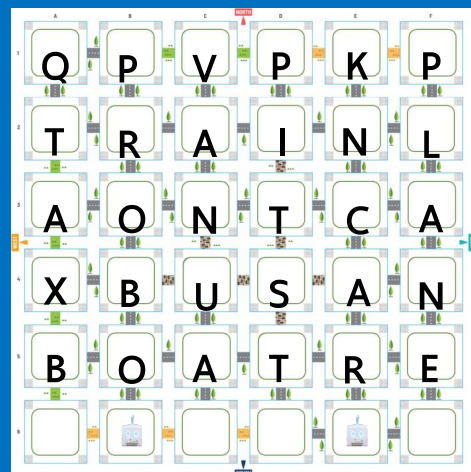
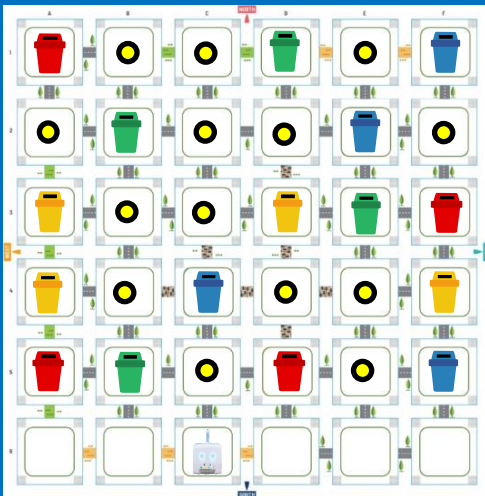




# Mojobot DIY Theme Maps

[www.mojobot.io](http://www.mojobot.io)



# Contents

How to DIY Mojobot Map	3
Waste Sorting Game	5
Animal Life Cycle	11
Happy Numbers	18
Mojo Crossword	31
Solar System	40
Mojo Minesweeper	47

# DIY Mojobot Map

www.mojobot.io

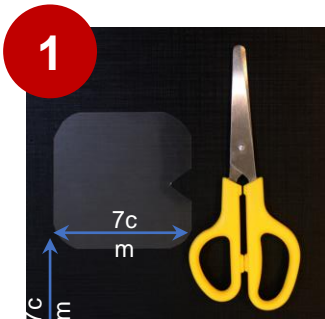


## Equipment

- Transparent Tape
- Cutter
- Scissors
- Transparent Cover Sheet
- Printed Mojobot Curriculum

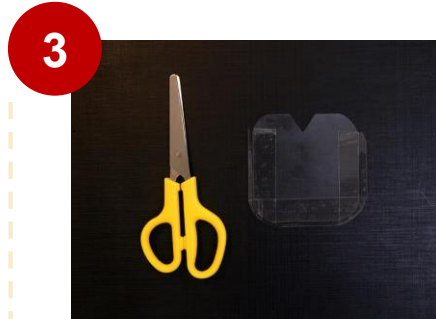


#1 Equipment



#2 How to cut the cover sheet for map modification

**Step 1:** we need 36 pieces of these transparent cover sheet. Cut them into square size 7 cm. x 7 cm. Make sure you cut the corner to make it round.



#4 Tape the cover sheet

**Step 3 :** Use scissors to trim the tape. Leave about 0.5cm of tape around the outside of the transparent cover sheet.

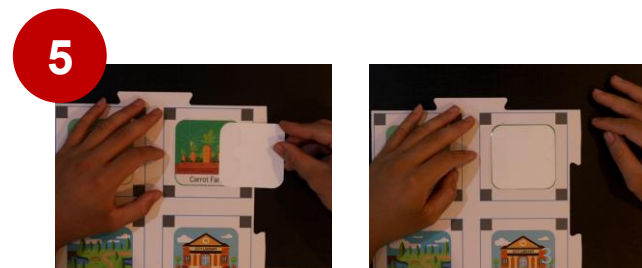


#3 Tape 3 Sides of the square

**Step 2:** Tape three side of the cover sheet, see picture #3



#5 Attach the cover to onto the map



#6 Now you can change the map

# DIY Mojobot Token

www.mojobot.io

## Equipment

- Transparent Sticker
- Double-sided tape
- Scissors
- Printed Mojobot Curriculum

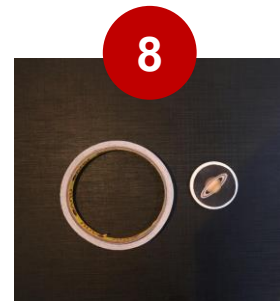


#7 Equipment



#8 printed token image

**Step 4 :** cut out the printed token



#10 ready to

**Step 4 :** Stick the printed token using double –sided tap



#9 cut token and transparent sticker

**Step 5 :** To improve durability, use a transparent sticker to cover the printed paper.



#11 finished DIY token !

## Waste Sorting Game

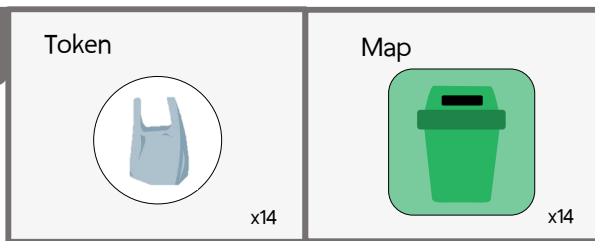
In this Waste Sorting Game activity kids learn about waste management and classification while practicing basic coding skills. The objective of the game is to code Mojobot to collect the waste tokens and put it away in the correct waste bin. The waste is classified into 4 categories which are general waste, compostable waste, recycle waste and hazardous waste.

### Objective

By the end of the lesson :

- learner will have awareness of waste management.
- learner will be able to correctly identify the types of garbage.
- learner will be able to practice basic coding skills.

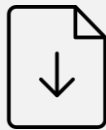
### Materials



\*\*\* Map and token can be downloaded by learning materials

### HOW TO PLAY

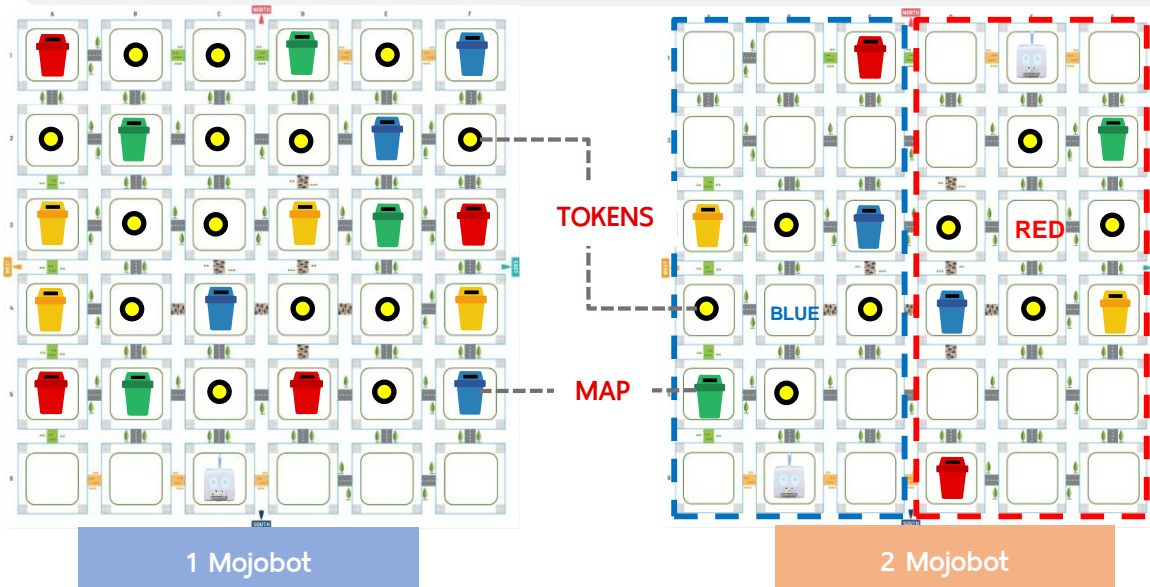
1



Teacher downloads teaching materials.



