect the MOJOBOT with the main console and place them on the map.
- Teacher gives sample activities to ensure learners' understanding.
 - In the case of one MOJOBOT**, the teacher can randomly pick up a learner as a representative to do the coding activity in Examples 1-5. The learners can be asked to take turns demonstrating to promote optimum group participation. Distribute the "paper console" sheets to every students and have them complete the tasks individually.
 - In the case of several MOJOBOTS**, the teacher can divide the learners into groups and let students in each group discuss and to work together to complete the activities.

Examples



Push "GO" button



Carry out the coding commands as shown above. Let the students observe what happens and try to connect the code to the robot's actions.

Learning Examples

Follow the instructions and place Mojobot in correct the position and orientation. Then apply the code as shown, let the students figure out which position Mojobot will end up in.

1. Place MOJOBOT @  facing towards  then apply coding tag as shown below.



2. Place MOJOBOT @  facing towards  then apply coding tag as shown below.



3. Place MOJOBOT @  facing towards  then apply coding tag as shown below.



4. Place MOJOBOT @  facing towards  then apply coding tag as shown below.



5. Place MOJOBOT @  facing towards  then apply coding tag as shown below.



Suggestion: When placing coding tags, the teacher and students should call out the name of the coding tags out loud. Before pressing the GO button, the teacher should engage the students by asking questions about what they think Mojobot going to do.

Moving Forward Activities

Apply the coding tags that will get MOJOBOT to complete the missions shown below. Students may code using the Console or write the code using the “paper console” at the end of this document. Print out copies of the paper console and distribute to students.

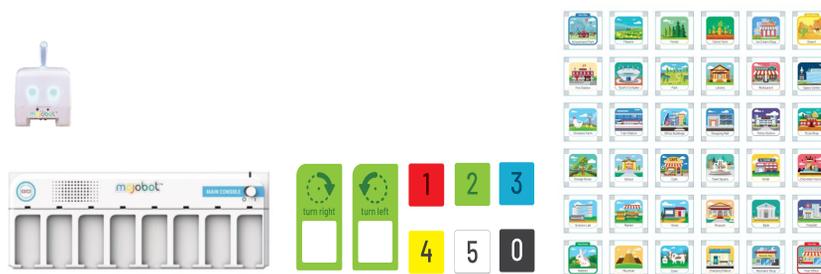
- | | | | | | | | |
|-----|---------------|---|---|--------|---|-------|---|
| 1. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |
| 2. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |
| 3. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |
| 4. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |
| 5. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |
| 6. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |
| 7. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |
| 8. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |
| 9. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |
| 10. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |
| 11. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |
| 12. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |
| 13. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |
| 14. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |
| 15. | PLACE MOJOBOT | @ |  | FACING |  | GO TO |  |

Activity 2 – Let’s Turn Around and Move!

Purpose of activity

This activity aims to teach students about movements of the robot and the concept to coding as the process of giving commands to the computer / robot. Students will test out turning (rotation) movement commands and compare their code with real world observation and experiments.

Material



Teaching Steps

- Combine the maps as shown. Connect the MOJOBOT with the main console and place them on the map.
- Teacher gives sample activities to ensure learners’ understanding.
 - In the case of one MOJOBOT**, the teacher can randomly pick up a learner as a representative to do the coding activity in Examples 1-5. The learners can be asked to take turns demonstrating to promote optimum group participation. Distribute the “paper console” sheets to every student and have them complete the tasks individually.
 - In the case of several MOJOBOTS**, the teacher can divide the learners into groups and let students in each group discuss and to work together to complete the activities.

Examples



↓ Put “GO” button



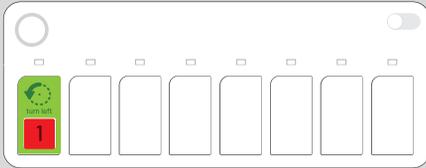
Carry out the coding commands as shown above. Let the students observe what happens and try to connect the code to the robot’s actions.

Learning Examples

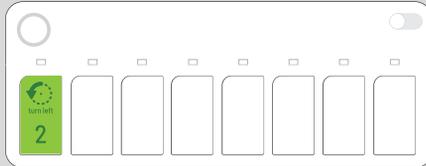
In this activity, we will place Mojobot at the starting position (at Townsquare facing the Shopping Mall). Then ask the students which direction Mojobot will end up facing after turning a specified number of times.

Turn Left

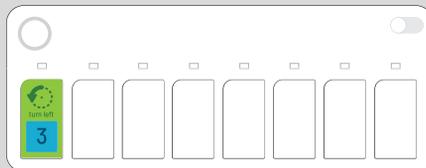
1.



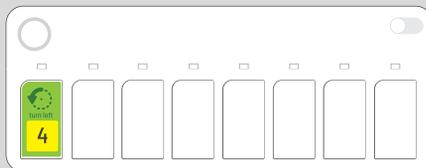
2.



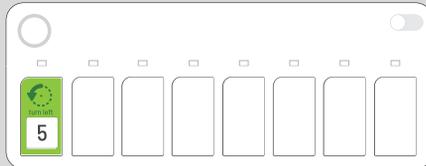
3.



4.

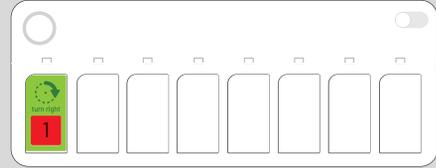


5.

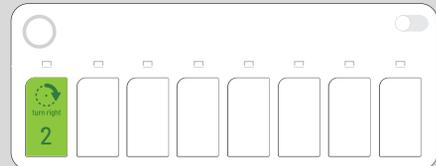


Turn Right

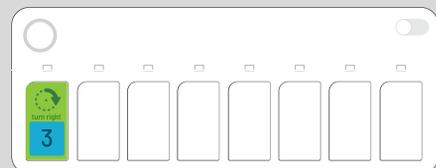
1.



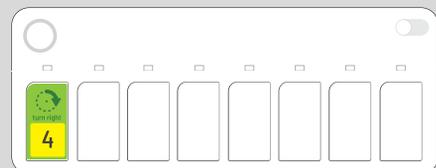
2.



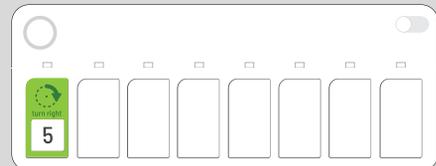
3.



4.



