# LEGO Braille bricks

M&M Marc Angelier Marie Oddoux

LEGO Foundation braille consultants

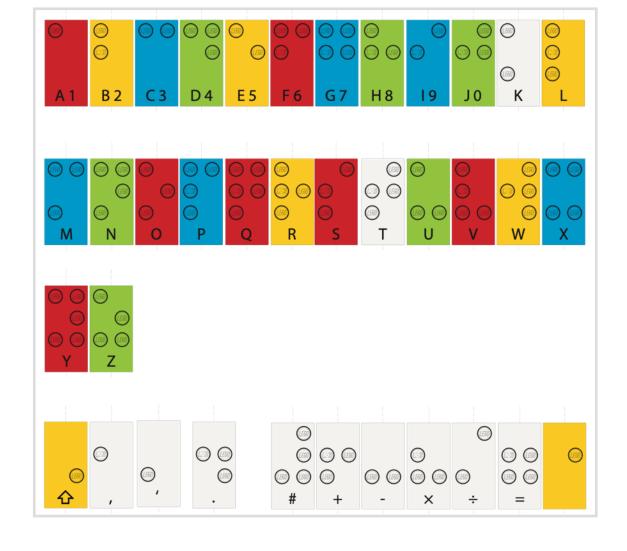
Tactile Reading 28th-29th April 2021



# What's in the box?

- Number of bricks based on the frequency across 10 languages
- Simple math and punctuation symbols
- Restrictions on number of bricks in the box meant some compromises
- Color selection for each brick random with rules





The toolkit contains

300 bricks : 2x4 bricks

- ✤ 3 base plates
- ✤ A brick separator

# A strong Pedagogical Concept



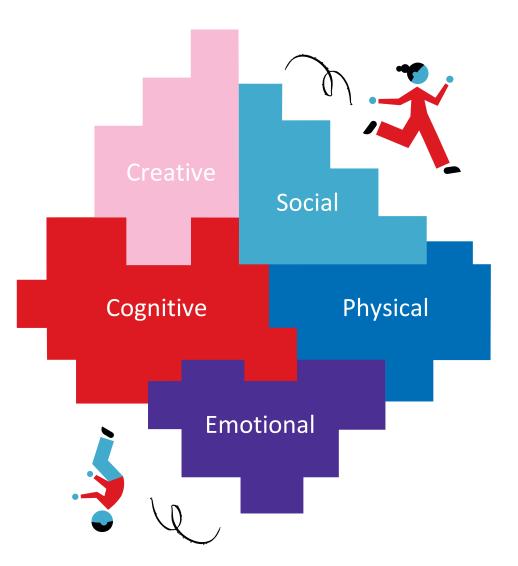
# Characteristic of playful learning experiences

These five characteristics ebb and flow as children are engaged in learning through play activities and all five are not necessary all the time. But over time, children should experience moments of joy and surprise, a meaningful connection, be active and absorbed, iterate and engage with others.



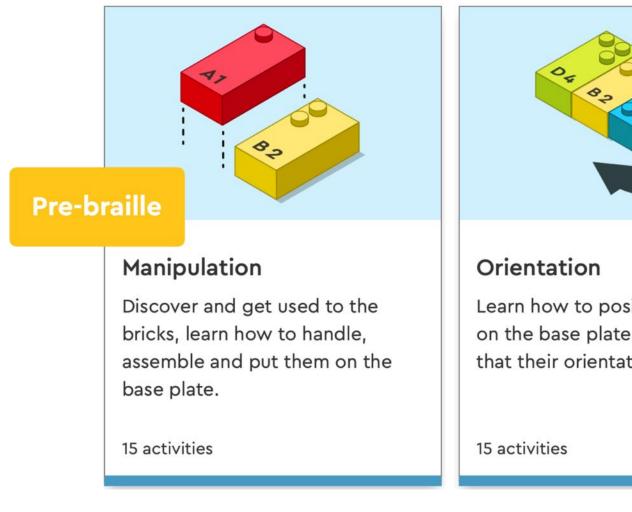
# Holistic skills

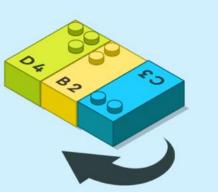
Children's development and learning is complex which is why we take a holistic view and high-light the importance of their physical, social, cognitive, creative and emotional skills and how these complement and interact with one another.