Print and cut the image to paste on the map and token of Mojobot.

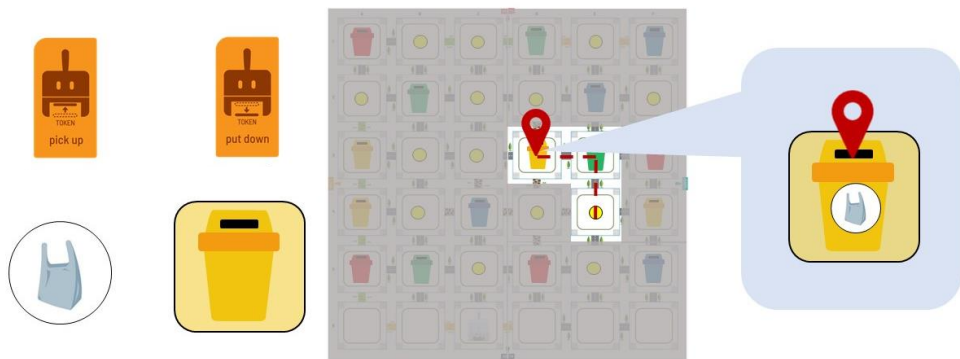


Arrange the map according to the following format

2

Program Mojobot to pick up waste token placed on the map and deliver it to the correct matching trash can.

3



4

ANSWER KEY

Compostable Waste

General Waste

Recycle Waste

Hazardous Waste



❖ Lesson

1. Explain waste separations and the correct separations waste according to the colors and type of trash can as follow:

1.1 Compostable waste (green) is the remnants of food left after eating.

1.2 Hazardous waste (red) is hazardous waste such as battery, lamp.

1.3 Recycle (yellow) is recycle waste that can be reused when processed such as plastic bags, plastic bottles, tin cans, glass bottle and paper.

1.4 General waste (blue) is waste that can not be recycled, such as candy wrappers and plastic straws because the are very thin and can get stuck in recycling machines.

2. Teacher arranges the map as shown by the diagram in step 2 and place the rubbish tokens randomly. Use the left map arrangement for playing with 1 Mojobot or on the right is for playing with 2 Mojobots. With 2 Mojobots there is a competition between BLUE and RED team.



## 1 Mojobot

- 1). Teacher chooses a student to code the collection and delivery of a rubbish token.
- 2). Teacher chooses next student to code the rubbish collection.
- 3). Repeat until all rubbish has been sorted.



## 2 Mojobots



- 1). Divide the class into two groups.
- 2). Students in the group brainstorm ideas about waste sorting within the group.
- 3). The rule is that each person in the group can only code once, then rotate around to the next person in the group.
- 4). Continue rotation until all rubbish has been sorted.
- 5). The winner is the first group first completes the challenge with the correct sorting.

3. The teacher summarizes the activity by educating students about rubbish collection, classification and sorting.

# Waste Sorting Game

## เกมส์คัดแยกขยะ

materials

สื่อการสอน

token

เหรียญ



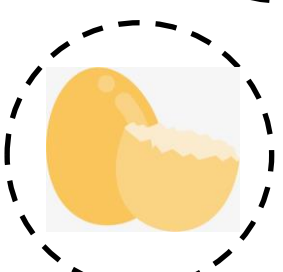
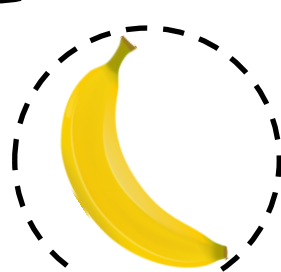
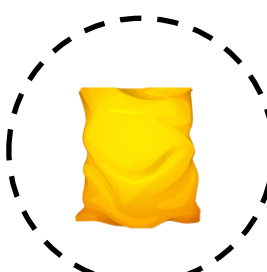
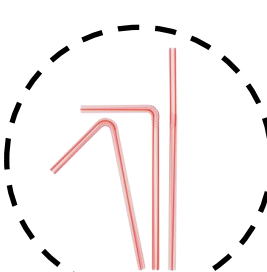
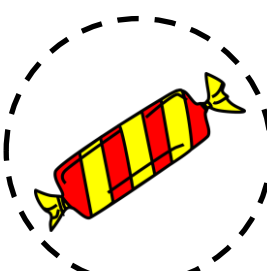
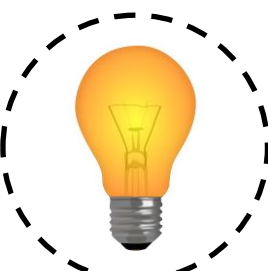
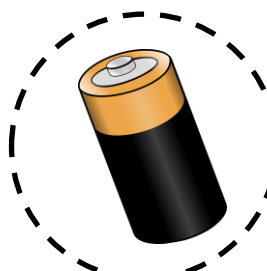
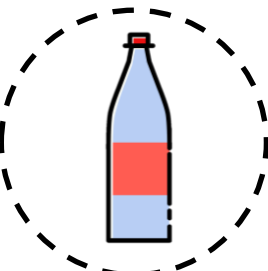
x14

map

แผนที่



x14









## Animal Life Cycle

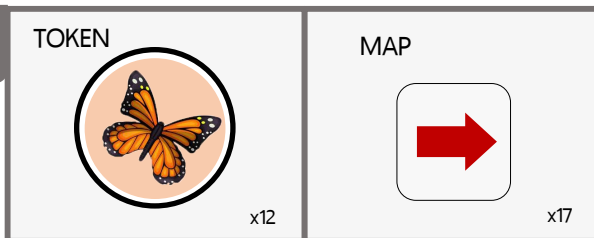
Animal life cycle is an activity that teaches students about biology and the life cycle development of animals alongside coding, logic and navigations skills. Two examples of animal life cycles are used, the butterfly and the frog.

### ❖ Objective

By the end of the lesson :

- learner will be able to sort the life cycle of animals.
- learner will be able to work with friends.
- learner will be able to code and solve navigation problems

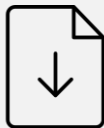
### Materials



\*\*\* Map and tokens can be downloaded by learning materials

### HOW TO PLAY

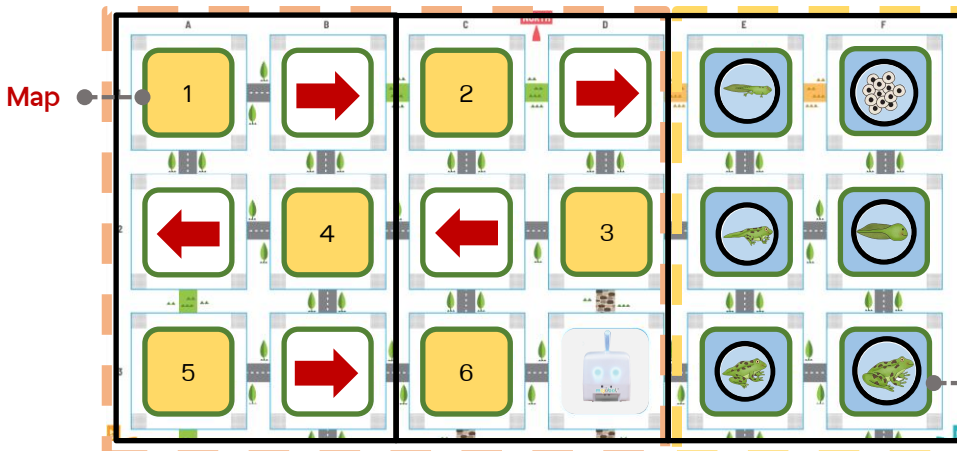
1



Teacher download learning materials.



