

MAGFORMERS®

Intelligent Magnetic Construction Set For Brain Development



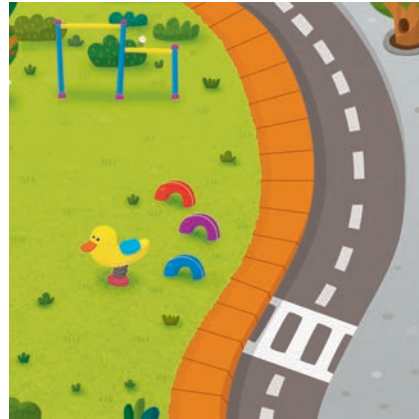
S.T.E.A.M. MASTER SET
SCIENCE · TECHNOLOGY · ENGINEERING · ARTS · MATHEMATICS

GUIDE BOOK



MAGFORMERS LLC

SCIENCE



ENGINEERING



ARTS



CONTENTS

What is Magformers S.T.E.A.M Master set?	04
Educational Effects of Magformers According to Age	06
Benefits Beyond the Fun	07
Composition of Magformers S.T.E.A.M Master	08
The new Magformers S.T.E.A.M Master Set	10
How to use Magformers accessories	18
S.T.E.A.M Factory	24
Comes with wheels.	28
I've got animal friends.	38
Welcome to the Magic Castle.	48
What do you see?	54
Play Sheet	60
Magformers Product lines	78



Magformers for Developing Creativity and Imagination

Magformers is the best 3D educational toy for helping children develop creativity and imagination. Assemble a variety of geometric shapes to create your own Magformers models. While seeing the 2D shapes change into 3D figures, children can understand the principle of magnets while growing their imagination and creativity.

Characteristics of Magnets and Principle of Magformers

Magnets have N and S poles. Two magnets will be attracted by their opposite poles, and each will repel the like pole of the other magnet. Magformers have magnets embedded inside that rotate on an axis to allow them to attach in an infinite number of ways. This gives children the advantage of connecting shapes in 3D, not just on top of each other.

What is Magformers S.T.E.A.M Master Set?

Magformers S.T.E.A.M Master Set comes with magnetic pieces in basic geometric shapes and various accessories that add detail to the models. To design your own imaginative models with magnetic pieces, connect the Power Block to make them move in various ways. While playing with the moving Power Block and the Reflective Block to experience the principle of light reflection, children can equally develop their scientific, technological, engineering, artistic and mathematical thinking, and take a step closer to becoming well rounded.





Educational Effects of Magformers According to Age

Sensitive 1-3 year-old Sensorimotor Stage



A critical period that forms 80% of brain development. Through various sensory stimulation activities and finger movements, the brain and nervous system are developed.

Educational Effects

- Visual stimuli with the rich colors and shapes of Magformers
- Auditory stimuli with the clear sound of shapes attaching and detaching
- Developing recognition of colored shapes and distinction of different colored shapes
- Fostering coordination of eyes and hands while holding, attaching and detaching Magformers
- Developing gross and fine motor skills while moving arms, hands and fingers

Curious 3-5 year-old Preoperational Stage



A period to passionately explore objects. While operating surrounding objects, curiosity increases. Symbolic thinking is developed, and imaginative and virtual play forms are displayed overall.

Educational Effects

- Improving ability to operate objects by developing hand control
- Fostering divergent thinking, imagination and creativity while making desired shapes
- Developing modeling capability while creating a form or shape, and understanding symmetry, configuration, area and lines

Stubborn 5-7 year-old Concrete Operational Stage



A period when self-reliance and independence is developed, which causes behavior based on accomplishment. The ability to think and express themselves is developed, and creative and unique play is possible.

Educational Effects

- Learning the basis of mathematics such as parts and wholes, response and patterns while combining Magformers and making models
- Conception of geometric relationships and space by understanding shape and size comparison, direction and location of right, left, top and bottom
- Fostering creativity, problem solving skills, self-reliance and a sense of accomplishment while planning and creating on their own
- Developing verbal expression while expressing planned and finished models

Expressive 7 year-old and older Formal Operational Stage



A period that enables concrete thinking about objects and specific reproduction regarding the surrounding world that they experience. In this process, observation and analytical skills relating to objects, and logical thinking are developed.