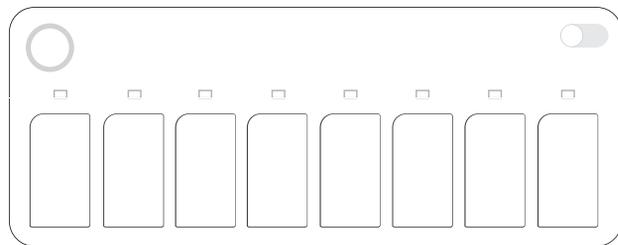
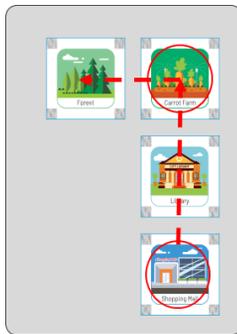
5.



Now combine turning and forward movements in a sequence.

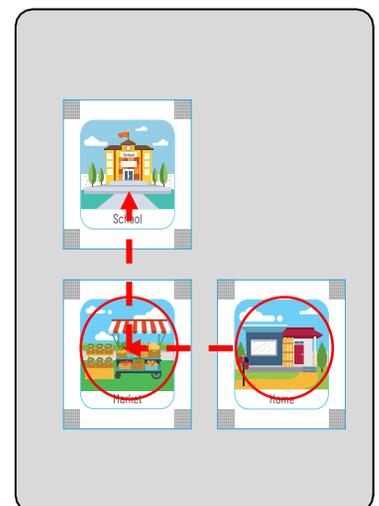
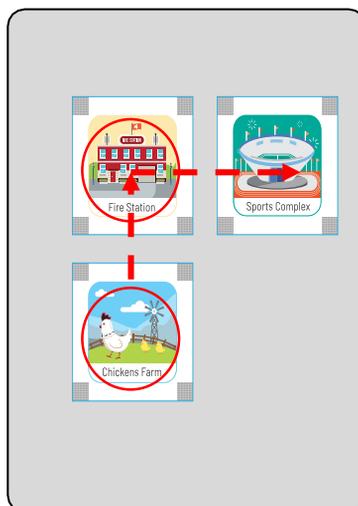
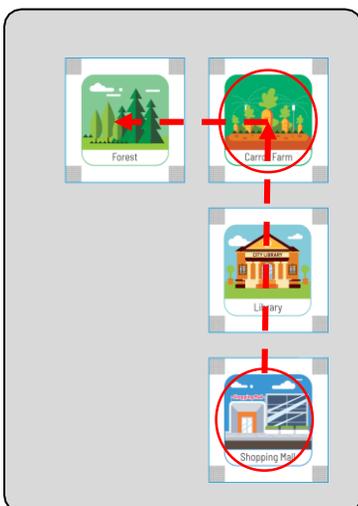
1. Teacher selects an ACTIVITY CARD for students to complete.
2. Guide the students to place the robot at the correct location and orientation on the map.
3. Teacher shows students how create a sequence of coding commands by using multiple slots. Let students observe how the blue LED lights up on the console as the command in each slot is being executed.
4. Allow students to perform the tasks to their comfort level. If they are comfortable using multiple slots in one GO then great! If not let the students explore at their own pace, using one coding slot at a time then pressing GO.
5. Conduct the activities together in a group or individually using the “paper console”.

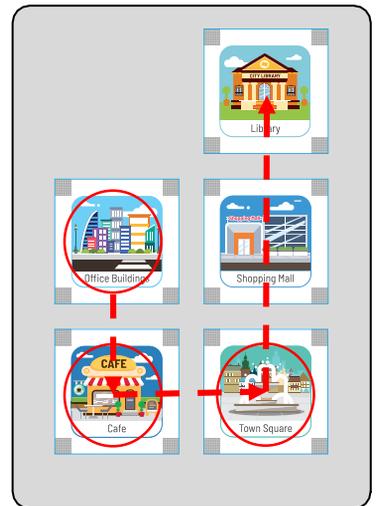
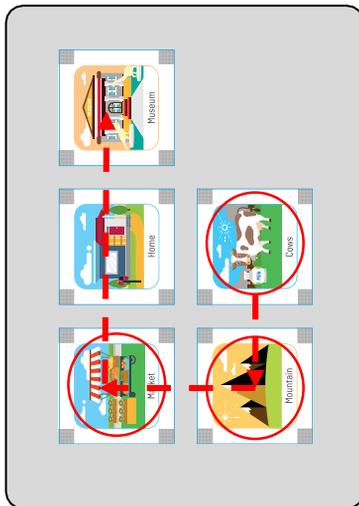
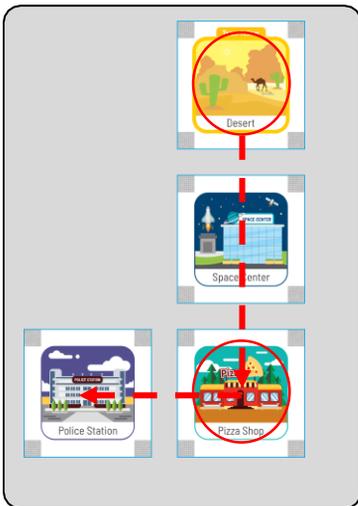
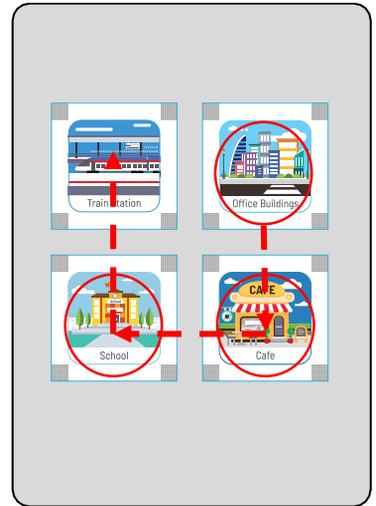
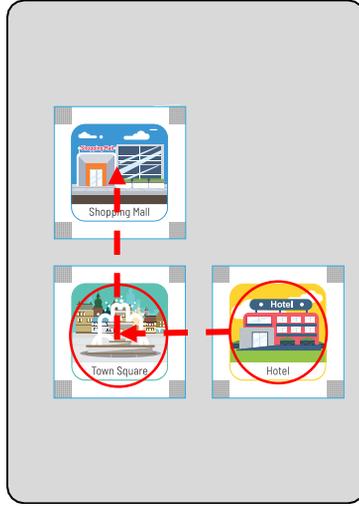
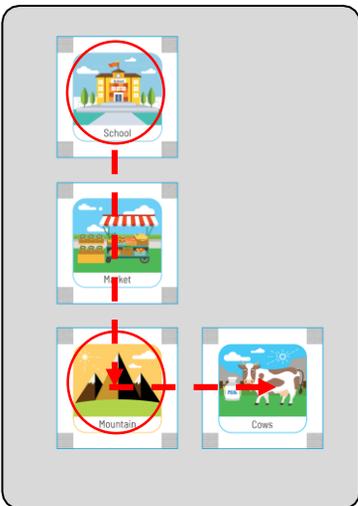
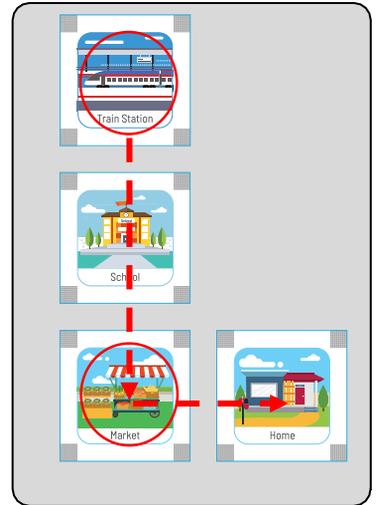
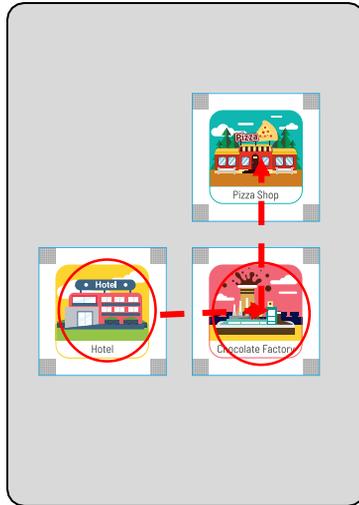
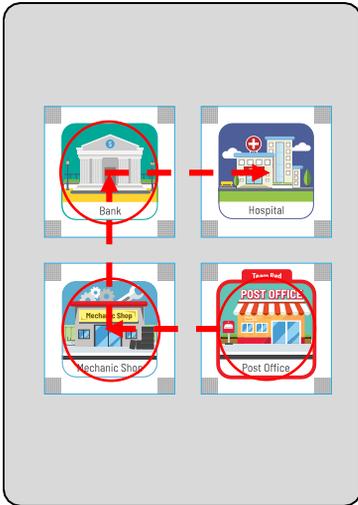
Example