Print and cut the image to paste on the map and token of Mojobot

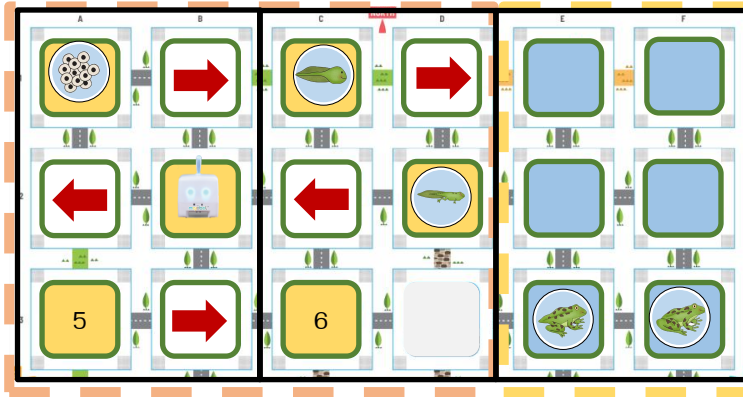


Arrange the map according to the following format

2

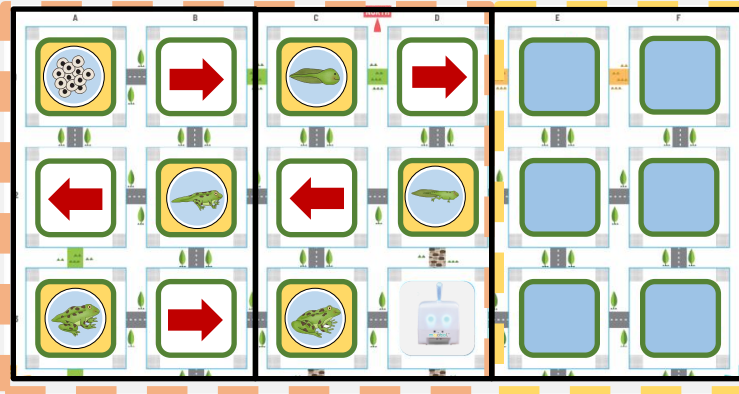
3

Code Mojobot to pick up the token depicting the different stages of the frog life cycle from the right hand side of the map and place them correctly in the correct sequence on the left hand side.

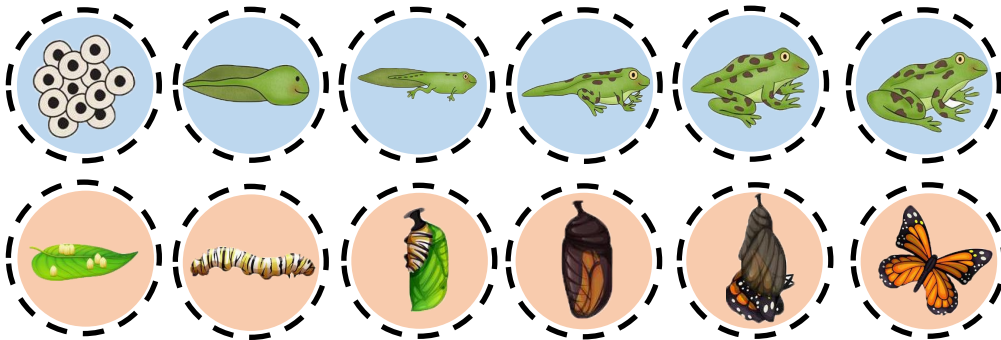


Students complete the activity when all tokens are placed on the left hand side of the map in the correct sequence..

4



ANSWER KEY



❖ Lesson

1. The teacher introduced the lesson by explaining the life cycle of various animals such as frogs, butterflies, chickens.



## 1 Mojobot

- 1). Teacher chooses a student to code Mojobot to collect and place 1 life cycle token.
- 2). Repeat the steps until all tokens are placed in the correct sequence.



## 2 Mojobot



- 1). Divide learners into groups of 2-6 people each.
- 2). Organize the competition, sorting the life cycle of animal 2 groups at a time.
- 3). Let learners code Mojobot to pick up life cycle tokens and place them in the correct order.

2. The teacher summarizes the content of this activity and educate students on the the life cycle of frogs, butterflies and other animals.

# Animals Life Cycle

## วงจรชีวิตสัตว์

Materials

สื่อการสอน

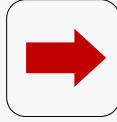
Token



x12

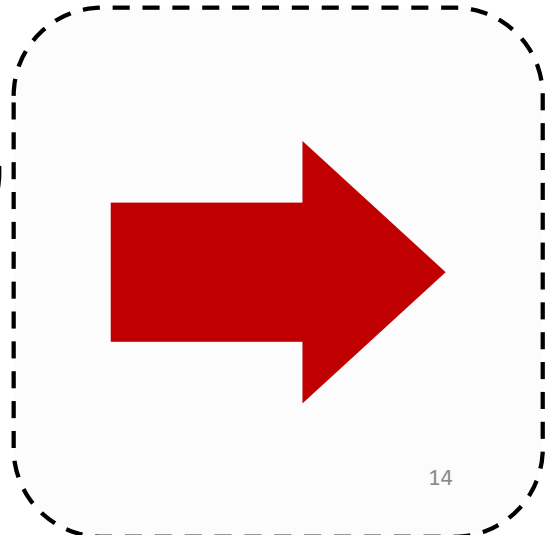
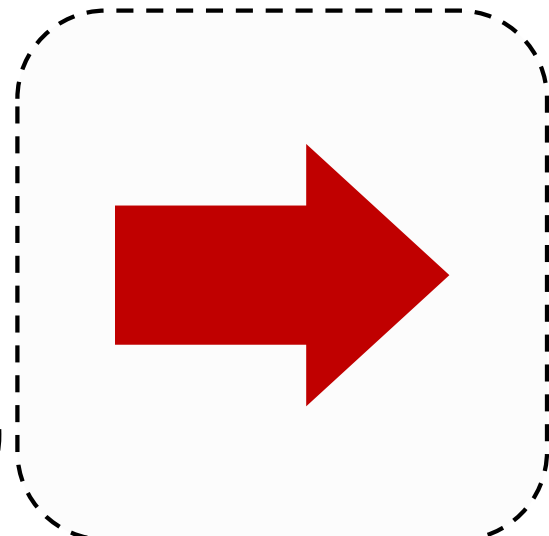
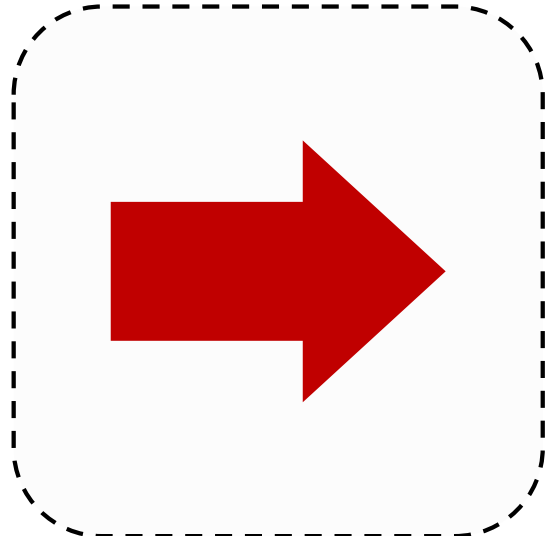
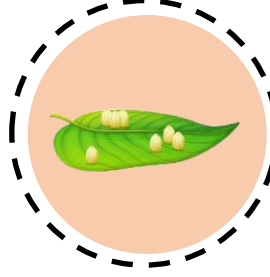
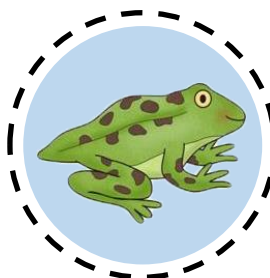
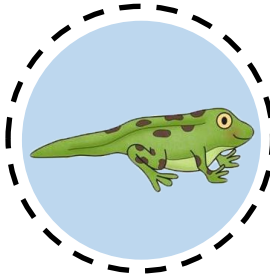
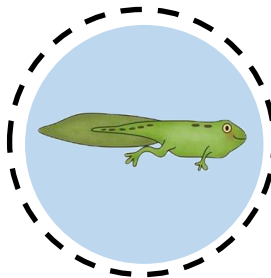
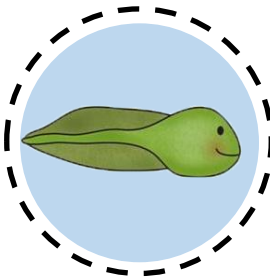
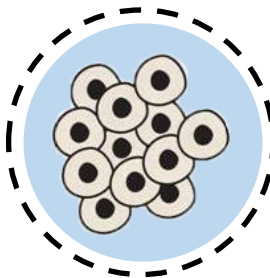
เหรียญ