Educational Effects

























- Developing observation, analytical and thinking skills while reproducing various surrounding objects
- Developing spatial perception skills while shaping buildings or making 3D models
- Developing reasoning, logic and thinking skills while predicting and representing invisible form
- Developing creative problem solving skills while making and combining complex objects
- Forming geometric concepts, acquiring mathematical knowledge and approaching science with the principle of magnets

Benefits Beyond the Fun
















<p>1</p> 	<p>Developing sensory abilities</p> <ul style="list-style-type: none"> • Improving fine motor skills • Developing cognitive ability through hand movement • Developing sensory perception through color and sound 	<p>2</p> 	<p>Developing modeling skills</p> <ul style="list-style-type: none"> • Developing modeling skills through building blocks by hand
<p>Developing creativity</p> <ul style="list-style-type: none"> • Developing stereoscopic configurability • Developing the creativity to visualize ideas 	<p>3</p> 	<p>Developing curiosity</p> <ul style="list-style-type: none"> • Developing curiosity through satisfaction from play 	<p>4</p> 
<p>5</p> 	<p>Developing mathematical thinking</p> <ul style="list-style-type: none"> • Spatial concepts, parts and wholes, patterns, principles of shape, etc. • Developing mathematical thinking 	<p>6</p> 	<p>Developing imagination</p> <ul style="list-style-type: none"> • Developing endless imagination through Magformers
<p>Developing scientific thinking</p> <ul style="list-style-type: none"> • Developing scientific thinking utilizing the principle of magnets 	<p>7</p> 	<p>Developing reasoning</p> <ul style="list-style-type: none"> • Developing reasoning from 2D planar figures to 3D figures 	<p>8</p> 







Composition of Magformers S.T.E.A.M Master set

Basic shapes









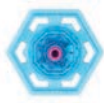














 Triangle X 28	 Square X 33	 Isosceles Triangle X 8	 Rectangle X 4	 Pentagon X 2	 Hexagon X 2
 Diamond X 4	 Trapezoid X 4	 Arch X 4	 Sector X 8	 Mini Rectangle X 8	 Super Rectangle X 2
 Super Triangle X 4	 Super Sector X 8	 Super Arch X 4	 1/8 Mini Sector X 8	 1/8 Mini Arch X 4	 New Super Square X 6
 1/8 Sphere X 8	 Cone X 4	 Isosceles Right Triangle X 8	 Triangle Arch X 8	 Half Arch X 4	 Half Circle X 8

Basic Accessories

 Boy Square X 1	 Girl Square X 1	 Cards X 40	 Block X 10	 Pulley Block X 1	 Propeller X 1
 Crane X 1	 Wheel X 2	 Motor Bike wheel X 1	 Caterpillar X 2	 Gear Wheel X 2	 Triangular Pyramid X 8
 New Extension Pyramid X 6	 Antenna X 1	 Bar X 4			

R / C			LED		
					
Motor Wheel X 1	Front Wheel X 1	Motor Remote Control X 1	LED X 1	LED Infinity X 1	USB CABLE X 1

3D Gear				
				
Small Playground X 2	Big Playground X 2	Big Gear X 4	Small Gear X 4	New Rotate Block X 8

Power Block			Reflective Block		
					
Power Generator X 1	Battery Pack X 1	Power Remote Control X 1	Engine Block X 1	Engine Cube X 1	Elevator Block X 2
					
Auto Sliding Block X 2	Walking Block X 2	Back Rushing Connector X 2	Auto Connector X 2	Auto Connector Bar X 1	90° Auto Connector X 2
					
90° Female Connector X 2	Square Auto Connector X 6	Pipe Connector X 1	Figure X 1	Space Back Pack X 1	Back Pack X 1
					
Female Auto Connector X 2	Mirror Block X 1	X Shape Mirror Card X 1	Mirror Card X 4	Mirror Piece X 8	

The new Magformers S.T.E.A.M Master Set – Even more movements!