Start at the Shopping Mall facing North. Get Mojobot to travel to the Forest along the path shown. Students may code a sequence using multiple coding slots in one GO. Or apply 1 slot of coding tag at a time and then pressing GO.

ACTIVITY CARDS





Activity 3 – Commands and Sequences

Purpose

This activity aims to teach about coding sequence and to broaden students' horizons of the many coding actions and commands that MOJOBOT is capable of. Students learn that by choosing the correct coding commands in the right sequential order, they can design MOJOBOT's behaviors and actions as they wish. In addition to coding sequences, students will also practice reading comprehension in the activity.

Material



Teaching Steps

- Combine the maps as shown. Connect the MOJOBOT with the main console and place them on the map.
- Teacher gives sample activities to ensure learners' understanding.
 - In the case of one MOJOBOT**, the teacher can randomly pick up a learner as a representative to do the coding activity in Examples 1-5. The learners can be asked to take turns demonstrating to promote optimum group participation. Distribute the "paper console" sheets to every student and have them complete the tasks individually.
 - In the case of several MOJOBOTS**, the teacher can divide the learners into groups and let students in each group discuss and to work together to complete the activities.

Examples



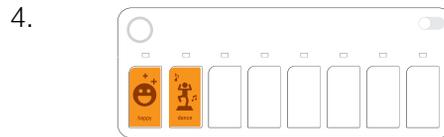
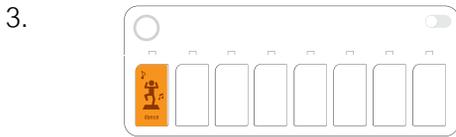
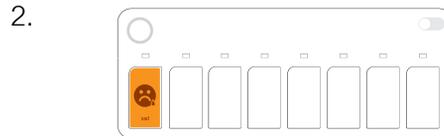
Push "GO" button



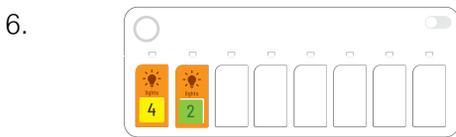
Test out the HAPPY command and let the students observe and describe the results.

Learning Examples

Try out these coding commands with the students. Together in the classroom observe and discuss the result of each coding sequence.



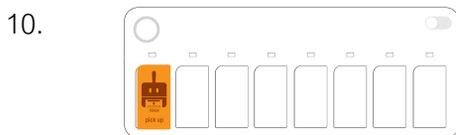
Noticed that the result in activity number 4 and 5 are different. After Mojobot displays the happy emotion, Mojobot will wait for **1 second** before starting to dance.



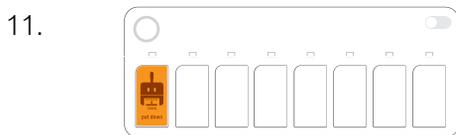
Notice that the result in activity number 7 and 8 are different. In activity 7 Mojobot shows each tail light color for a very brief time period. In activity 8, the tail light will be on for a longer time because of the wait command. "Wait 1" means the program will pause for 1 second at that command.



The program starts running the 1st command slot and turns Mojobot tail light red. Then the program goes to the 2nd command slot and waits for 5 seconds before moving to 3rd slot. While waiting in the 2nd slot the tail light remains red.



Place a Token underneath Mojobot in the center of a map location block. Run the PICK UP command, try lift Mojobot up and you will see Mojobot had picked up a token.



Attach a Token to Mojobot's underside. Run the Put Down command and try lift Mojobot up and you will see Mojobot has released the Token onto the map.



The RECORD command records a 3 second sound clip to a channel. In this example the a sound clip is recorded to channel 2. Try saying "Hello Hello" while program is running on slot 1.

From 10-11 topic, use a token by placing the token on the middle of the picture box on the map. Mojobot can't pick up the Token if it's not at the center of the picture block.

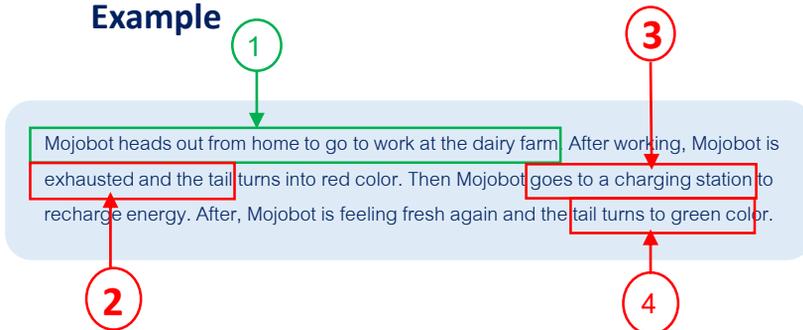


Read the story and fill in the blanks.