Map



x17

แผนที่



1

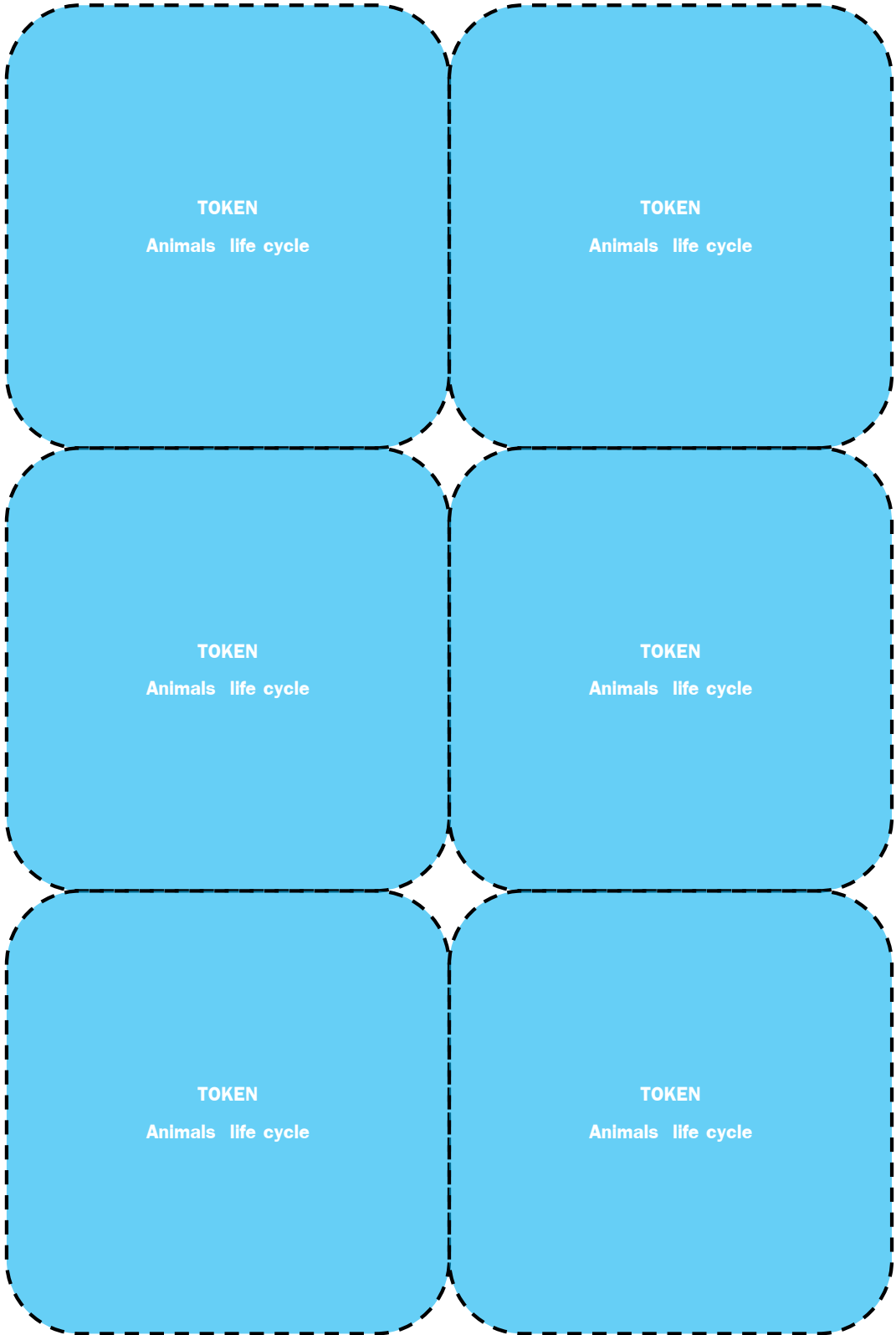
2

3

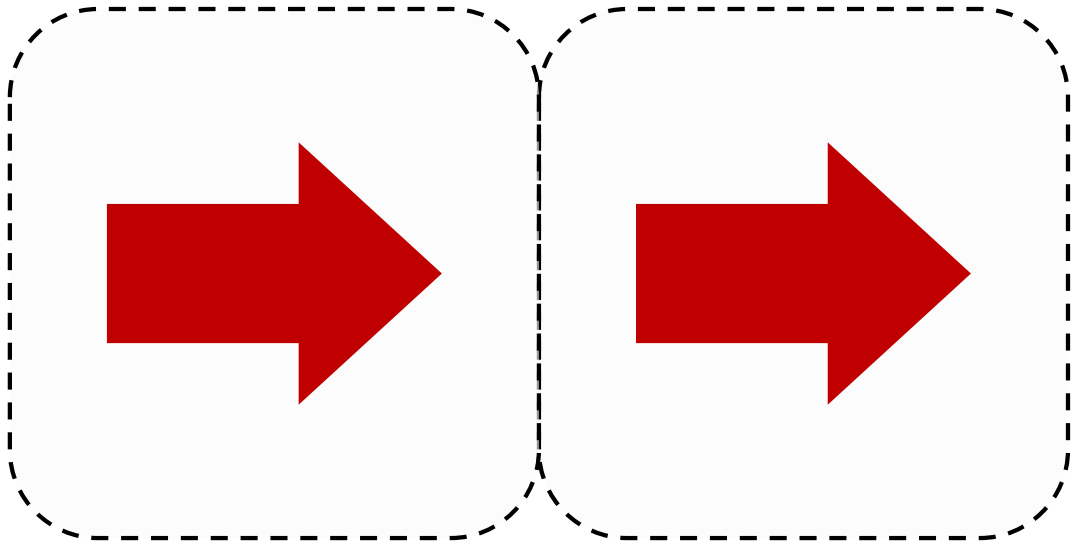
4

5

6







## Happy Numbers

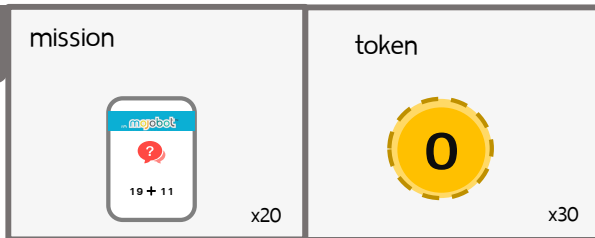
Happy Numbers is an activity that combines the coding with mathematical addition and subtraction. In this activity the students are challenged to code Mojobot to display the correct answer to some math problems.

### ❖ Objective

By the end of the lesson :

- learner will be able to solve addition and subtraction math problems.
- learner will be able to work together and cooperate with classmates.
- learner will be able to practice basic coding.

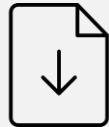
### Materials



\*\*\* Mission cards and tokens can be downloaded from our provided link.