You can build your own imaginary world with a spinning space station where a robot walks and a spacecraft wanders around.



When you connect the Engine Block to the Power Generator (Battery Pack), the models can move in many ways.



It delivers energy to Magformers for them to move (and shine).



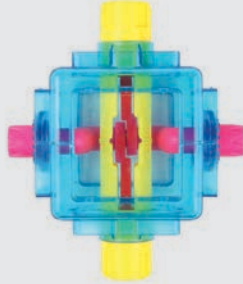
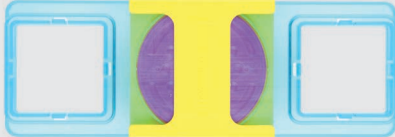


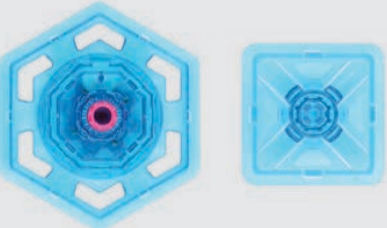



It rotates with the strength of the Power Generator (Battery Pack).



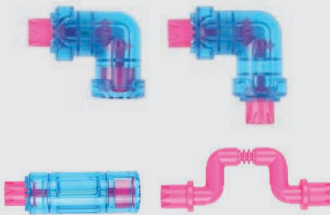

Movement Direction Changes

The Engine Block is connected to the blocks below, and the rotation of the Engine Block makes parts move in many different directions.

Imagine the movement of the models according to the icons!

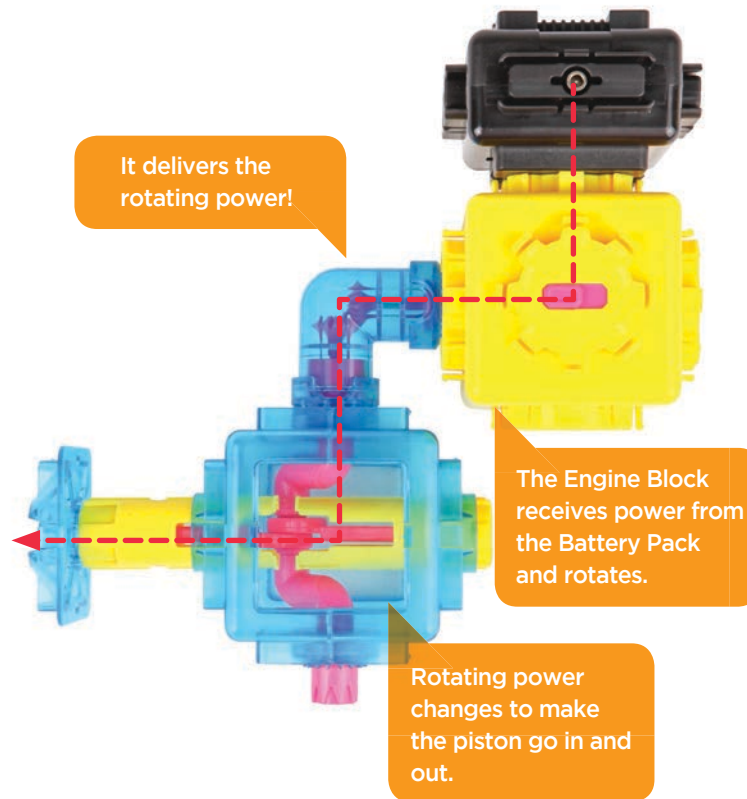
<p>Piston</p> <p>Rotating power changes to make the piston go in and out.</p>		<p>Sliding</p> <p>Rotating power changes to make the attachments slide side to side (up and down).</p>	
			
<p>Rotation</p> <p>It rotates in many different directions.</p>		<p>Walking</p> <p>One, two! One, two! Rotating power changes to walking.</p>	
			