Read the short story out loud together with the class. This activity combines practicing of reading comprehension with coding skills. Students learn to see coding sequences as actions in the real world which can be described using language. Let the students fill in blanks of the missing coding tag commands.

Example

Mojobot heads out from home to go to work at the dairy farm. After working, Mojobot is exhausted and the tail turns into red color. Then Mojobot goes to a charging station to recharge energy. After, Mojobot is feeling fresh again and the tail turns to green color.

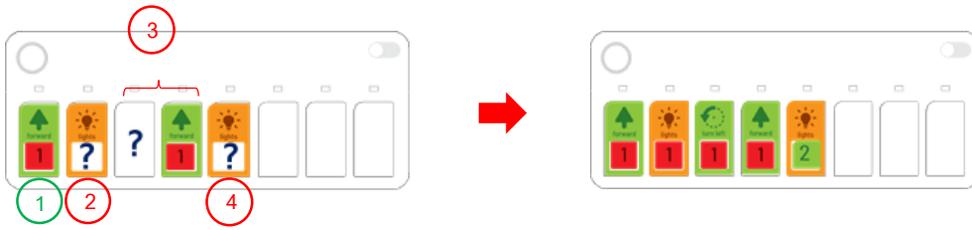


1: Mojobot heads out from home to go to work at the dairy farm.

2: Mojobot is exhausted and the tail turns into red color.

3: Then Mojobot goes to a charging station to recharge energy.

4: After, Mojobot is feeling fresh again and the tail turns to green color.



MISSION: Hint...to where we'd go

1. Mojobot heads out from home to go to work at the dairy farm. After working, Mojobot is exhausted and the tail turns into red color. Then Mojobot goes to a charging station to recharge energy. After, Mojobot is feeling fresh again and the tail turns to green color. Hint (Home >> Cows >> Charging Station)

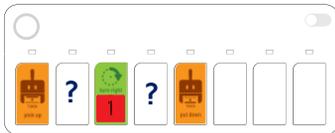


Answer

MISSION: Hint...to where we'd go

2. After finishing study at school, Mojobot carries books to the library because they are due for return.

Hint (School >> Train Station >> Sports Complex >> Park >> Library)



Answer

3. Mojobot dances happily in the annual festival at Square town and found out that its wallet was lost. Mojobot starts to panic and changes the tail color into red while on the way to report to the police.

Hint (Town Square >> Hotel >> Police Station)



Answer

4. While on holiday break, Mojobot has to leave home to go help the dairy farmer to deliver milk from the dairy farm to the Chocolate Factory.

Hint (Home >> Cows >> Charging Station >> Mechanic Shop >> Post Office >> Hospital >> Chocolate Factory)



Answer

Have fun, you guys are doing great!

Activity 4 – GO TO Mission

Purpose of Activity

This activity aims to let students practice and review their coding skills. Students have to read the Map correctly, plan out a path, and navigate the robot using the correct sequence of coding commands.

Material



MISSION CARD GO TO

Teaching Steps

1. Assemble the maps as shown. Connect the Mojobot with the main console and place them on the map.
2. Teacher divides learners into groups so that each group can work together to complete the Missions or let the students work individually using “paper console”.
3. Randomly draw a GO TO mission card. Then have students compete to be the first to complete the Mission.
4. Once complete, randomly draw another GO TO mission card. Code Mojobot to navigate from its current position (wherever it is after the previous mission) to go to the final destination.

Examples



Here the Mission is to GO TO the Charging Station. Here two efficient solutions are shown.

Activity 5 – Run the Story

Purpose of Activity

In this activity students further practice their navigation and coding sequence skills. Students will have fun combining English reading and listening comprehension and turn the story into real actions carried out by Mojobot.

Material

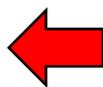
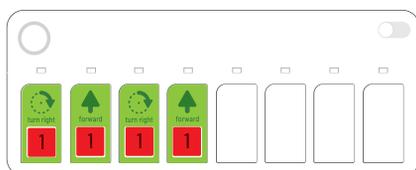


Teaching Steps

1. Assemble the maps as shown. Connect the Mojobot with the main console and place them on the map.
2. Teacher divides learners into groups so that each group can work together to complete the Missions or let the students work individually using “paper console”.
3. Teachers chooses an Activity Mission. Then have students compete to be the first to complete the Mission.

Example

"On a bright morning, MOJOBOT is at **Home**, looking at the cows eating delicious grass. Then MOJOBOT realizes it is time to leave to go to **School**"



MISSION : Run the Story

No.	MISSION	ANSWER
1.	<p>"On a bright morning, MOJOBOT is at Home, looking at the cows eating delicious grass. Then MOJOBOT realizes it is time to leave to go to School"</p>	
2.	<p>"Today after class, MOJOBOT takes the Train to buy pizza at Pizza Shop for dinner."</p>	
3.	<p>"After receiving the Pizza, MOJOBOT then rushes to go to Home immediately. On the way home, MOJOBOT remembers that passing through the chocolate factory that smelled so good."</p>	
4.	<p>"MOJOBOT returns Home, eats pizza and feels really Happy. Then MOJOBOT goes to see and play with the rabbits."</p>	
5.	<p>"Mojobot plays with the rabbits until eventually running out of power and so MOJOBOT's tail turns red. So MOJOBOT goes quickly to the Charging Station to refill energy. After charging MOJOBOT is refreshed and full of energy and the tail turns green. It is then end of the day MOJOBOT and heads back home safely."</p>	

Activity 6 – Token Delivery

Purpose of Activity

This activity aims to improve and extend the learners ability to process more information and code longer sequences. The navigation and path planning required for this activity is more complex as MOJOBOT has to travel to two destinations for PICK UP and PUT DOWN.

Material



Mission Card pick up

Teaching Steps

1. Assemble the maps as shown. Connect the Mojobot with the main console and place them on the map.
2. Teacher divides learners into groups so that each group can work together to complete the Missions or let the students work individually using “paper console”.
3. Randomly draw a PICK UP mission card. Then have students compete to be the first to complete the Mission.



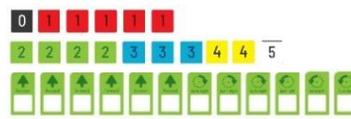
Here the Mission is to PICK UP the carrots Token from the Carrot Farm and then PUT DOWN the carrots at the rabbits.

Activity 7 – Compass Calculate: North, South, East, West

Purpose of Activity

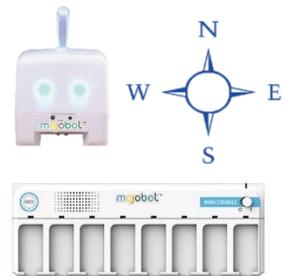
The aim of this activity is to teach students about reading directions on a compass. Students will learn to understand location as related to a compass direction, for example, go to the “North of Home” or “South of Home”.