### HOW TO PLAY

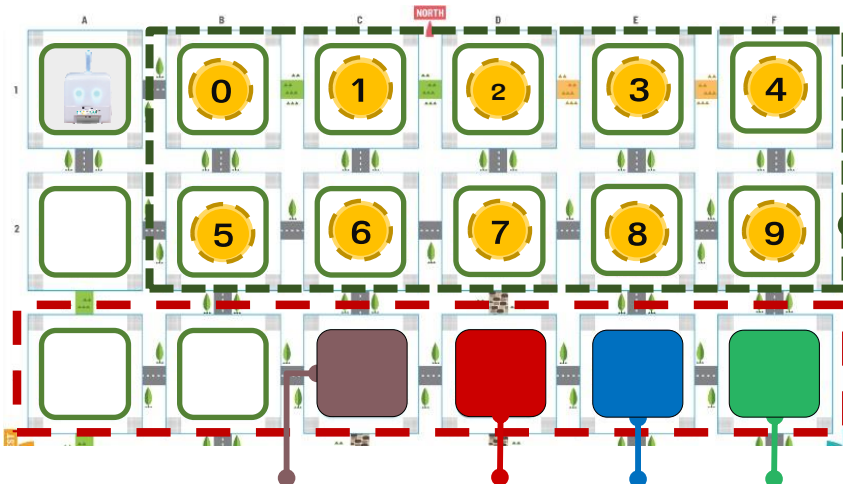
# 1



Teachers download teaching materials.



Print and cut the image to paste on the map and token of Mojobot.



Arrange the map according to the following format

# 2

TOKEN

ANSWER

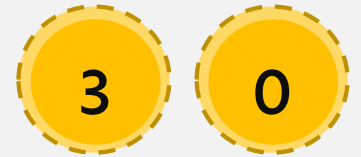
Thousand Hunderd Ten Unit

## 3



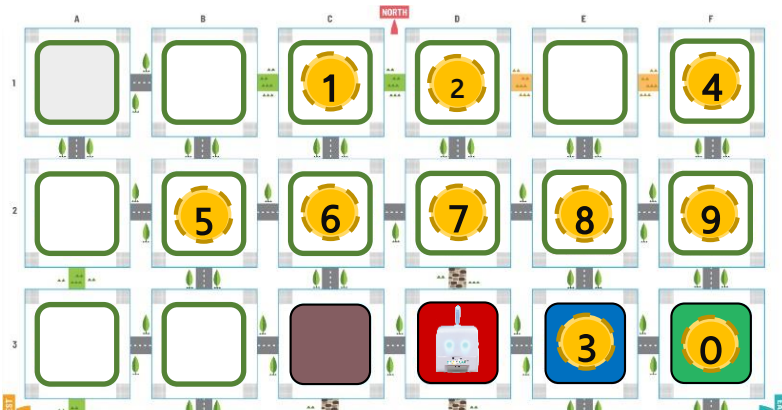
Teacher randomly picks the mission.

$$19 + 11 =$$



## 4

Student programs Mojobot to pick up the number Token and place it on the answer area.



### ❖ Lesson :

- 1). Divide the class into groups, each group of 4 people
- 2). Set the digit each person in the group is responsible for. The student responsible for a particular digit, for example hundreds, will code the answer of that digit. Rotate the digit responsibility after each mission so that the students gets to try out different digits.



#### 1 Mojobot

- 3). Teacher randomly picks the mission
- 4). The first group program Mojobot to pick up the number token and place it on the area of answer by alternating different digits with friends in the group.
- 5). When the first group is done. Next group is challenged to another mission.
- 6). At the end count the number of successful Missions completed by each group.



#### 2 Mojobot



- 3). Teacher pairs up two student groups to compete.
- 4). Teacher randomly picks the mission.
- 5). Both student groups program Mojobot to complete the mission.
- 6). When a group has finished first and the answer is correct, that group will be the winner.
- 7). Continue playing and count the number of wins each group achieves.

3. The teacher summarizes the content of this activity.

# Happy Numbers

## คิดเลขหรรษา

Materials

สื่อการสอน

Token

เหรียญ

Mision

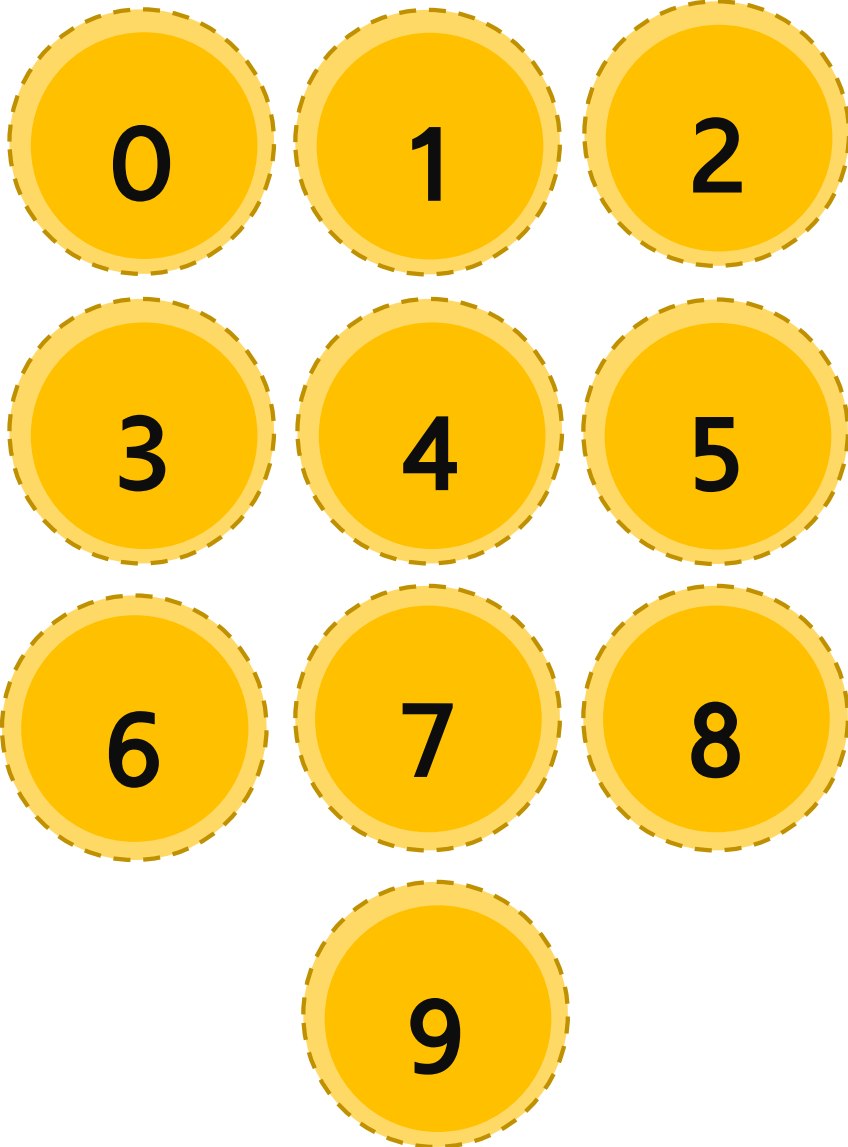
ภารกิจ



x10



x72



rm **mojobot**™



$$19 + 11$$

rm **mojobot**™



$$50 - 36$$

หลักหน่วย  
Unit

หลักสิบ  
Digits

หลักร้อย  
Hundred

หลักพัน  
Thousand

I'm **mojobot**™



1504-936

I'm **mojobot**™



(7X8)-6

I'm **mojobot**™



(32-12)+3

I'm **mojobot**™



15 + 5

I'm **mojobot**™



20+ 2+15

I'm **mojobot**™



42-(110-87)