# 90 activities





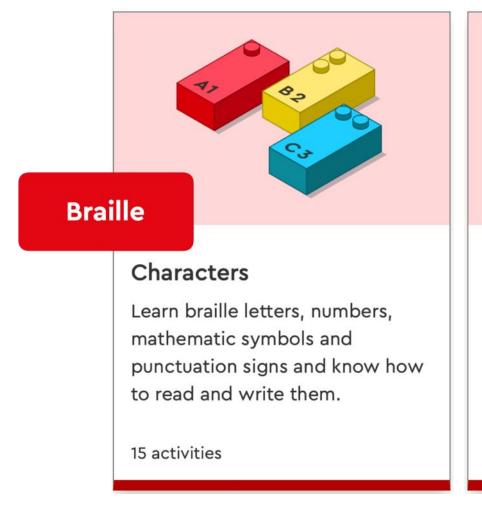
Learn how to position the bricks on the base plate and be aware that their orientation is important.

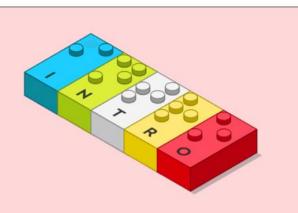


# Constellation

Discover the braille cell and how studs are arranged in two columns. Learn how to differentiate the studs.

15 activities

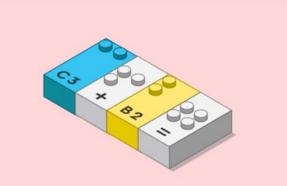




# Literacy

Assemble characters brick by brick and play with words in order to develop the ability to read and write.

15 activities



# Numeracy

Assemble characters, play with numbers and develop the ability to do basic mathematics and geometry.

15 activities

# • Title

- Time
- Number of players



### Let's play!

#### Players taking turns:

- Roll one die and read it. This number equals the number of passengers/studs to ride in your car.
- 2. Find your car with the right number of passengers.
- Roll the other die and read it. This number equals the parking space number.
- 4. Park your car in the corresponding space.
- 5. Game ends when the entire parking lot is full.

#### How to prepare

- 1 base plate
- All bricks
- 2 dice

Place bricks on the base plate to create a 6-car parking lot (2 columns of 3 spaces, like a braille cell).

### Facilitation tips

- Preliminary exercise: introduce the concept of a parking lot being similar to a braille cell. Name aloud all the parking spaces.
- Build cars with 2 bricks allows easier tactile detection.

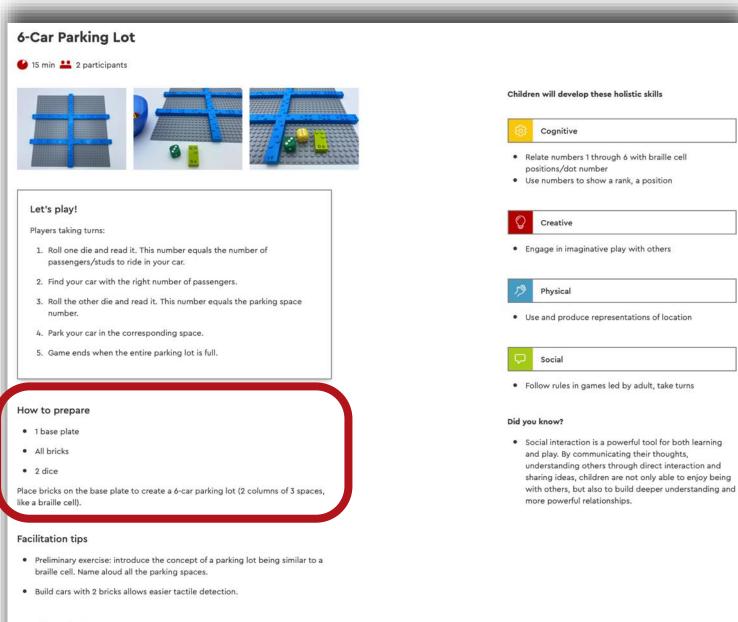
# Possible variations

- Suggest players build the parking lot.
- Team play: player 1 roll die 1 and find the car, player 2 rolls die 2 and find the space.