Material



Extra Equipment:

- Random Direction Token
- Random Location Paper



Teaching Steps

1. Assemble the map as shown on the map template. Connect Mojobot to the main console and place them on the map.
2. Teacher or student randomly picks a map position using the printable pictures from this worksheet.
3. Teacher or student randomly picks a Direction Token. Here you can DIY the token into a direction Token by taping a paper with N, S, E, or W on the token.
4. Student complete the mission by coding Mojobot to go 1 block off in the direction and location specified.

Example



2 possible ways to complete this mission

Location Drawn: School, Direction Drawn: South, Mission: Go to 1 block South of School which is the Market.

Printable Material



N

S

W

E

Activity 8 – Connect Dots into Alphabets

Purpose of Activity

This activity aims to combine learning the alphabet with 2D dot geometry with coding activities. Moreover this is a fun activity that gets students to collaborate, plan and work together in a group.

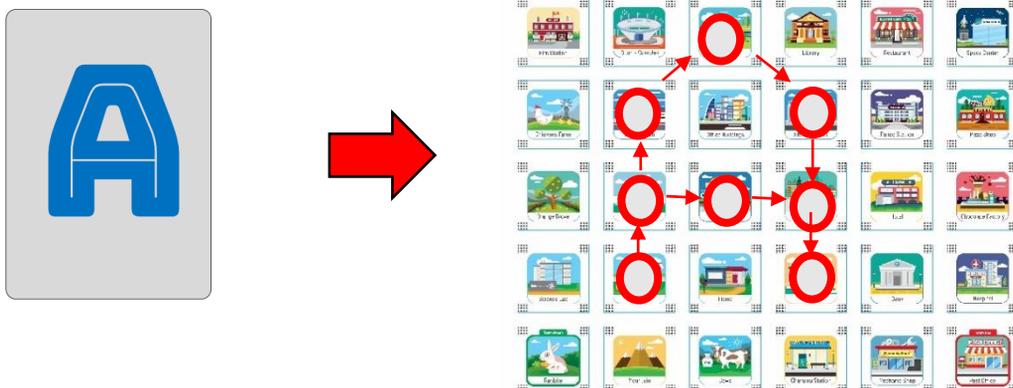
Material



Teaching Steps

1. The teacher divides learners into groups of 5-6 persons.
2. Each group plans the Coding and places the tokens on the map to form alphabets, ranging from A-Z based on what alphabets they obtain from the draw. It should not exceed 14 dots.
3. Tokens may be placed by humans only on the corners on the map. It is Mojobot's job to pick up the Tokens and place them in the correct position to form the alphabet letter. Mojobot shall be moved around via coding only, not physically moved around by students hands.
4. The learners take turns in placing each (dot) Tokens until the last token is placed. The first group to finish is the winner.

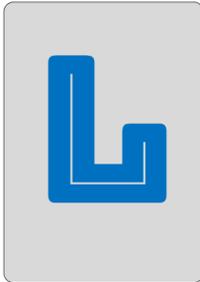
Examples



Guideline

Alphabet	Pattern	Alphabet	Pattern
			
			
			
			
			

Guideline

Alphabet	Pattern	Alphabet	Pattern
			
			
			
			
			

Guideline

Alphabet	Pattern	Alphabet	Pattern
			
			
			



Activity 9 – Broken Steering, One Direction Turn

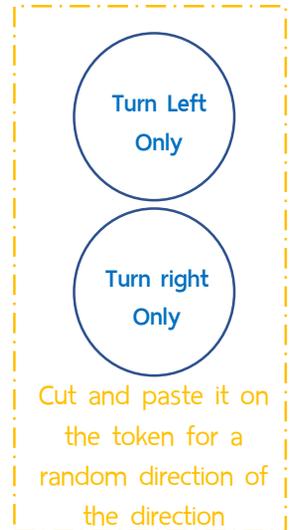
Purpose of Activity

The aim of this activity is to teach students that rotational motion is cyclical in nature and that turning left and turning right can be substituted for each other. For example 90 degrees turn is the same as -270 turn. We will pretend that Mojobot's steering is broken and Mojobot can only turn in one direction!

Material



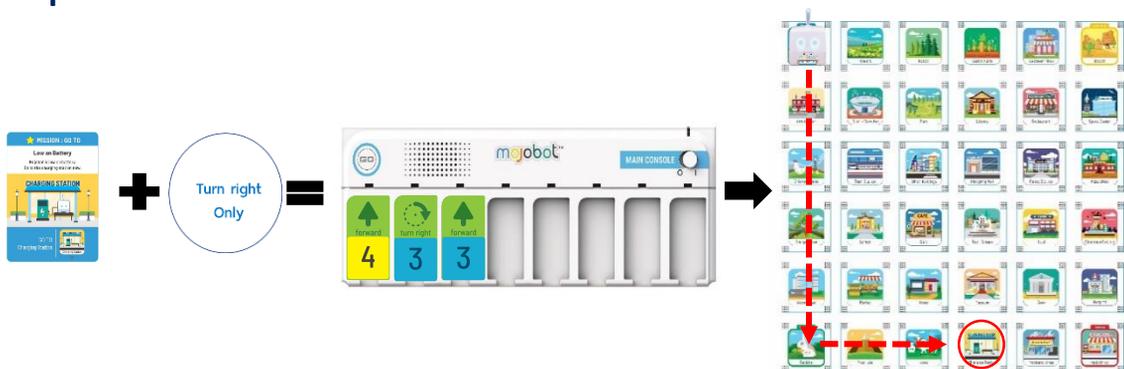
MISSION CARD GO TO



Teaching Steps

1. Assemble the maps on the map templates as shown.
2. Teacher divide learners into teams or let learners work individually using “paper console”.
3. Teacher or student randomly selects a GO TO mission card and randomly select a “Turn Left Only” or “Turn Right Only” token.
4. Students compete to complete the mission. Make sure to use only “Turn Left” or “Turn Right” coding tags as specified by the rules.

Examples

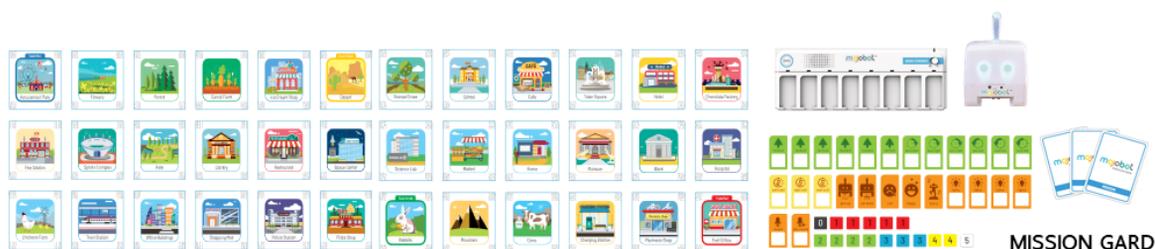


Activity 10 – Travel Far with Addition

Purpose of Activity

This activity aims to integrate coding with mathematics addition. The idea of the activity is for students to see that using multiple action commands can be like addition in Maths. For example to move forward 10 steps, we can achieve by moving 5 steps twice!