I'm **mojobot**™



97+78

mojobot™



$$82+156$$

mojobot™



$$227+334$$

mojobot™



$$2255+729$$

mojobot™



$$358+67$$

mojobot™



$$174+556$$

mojobot™




$$789+456$$

mojobot™




$$676+777$$

**789-48**




**i'm mojobot™**

**629-482**




**i'm mojobot™**

**935-555**



**i'm mojobot™**

**417-67**



**i'm mojobot™**

**i'm mojobot™**



**523+779**

**i'm mojobot™**



**3697+2578**

**i'm mojobot™**



**546-227**



**i'm mojobot™**



**6218-4988**

**i'm mojobot™**



**3752-628**

**i'm mojobot™**



**9999-7235**

**i'm mojobot™**



**4238-1648**

**i'm mojobot™**



**7152-5684**

**i'm mojobot™**



**(145+78)-45**

**i'm mojobot™**



**(763+758) -587**

I'm **mojobot**™



$$3+5$$

I'm **mojobot**™



$$4+5$$

I'm **mojobot**™



$$3+3$$

I'm **mojobot**™



$$2+3$$

I'm **mojobot**™



$$5+2$$

I'm **mojobot**™



$$1+5$$

I'm **mojobot**™



$$7+2$$

I'm **mojobot**™



$$3+1$$

I'm **mojobot**™



$$15+5$$

I'm **mojobot**™



$$3+9$$

I'm **mojobot**™



$$40+35$$

I'm **mojobot**™



$$66+12$$

I'm **mojobot**™



$$20+17$$

I'm **mojobot**™



$$10+15$$

I'm **mojobot**™



$$78+30$$

I'm **mojobot**™



$$45+60$$

I'm **mojobot**™



$$87+98$$

I'm **mojobot**™



$$101+203$$

I'm **mojobot**™



$$500+47$$

I'm **mojobot**™



$$8-7$$

I'm **mojobot**™



$$4-1$$

i'm **mojobot**™



7-5

i'm **mojobot**™



6-2

i'm **mojobot**™



5-5

i'm **mojobot**™



15-8

i'm **mojobot**™



20-14

i'm **mojobot**™



89-68

i'm **mojobot**™



30-12

I'm **mojobot**™



**66-37**

I'm **mojobot**™



**50-49**

I'm **mojobot**™



**99-91**

I'm **mojobot**™



**100-2**

I'm **mojobot**™



**256-236**

I'm **mojobot**™



**789-654**

I'm **mojobot**™



**412-45**

## Mojo Crossword

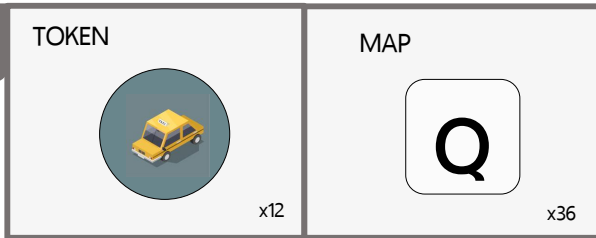
Mojo Crossword is an activity that combines coding with learning English in a fun way using the classic crossword game. Learners will get to hone their coding skills alongside learning and practicing new vocabulary.

### ❖ Objective

By the end of the lesson :

- learner will be able to learn and memorize vocabulary.
- learner will be able to match words and pictures.
- learner will be able to work with friends.

### Materials



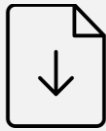
problems

vehicle

\*\*\*Map and token can be downloaded by learning materials

### HOW TO PLAY

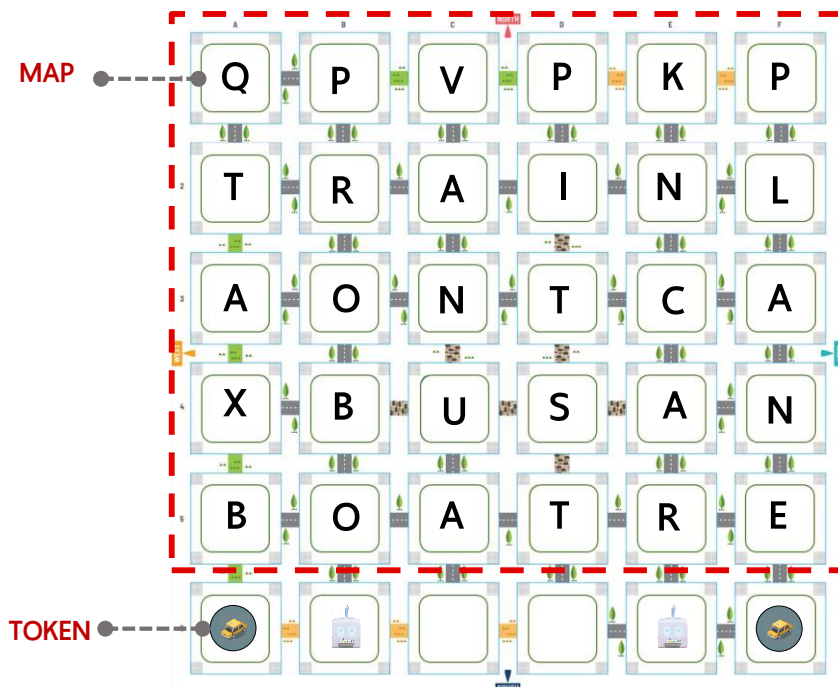
1



Teacher downloads teaching materials.



Print and cut the image to paste on the map and token of Mojobot.

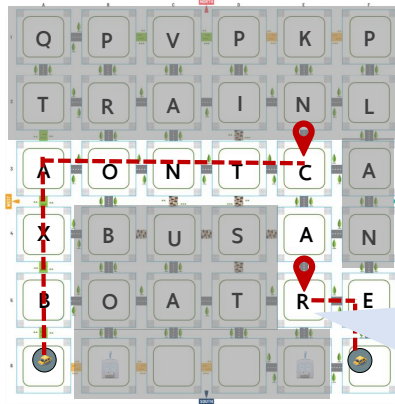


2

Arrange the map according to the following format

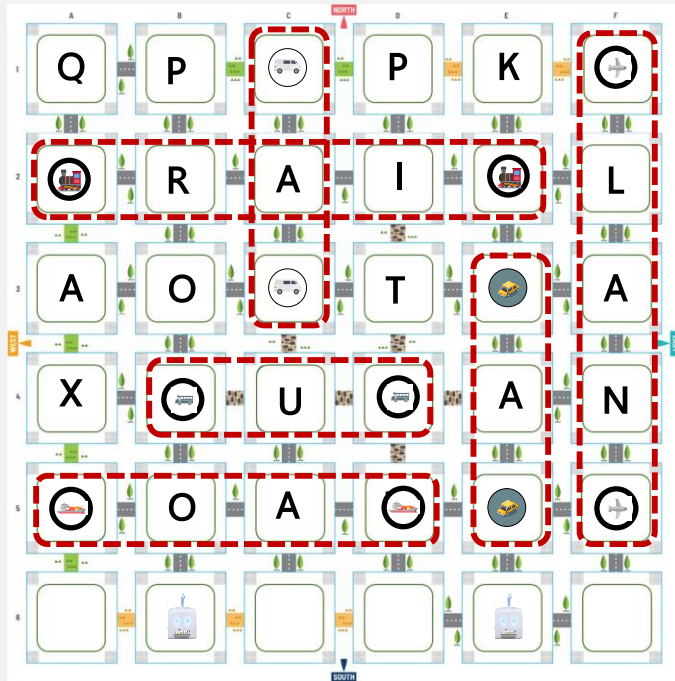
Code Mojobot to pick up tokens and place on the first and last letter of the matching word.

3



4

ANSWER KEY



❖ Lesson

1. The teacher goes through with students the different tokens.



## ❖ Lesson

1. The teacher goes through with students the different tokens. In this instance they are all pictures of vehicles. Discuss with the classroom the types and names of different vehicles.

2. Start playing the game. Students must pick up tokens from the bottom right and bottom left corner of the map and place it on the correct vehicle name, crossword style!

3. If playing using 1 Mojobot, swap turns between students to code.

4. If playing with more Mojobots, the teacher can organize the class into groups or get two students to collaborate and complete a crossword word at the same time.

5. The teacher summarizes the content of the activity and discusses with students the different types of vehicles, their vocabulary and the spelling.