Delivers Power

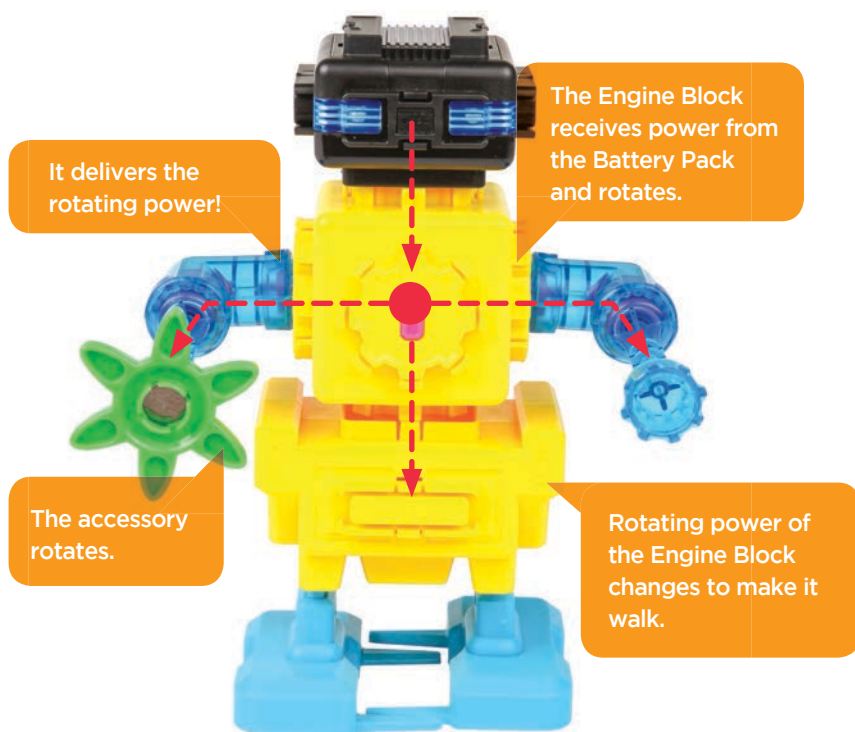
<p>It rotates various accessories. Use the Auto Connector to decorate your Magformers!</p>	<p>It delivers the rotating power.</p>	<p>You can fit more rotating blocks together. They must be connected to the Engine Block with the connector to rotate.</p>
 <div data-bbox="311 2029 646 2120">  </div>		

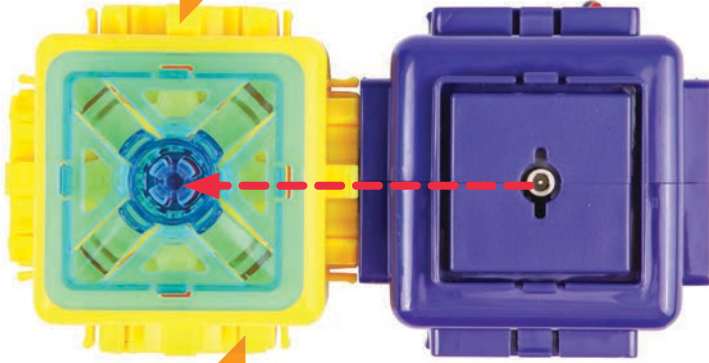
How to Utilize Power Blocks

The Bulldozer pushes sand!




The Robot walks!






The Square Auto Connector rotates and makes the Snail crawl forward.

The Engine Block receives power from the Power Generator and rotates.



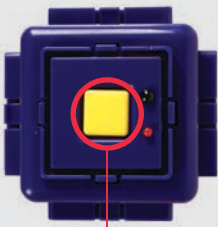
Power Remote Control
Models including the Power Generator can be controlled with the Remote Control.

The Snail crawls!



How to Use Power Generator

The Power Generator and the Battery Pack deliver energy to Magformers to make them move (and shine). All moving pieces must be connected to the Power Generator or the Battery Pack to move. (Power Remote Control is available only for the Power Generator.)



Warnings

- Turn off after using it.
- The reasonable charging time is 2 hours. Do not overcharge.
- Do not disassemble it.