Material



Teaching Steps

1. Assemble the map as shown in the template above.
2. Students can work together in groups by swapping turns to place a coding tag or individually using the “paper console”.
3. Teacher or student selects a mission to complete.

Note : When placing MOJOBOT at the beginning, always place facing to the North side of the map. The stars on the cards indicate the level of difficulty of the mission.

Example



Here the Robot has to move across 7 blocks. This is achieved by running the command “Forward 3” and “Forward 4” together such that $3 + 4 = 7$.

MISSION CARD

MISSION CARD

START → **STOP**




Chickens Farm → Post Office

★

MISSION CARD

START → **STOP**




Hospital → Fire Station

★

MISSION CARD

START → **STOP**




Amusement Park → Chocolate Factory

★

MISSION CARD

START → **STOP**




Sports Complex → Cafe

★ ★

MISSION CARD

START → **STOP**




Town Square → Train Station

★ ★

MISSION CARD

START → **STOP**




Office Buildings → Chocolate Factory

★ ★

MISSION CARD

START → **STOP**




Home → Train Station

★ ★

MISSION CARD

START → **STOP**




Post Office → Amusement Park

★ ★

MISSION CARD

START → **STOP**




Forest → Market

★ ★

MISSION CARD

MISSION CARD

START **STOP**



Post Office → Chickens Farm

★

Detailed description: This mission card features a blue header with the text 'MISSION CARD'. Below the header, the word 'START' is positioned above an icon of a post office, and 'STOP' is above an icon of a chickens farm. A red arrow points from the post office to the chickens farm. At the bottom of the card, a blue horizontal band contains a single yellow star.

MISSION CARD

START **STOP**



Fire Station → Hospital

★

Detailed description: This mission card features a blue header with the text 'MISSION CARD'. Below the header, the word 'START' is positioned above an icon of a fire station, and 'STOP' is above an icon of a hospital. A red arrow points from the fire station to the hospital. At the bottom of the card, a blue horizontal band contains a single yellow star.

MISSION CARD

START **STOP**



Chocolate Factory → Amusement Park

★

Detailed description: This mission card features a blue header with the text 'MISSION CARD'. Below the header, the word 'START' is positioned above an icon of a chocolate factory, and 'STOP' is above an icon of an amusement park. A red arrow points from the chocolate factory to the amusement park. At the bottom of the card, a blue horizontal band contains a single yellow star.

MISSION CARD

START **STOP**



Home → Shopping Mall

★ ★

Detailed description: This mission card features a blue header with the text 'MISSION CARD'. Below the header, the word 'START' is positioned above an icon of a house, and 'STOP' is above an icon of a shopping mall. A red arrow points from the house to the shopping mall. At the bottom of the card, a blue horizontal band contains two yellow stars.

MISSION CARD

START **STOP**



Pizza Shop → Hotel

★ ★

Detailed description: This mission card features a blue header with the text 'MISSION CARD'. Below the header, the word 'START' is positioned above an icon of a pizza shop, and 'STOP' is above an icon of a hotel. A red arrow points from the pizza shop to the hotel. At the bottom of the card, a blue horizontal band contains two yellow stars.

MISSION CARD

START **STOP**



Flowers → Hotel

★

Detailed description: This mission card features a blue header with the text 'MISSION CARD'. Below the header, the word 'START' is positioned above an icon of a field of flowers, and 'STOP' is above an icon of a hotel. A red arrow points from the flowers to the hotel. At the bottom of the card, a blue horizontal band contains a single yellow star.

Activity 11 – Subtraction, Distance, Displacement

Purpose of Activity

This activity students learn about distance, displacement and subtraction. For example, if Mojobot moves North 2 blocks and then moves South 3 blocks. The final displacement will be moving South by 1 block, even though the total distance travelled is 5 blocks. The tasks of the students is to find out the final displacement of a sequence of movements by using subtraction, then code Mojobot to go the final position.

Material

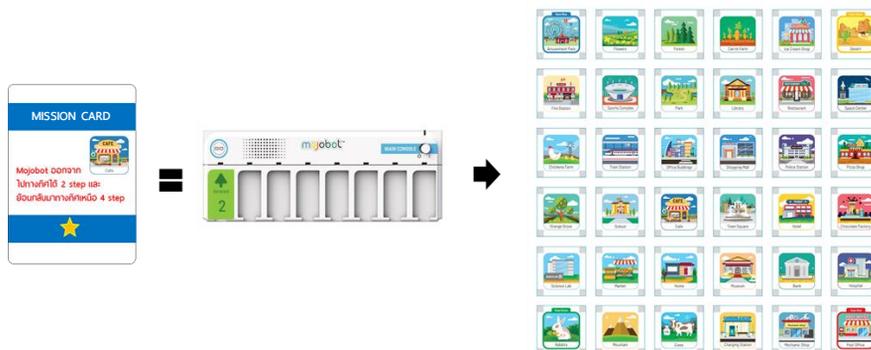


Teaching Steps

1. Assemble the map as shown in the template above.
2. Students can work together in groups by swapping turns to place a coding tag in the “paper console”.
3. Teacher or student selects a mission to complete.

Note : At the beginning of each mission, always place Mojobot facing the North side of the map.

Example



Mojobot is at the Cafe and moves South by 2 steps, then moves North by 4 steps. Therefore the final displacement is 2 steps up North. To complete the Mission code Mojobot to move to the final displacement by moving North 2 steps. At the start of the mission always place Mojobot facing North.