# Mojo Crossword

# ehicle

materials

สื่อการสอน

Token

เหรียญ

Map

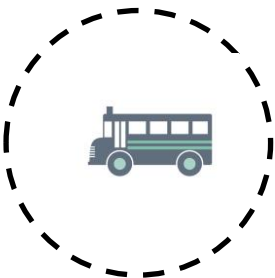
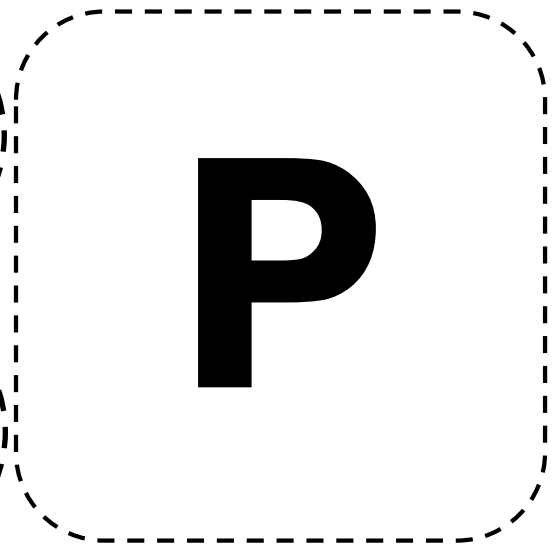
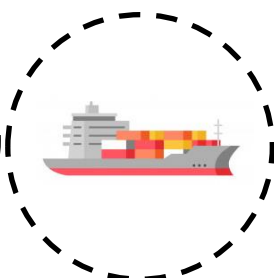
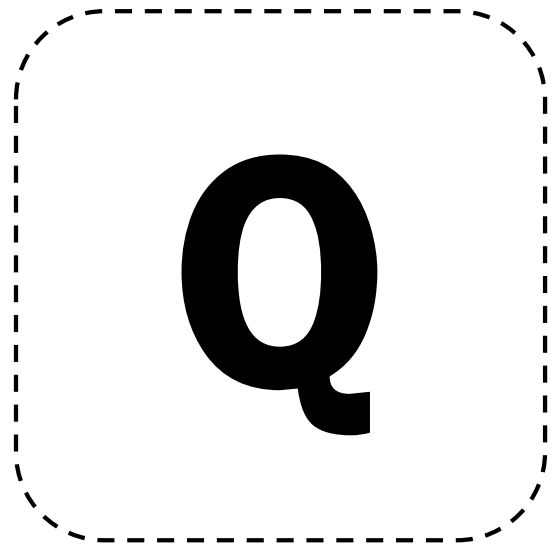
แผนที่



x12



x36



**V**

**P**

**K**

**P**

**T**

**R**

**A**

**I**

**N**

**L**

**A**

**O**

**N**

**T**

**C**

**A**

**X**

**B**

**U**

**S**

**A**

**N**

**B**

**O**

**A**

**T**

**R**

**E**

# Solar System

In this activity students learn about our place in space and the solar system in a fun way which combines coding and computational thinking. Students will learn about our solar system, the sun, the planets, and the order in which they orbit.

## Objective

- learners will know facts about space, the solar system, the sun and planets
- learner will know about the different characteristics of each planet
- learner will be able to choose code correctly.

## Materials

token



x9

map

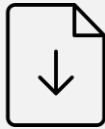


x9

\*\*\*Map and token can be downloaded by learning materials

## HOW TO PLAY

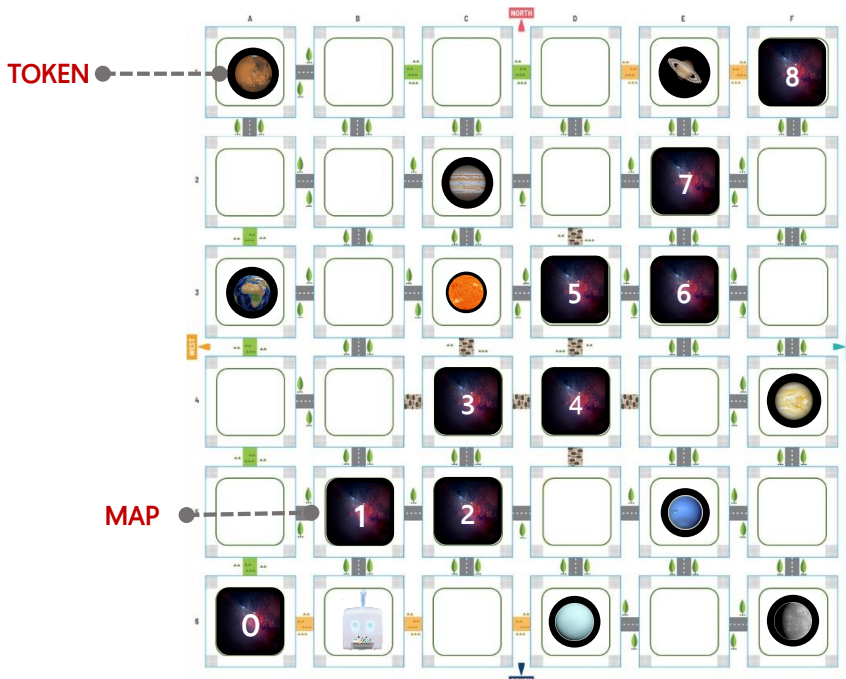
1



Teacher downloads teaching materials.



Print and cut the image to paste on the map and token of Mojobot.



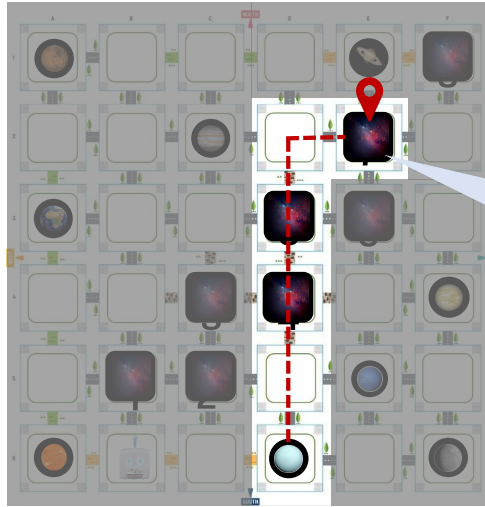
Arrange the map according to the following format

2



Code Mojobot to pick up a planet token and place it on the map to match the order of planets in the solar system.

3



ANSWER KEY

4



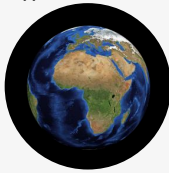
### Lesson

1. The teacher teaches the students about space and the solar system. The teacher should describe the sequence, details of planets in the solar system.
2. Divide the class into groups.
3. The teacher randomly chooses a planet and describes its features. Students in each group should code Mojobot to pick up the planet token being described and place it in the correct location on the map.
4. Teacher summarizes the knowledge content about our solar system and the planets.