### Did you know?

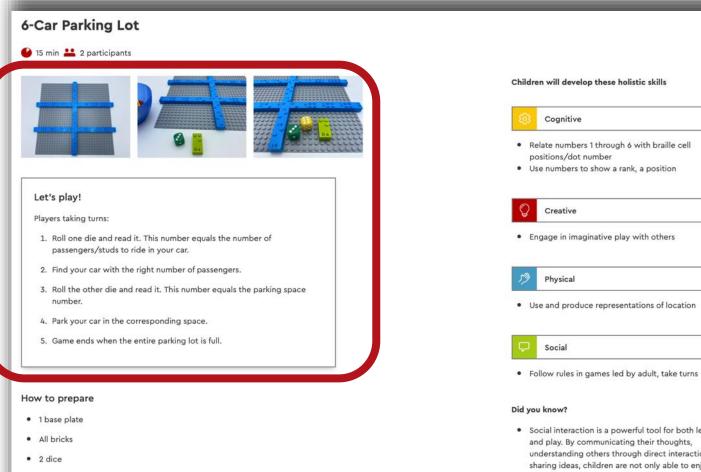
# How to prepare List of material Teachers' preparation



# Possible variations

- Suggest players build the parking lot.
- Team play: player 1 roll die 1 and find the car, player 2 rolls die 2 and find the space.

# Let's play Photos Step by step



Place bricks on the base plate to create a 6-car parking lot (2 columns of 3 spaces, like a braille cell).

## Facilitation tips

- Preliminary exercise: introduce the concept of a parking lot being similar to a braille cell. Name aloud all the parking spaces.
- Build cars with 2 bricks allows easier tactile detection.

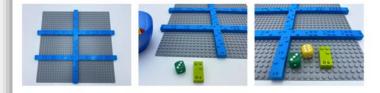
# Possible variations

- Suggest players build the parking lot.
- Team play: player 1 roll die 1 and find the car, player 2 rolls die 2 and find the space.

**Facilitation Tips** 

# 6-Car Parking Lot

# 🕑 15 min 🚢 2 participants



# Let's play!

Players taking turns:

- Roll one die and read it. This number equals the number of passengers/studs to ride in your car.
- 2. Find your car with the right number of passengers.
- Roll the other die and read it. This number equals the parking space number.
- 4. Park your car in the corresponding space.
- 5. Game ends when the entire parking lot is full.

### How to prepare

- 1 base plate
- All bricks
- 2 dice

Place bricks on the base plate to create a 6-car parking lot (2 columns of 3 spaces, like a braille cell).

# **Facilitation tips**

- Preliminary exercise: introduce the concept of a parking lot being similar to a braille cell. Name aloud all the parking spaces.
- Build cars with 2 bricks allows easier tactile detection.

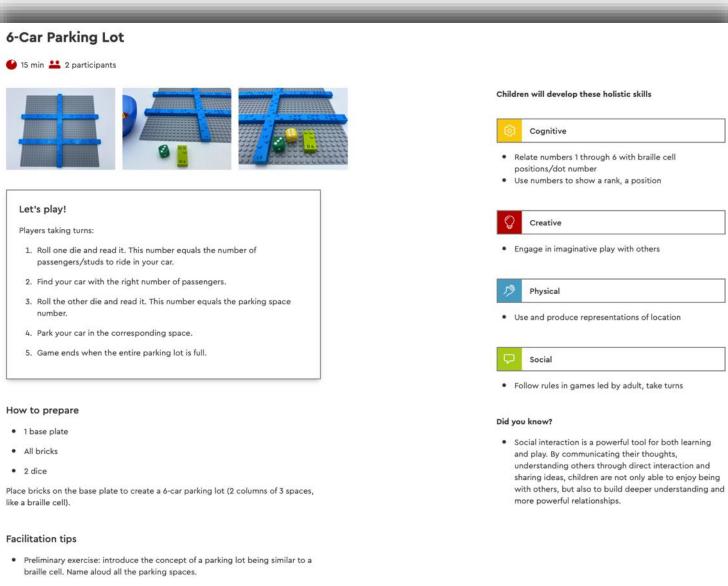
# Possible variations

- Suggest players build the parking lot.
- Team play: player 1 roll die 1 and find the car, player 2 rolls die 2 and find the space.