MISSION CARD

MISSION CARD

Mojobot leaves
to the north 2 steps then go
back to the south 5 steps



MISSION CARD

Mojobot leaves
to the north 1 step then go
back to the south 4 steps



MISSION CARD

Mojobot leaves
to the north 3 steps then go
back to the south 1 step



MISSION CARD

Mojobot leaves
to the south 2 steps then go
back to the north 4 steps



MISSION CARD

Mojobot leaves
to the south 1 step then go
back to the north 4 steps



MISSION CARD

Mojobot leaves
to the north 2 steps then go
back to the south 3 steps



MISSION CARD

Mojobot leaves
to the south 1 steps then go
back to the north 3 steps



MISSION CARD

Mojobot leaves
to the north 5 step then go
back to the north 4 step



MISSION CARD

Mojobot leaves
to the south 3 step then back
to the north 1 step



MISSION CARD

MISSION CARD

Mojobot leaves
to the east 5 steps
then go back to the west 3
step3



Chickens Farm



MISSION CARD

Mojobot leaves
to the west 3 steps
then go back to the east 1
step



Town Square



MISSION CARD

Mojobot leaves
to the west 1 step
then go back to the east 2
steps



Flowers



MISSION CARD

Mojobot leaves
to the east 5 steps
then go back to the west 1
step



Amusement Park



MISSION CARD

Mojobot leaves
to the west 1 step
then go back to the east 3
steps



Market



MISSION CARD

Mojobot leaves
to the west 2 steps
then go back to the east 2
steps



Home



MISSION CARD

Mojobot leaves
to the east 3 steps
then backs to the west 3
steps



Sports Complex



MISSION CARD

Mojobot leaves
to the east 1 steps
then backs to the west 5
step



Market



MISSION CARD

Mojobot leaves
to the west 5 steps
then backs to the east 1 step



Pizza Shop



Activity 12 – Save Time and Take the Shortest Path

Purpose of Activity

The aim of this activity is to teach students realize that there are usually multiple paths towards a solution and for them to analyze which path is the shortest. By travelling through the shortest path this can help save time and energy!

Material



Teaching Steps

1. Assemble the map as shown in the template above.
2. Students can work together in groups by swapping turns to place a coding tag or individually using the “paper console”.
3. Teacher or student selects a mission to complete. The group and students that use the least coding tags will get a start point.

Note: At the beginning and end of each mission, always place Mojobot facing the North side of the map. Also make sure that Mojobot faces North at the end of the Mission.

Example



Here the shortest path is shown by the black arrows. Mojobot will use 8 coding slots to complete the mission.

Turn Right 1, Forward 5, Turn Right 1, Forward 2, Turn Right 1, Forward 3, Turn Right 1, Forward 1

MISSION CARD

MISSION CARD

Fire Station → Hospital → Cafe → Office Buildings

MISSION CARD

Chocolate Factory → Train Station → Post Office → Office Buildings

MISSION CARD

Home → Post Office → Cafe → Office Buildings

MISSION CARD

Chickens Farm → Town Square → Flowers → Sports Complex

MISSION CARD

Amusement Park → Home → Forest → Sports Complex

MISSION CARD

Market → Pizza Shop → Forest → Sports Complex

MISSION CARD

Forest → Chickens Farm → Town Square → Sports Complex

MISSION CARD

Flowers → Amusement Park → Home → Sports Complex

MISSION CARD

Pizza Shop → Sports Complex → Market → Sports Complex

Activity 13 – Where is Mojobot?

Purpose of Activity

In many of the previous activities the focus have been on writing code. In this activity students will practice reading code, and simulating the results of the code in their head or by play acting it out on the map.

Material



Teaching Steps

1. Assemble the map as shown in the template above.
2. Students can work together in groups by swapping turns to place a coding tag or individually using the “paper console”.
3. Teacher or student selects a mission to complete. The first group to complete the task correctly is awarded start points.

Note : When reading and analyzing the code, keep in mind that MOJOBOT always start facing North.

Example



Here Mojobot starts at the Sports Complex facing North. After doing the code sequence shown in the mission card, Mojobot will end up at the Hotel.

MISSION CARD

MISSION CARD

@  Sports Complex

CODE






MISSION CARD

@  Fire Station

CODE







MISSION CARD

@  Office Buildings

CODE





MISSION CARD

@  Post Office

CODE




MISSION CARD

@  Cafe

CODE












MISSION CARD

@  Space Center

CODE




MISSION CARD

@  Market

CODE







MISSION CARD

@  Forest

CODE





MISSION CARD

MISSION CARD

@  Pizza Shop

CODE






MISSION CARD

@  Home

CODE





MISSION CARD

@  Amusement Park

CODE






MISSION CARD

@  Flowers

CODE





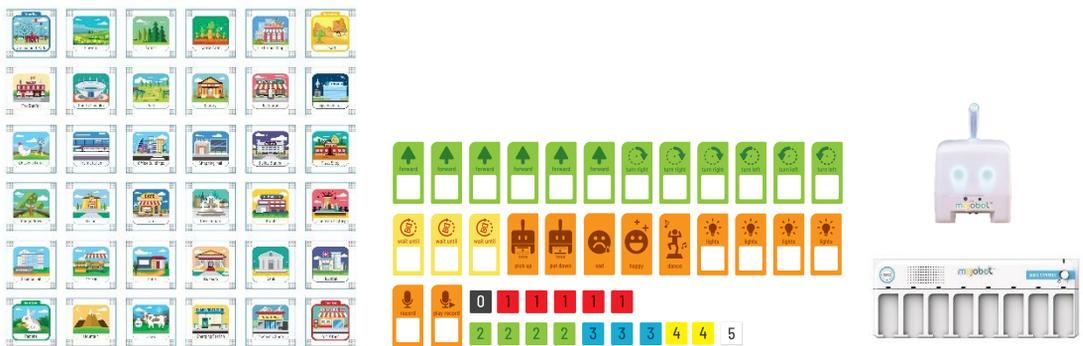



Activity 14 – Mojo Story Book

Purpose of Activity

This is a creative activity that gets student to use their imagination and create their own stories. Students are tasked to create a short story and code Mojobot to act it out! We encourage students to also apply art by decorating Mojobot to fit their story.

Material



Teaching Steps

1. The whole classroom can work together or split the class into groups.
2. Teacher arranges students in the group in order, from first to last.
3. The 1st student creates the first sentence of the story and says it out loud to the group. At the same time the last student codes out the story spoken by the 1st student.
4. Then the 2nd student continues the story from the 1st student. This time the 1st student will be coder of the story.
5. The 3rd student tells the story and the 2nd student codes. Continue and repeat the process.
6. Finally, let the learners draw and decorate Mojobot and the Map to help tell their story with style!
7. Present a well rehearsed story in front of the classroom.

Tales Example

1. Mojobot is doing a fun activity today and turns on blue tail light. Mojobot will be going to the sports complex to play ice-skating.
2. At the ice-skate Mojobot has loads of fun and does a spin dance move by turning right to complete 1 revolution spin around.
3. Mojobot does a u-turn rotation and then heads to the Pizza shop for some food.

Activity 15 – GAME: Follow the Leader’s Command

Purpose of Activity

This is a fun activity which combines together many skills such as story telling, listening comprehension, path planning and navigation and coding. In this game the leader will issue a story for Mojobot to act out, this story is the leader’s command. The first person to complete coding of the leader’s command correctly wins and becomes the new leader.

Material



Teaching Steps

1. Teacher divides the learners in to 4-5 persons each group.
2. The teacher can pick any location on the map, as the first command, and each group has to try to complete the mission correctly and fast!
3. Any team to finish first will be promoted as a “Tribe Leader” and have the authority to creating new order for their friends to complete.