# Solar System

materials

Token

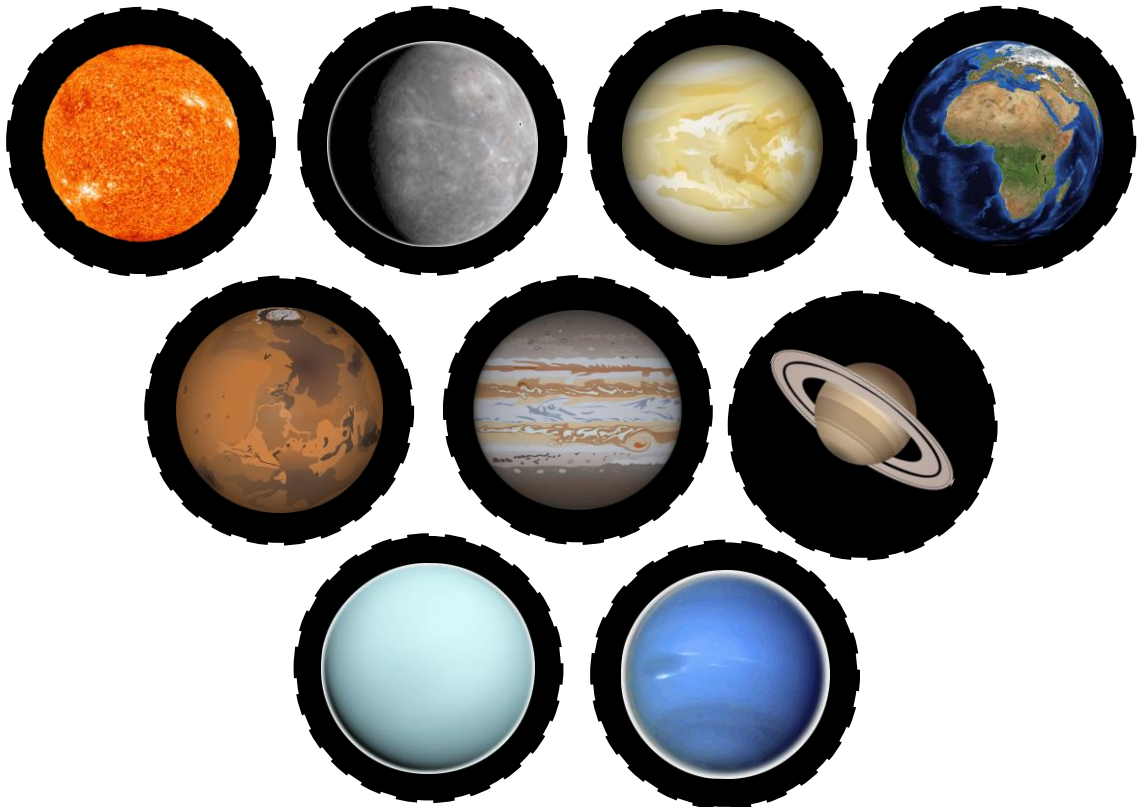


x9

Map



x9



7

Is a cold and windy planet. There is a giant ice around the planet.

8

It is a dark planet with no light, cold weather, and a supersonic wind.



1

The smallest planet in our solar system and close to the sun and stars that are slightly larger than the Earth's moon.



2

Is the second planet from the Sun. The shape and size are close to Earth, the hottest planet in the solar system.



3

Is the planet that we live in, which is the third planet from the sun and the only place we know until living creatures



4

The fourth planet from the sun is the star of a desert full of dust, cold and has a very thin atmosphere.



5

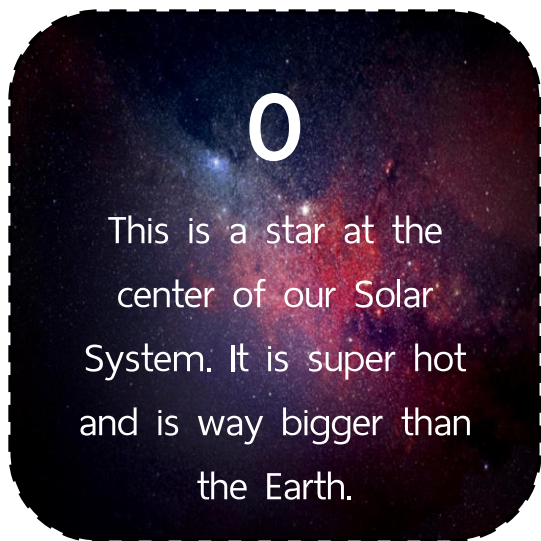
Planet has a long history surprising scientists—all the way back to 1610 when Galileo Galilei found the first moons beyond Earth.



6

Is the sixth planet from the sun and the second largest planet in our solar system and the planet with rings





# Mojo Minesweeper

Mojo Minesweeper is an activity of basic programming skills combined with game playing fun. The objective of this activity is to teach about direction and numbers whilst coding Mojobot to complete the task in each turn without hitting a mine bomb.

## ❖ Learning objectives

- Learner can read various directions correctly.
- Learner can work on the Mojobot program.
- Learner can co-operate with others.

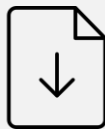
### materials

TOKEN  x8	TOKEN  x6	MISSION  x4	MAP  x1
Finger Mojobot 		Dice 	

\*\*\* Map mission and Tokens Can be downloaded by learning materials

### HOW TO PLAY

1



Teacher downloads teaching materials



Print and cut the image to paste on map and tokens of Mojobot

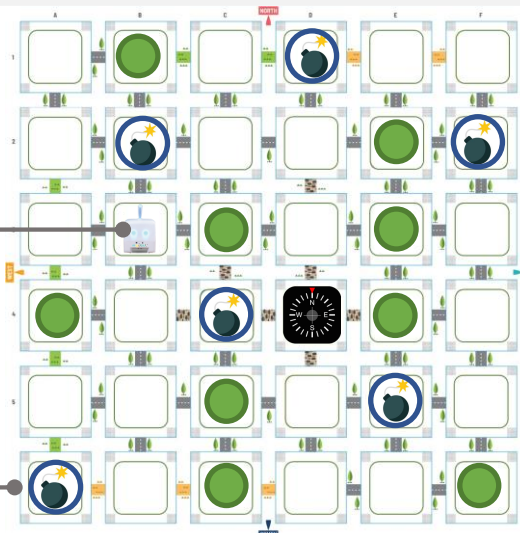


Player randomly place Mojobot starting position.



Place Token upside down

tokens

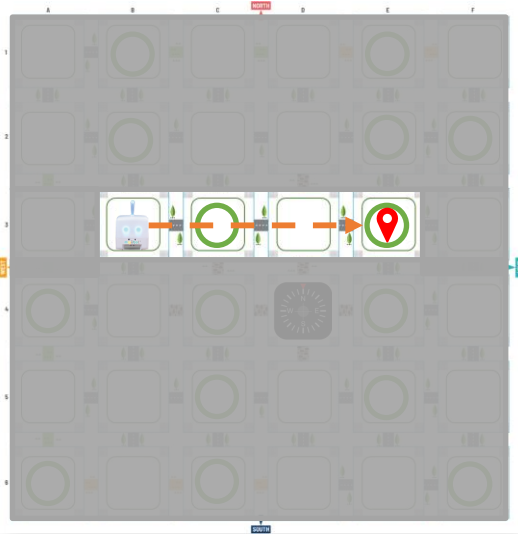
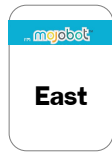


Arrange the map according to the following format

2

3

Randomly choose a card and roll a dice. If the player gets the card “East” and the number 3, then the task is to move Mojobot eastward by 3 blocks.



4



Student code Mojobot to move to the correct position as defined by the task. To make a score Mojobot has to pick up a Green token. If Mojobot picks up a mine bomb Token then the player loses.

❖ Lesson

1. The teacher describes the rules for playing this activity.
2. Instructors organize groups to have 2 to 4 learners.
3. The teacher randomly places both Green and Bomb tokens. Make sure to place tokens upside down so players don't know where the Bomb tokens are.
4. Each player choose the starting position of their Mojobots and represent their character positions using the Finger Mojobots.
5. The first player randomly chooses a the card and rolls dice then code Mojobot once to complete the task.
6. A player loses if they receive a bomb token.
7. The winner is the player that can collect the most Green tokens.



7. If amount walking of Mojobot that over have There are 2 ways to play.

7.1 Let Mojobot walk to the end of the map as pitch dice get 6 but Mojobot walks forward 2 positions to the edge of the map let Mojobot to walk forward 2 positions.

7.2 Let the Mojobot go to the other side of the map if Mojobot had to walk east to 6 positions but Mojobot walked only 2 positions go to the end of the map let count the position of the map in the east 2 positions and counting positions opposite to the east, another 4 positions will get the position that Mojobot must walk to that position instead and let Mojobot face east as well.

8. When the Mojobot of learner is in a position with a token let the learner open that token if get green token can continue playing But if getting token Bomb, that learner loses out of the game.

9. Repeat until there is only one winner.

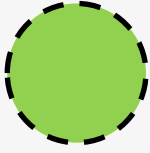
10. Teacher summarizes the content of reading directions

# Mojo Minesweeper

## เกมสึระเบิด

สื่อการสอน

เหรียญ



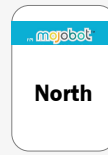
x8

เหรียญ



x6

ภารกิจ



x4

แผนที่



x1