	Cognitive
	elate numbers 1 through 6 with braille cell
	ositions/dot number se numbers to show a rank, a position
)	
đ	Creative
E	Creative
E E	
r3	ngage in imaginative play with others

## Did you know?

# **Possible variations**



• Build cars with 2 bricks allows easier tactile detection.

### Possible variations

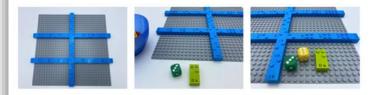
- Suggest players build the parking lot.
- Team play: player 1 roll die 1 and find the car, player 2 rolls die 2 and find the space.

Children will develop these

holistic skills

# 6-Car Parking Lot

# 🕑 15 min 🚢 2 participants



# Let's play!

Players taking turns:

- Roll one die and read it. This number equals the number of passengers/studs to ride in your car.
- 2. Find your car with the right number of passengers.
- Roll the other die and read it. This number equals the parking space number.
- 4. Park your car in the corresponding space.
- 5. Game ends when the entire parking lot is full.

### How to prepare

- 1 base plate
- All bricks
- 2 dice

Place bricks on the base plate to create a 6-car parking lot (2 columns of 3 spaces, like a braille cell).

# **Facilitation tips**

- Preliminary exercise: introduce the concept of a parking lot being similar to a braille cell. Name aloud all the parking spaces.
- Build cars with 2 bricks allows easier tactile detection.

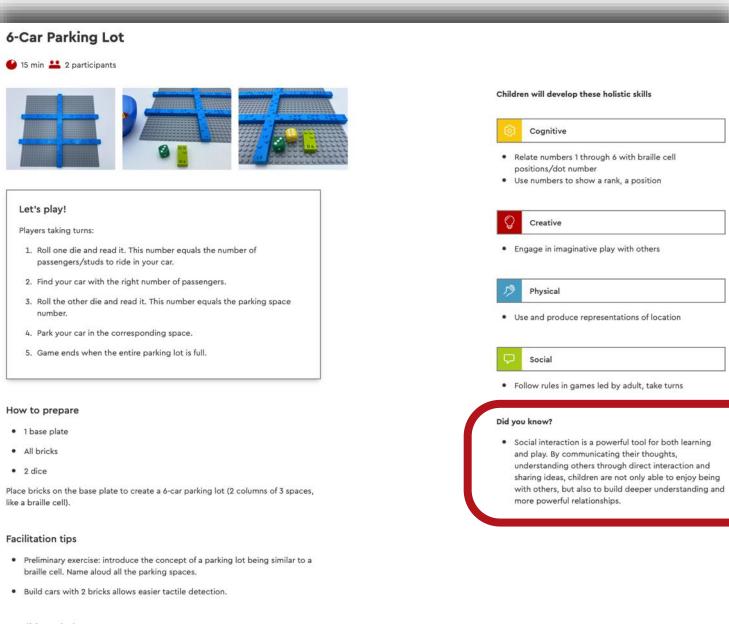
# Possible variations

- Suggest players build the parking lot.
- Team play: player 1 roll die 1 and find the car, player 2 rolls die 2 and find the space.