Rule

1. Winner receives star 1 point, and will be the new Leader.
2. The tribe Leader will remain in their position If no team can complete the command correctly and receive, and also receive 1 star point..

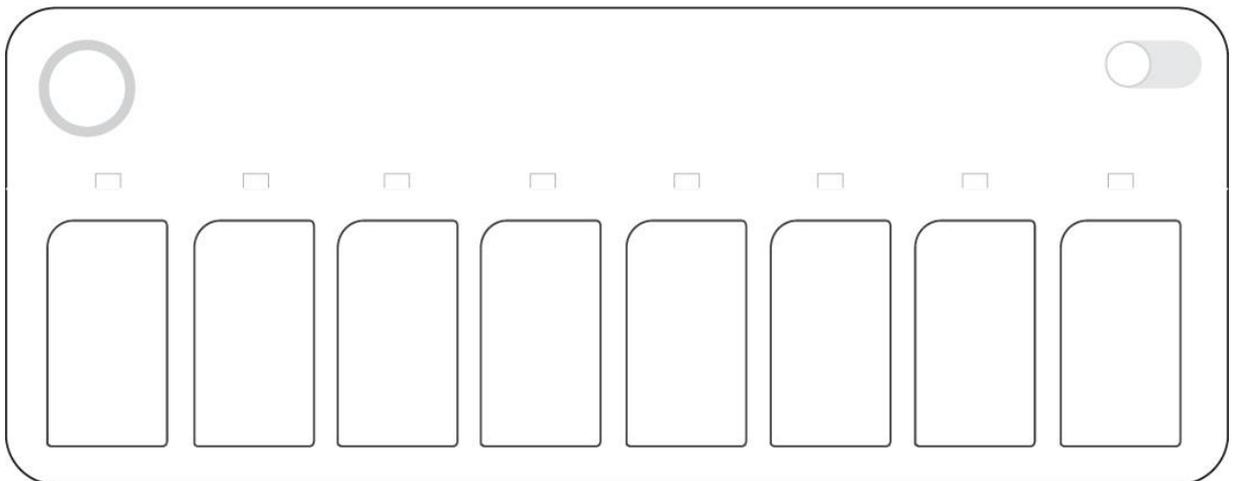
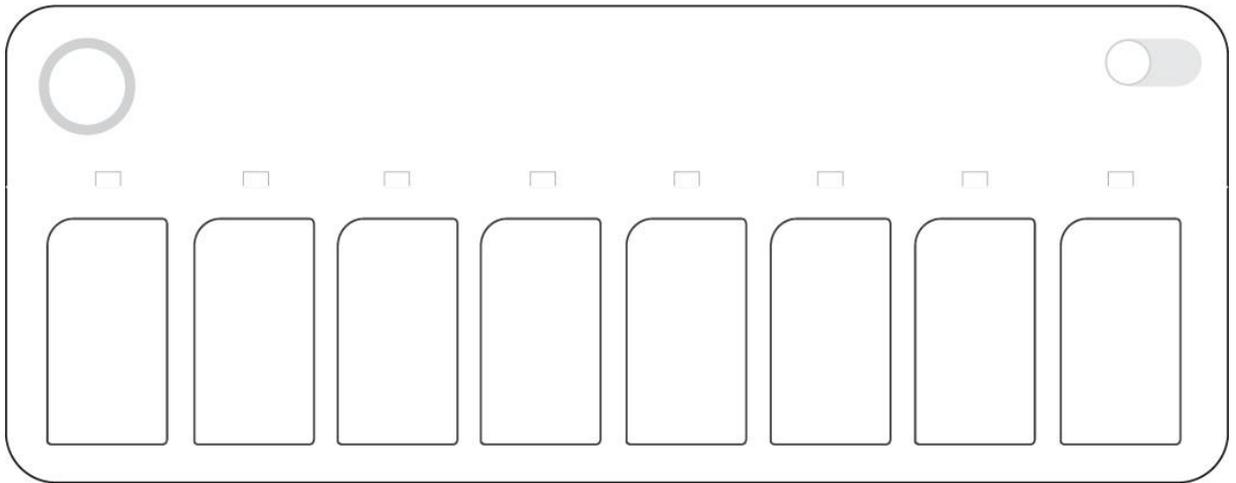
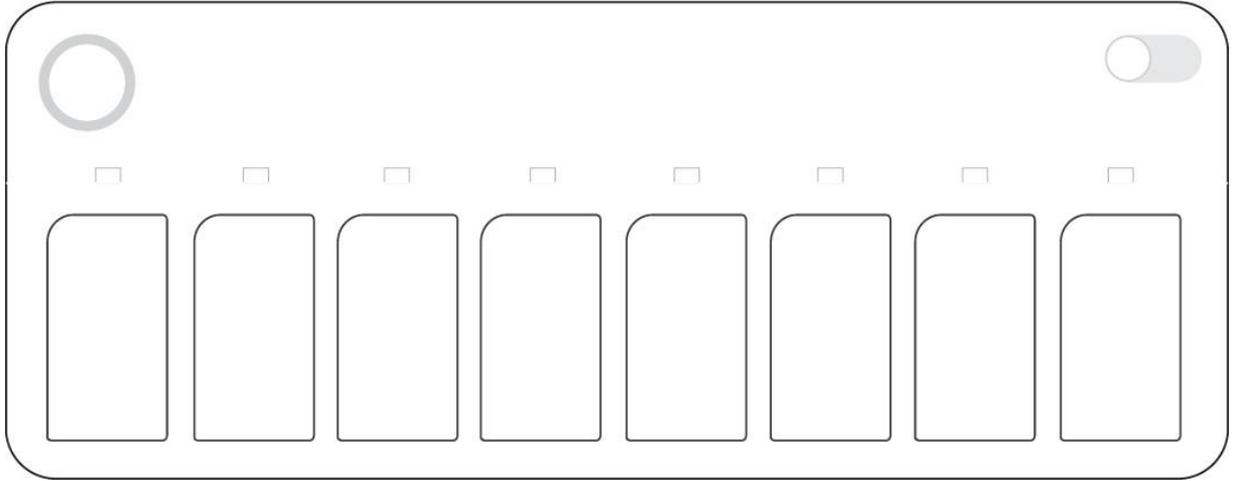
Tips: Feel free to link this activity to your local story, it’s great to get to learn some history. You can even decorate Mojobot and modify your city map.

Example order

1. Make Mojobot feels excited and blinks red light, green light and blue light delay 2 seconds each time then turn around itself 2 times.
2. Mojobot goes for an exercise to keet fit and walks around the map for 1 big round.

Appendix

Paper Console





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