	Cognitive
	elate numbers 1 through 6 with braille cell
	ositions/dot number se numbers to show a rank, a position
2	Creative
Er	gage in imaginative play with others
	Physical
U	e and produce representations of location

### Did you know?

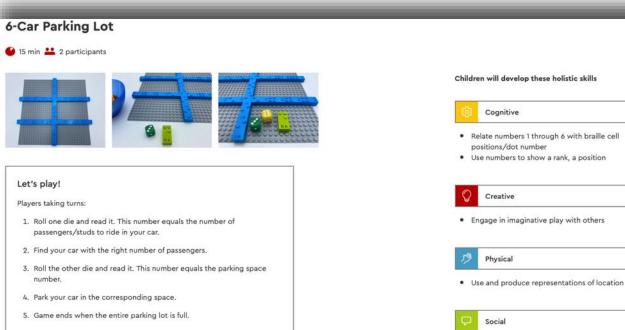
# Did you know



# Possible variations

- Suggest players build the parking lot.
- Team play: player 1 roll die 1 and find the car, player 2 rolls die 2 and find the space.

# Download and print



#### How to prepare

- 1 base plate
- All bricks
- 2 dice

Place bricks on the base plate to create a 6-car parking lot (2 columns of 3 spaces, like a braille cell).

#### **Facilitation tips**

- Preliminary exercise: introduce the concept of a parking lot being similar to a braille cell. Name aloud all the parking spaces.
- Build cars with 2 bricks allows easier tactile detection.

# Possible variations

- Suggest players build the parking lot.
- Team play: player 1 roll die 1 and find the car, player 2 rolls die 2 and find the space.

# Download & print

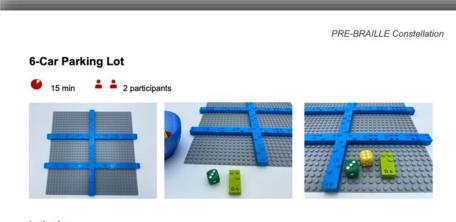
🗄 Print

Download in .docx

# Follow rules in games led by adult, take turns

#### Did you know?

# Activity sheet in .docx



# Let's play

- Players taking turns:
- 1. Roll one die and read it. This number equals the number of passengers/studs to ride in your car.
- 2. Find your car with the right number of passengers.
- 3. Roll the other die and read it. This number equals the parking space number.
- 4. Park your car in the corresponding space.

Game ends when the entire parking lot is full.

#### How to prepare

- · 1 base plate
- All bricks
- · 2 dice

Place bricks on the base plate to create a 6-car parking lot (2 columns of 3 spaces, like a braille cell).

#### **Facilitation tips**

- · Preliminary exercise: introduce the concept of a parking lot being similar to a braille cell. Name aloud all the parking spaces.
- · Build cars with 2 bricks allows easier tactile detection.

#### **Possible variations**

- Suggest players build the parking lot.
  Team play: player 1 roll die 1 and find the car, player 2 rolls die 2 and find the space.

### Children will develop these holistic skills

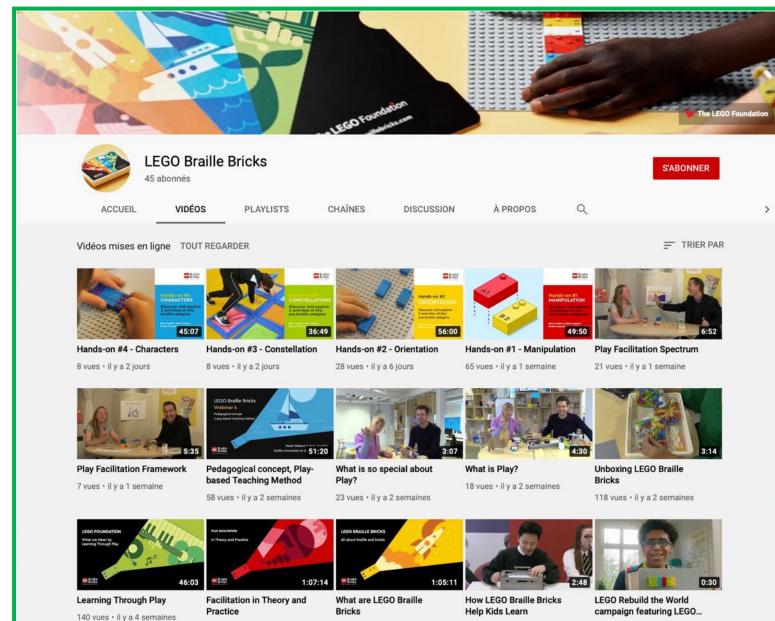
- · COGNITIVE Relate numbers 1 through 6 with braille cell positions/dot number
- · COGNITIVE Use the number to show a rank, a position
- · CREATIVE Engage in imaginative play with others
- · PHYSICAL Use and produce representations of location
- SOCIAL Follow rules in games led by adult, take turns

### Did you know

· Social interaction is a powerful tool for both learning and play. By communicating their thoughts, understanding others through direct interaction and sharing ideas, children are not only able to enjoy being with others, but also to build deeper understanding and more powerful relationships.

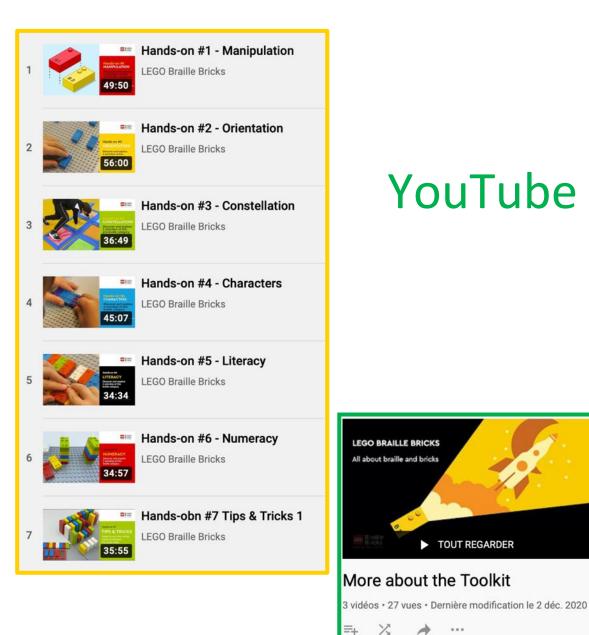
©2020 The LEGO Group

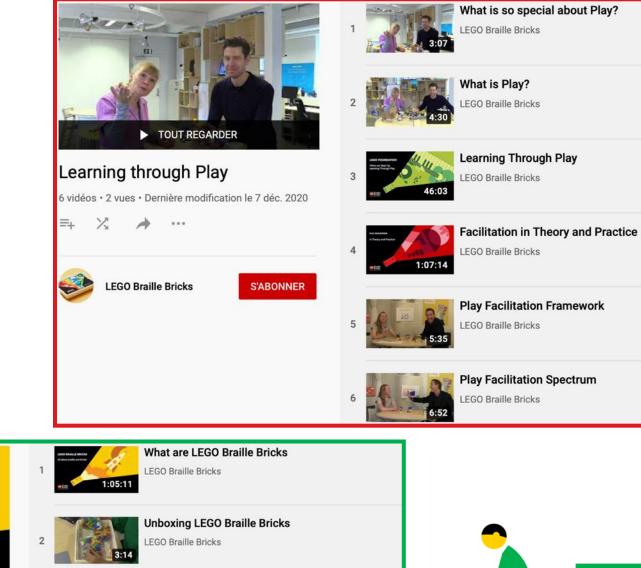




# Youtube









3

Pedagogical concept, Play-based Teaching Method LEGO Braille Bricks



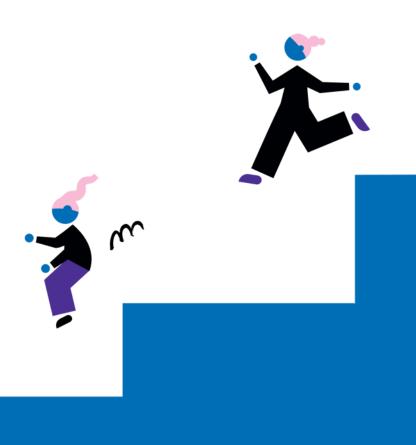
# LEGO Braille Bricks MOOC

# Massive Open Online course













# **LEGO Braille Bricks Community**



# **LEGO Braille Bricks Community**