Power Button

Power Generator



Warnings


- If the Battery Pack moves slowly or does not work smoothly, there might be a power issue. Please change the batteries.
- Please make sure to turn off the power after use since it may drain the battery.
- Please do not throw, or drop Battery Pack.

Power Button


Battery Pack

How to Use Engine Block

When you connect the Engine Block to the Power Generator (or the Battery Pack), it rotates. The Engine Block has a pink button on both sides.

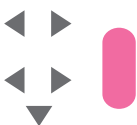


01 Speed control button can control the rotation speed.



Pink Button

02 Only the blocks plugged in the direction of the arrow rotate.



Pink Button

How to Utilize Power Blocks

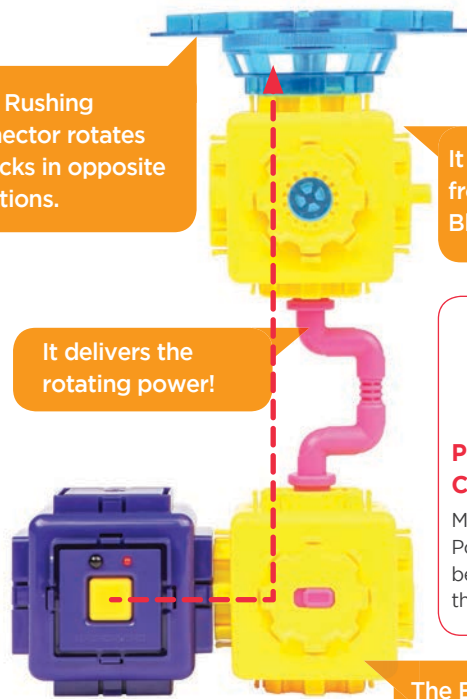
The Lighthouse shines and rotates.



Back Rushing Connector rotates 2 blocks in opposite directions.

It receives power from the Engine Block and rotates.

It delivers the rotating power!



Power Remote Control

Models including the Power Generator can be controlled with the Remote Control.

The Engine Block receives power from the Power Generator and rotates.

The Forklift is moving

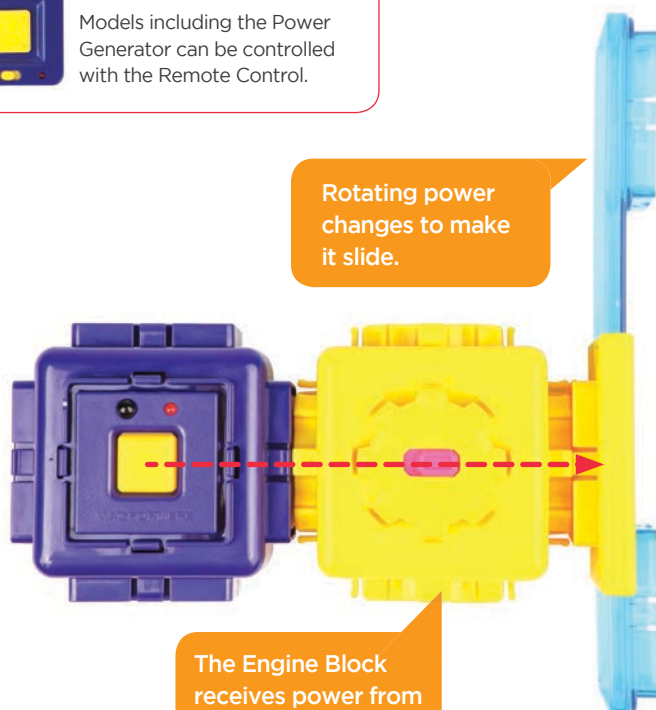


Power Remote Control

Models including the Power Generator can be controlled with the Remote Control.

Rotating power changes to make it slide.

The Engine Block receives power from the Power Generator and rotates.



Engine Cube

The Engine Block has an 'engine' to receive energy from the Power Generator to shine and rotate, but the Engine Cube doesn't have any engines. Like the Lighthouse, it can only rotate when connected to the Engine Block and Connector. When the Power Generator is directly connected to the Engine Cube, it turns on the LED light without rotating.



Pipe Connector

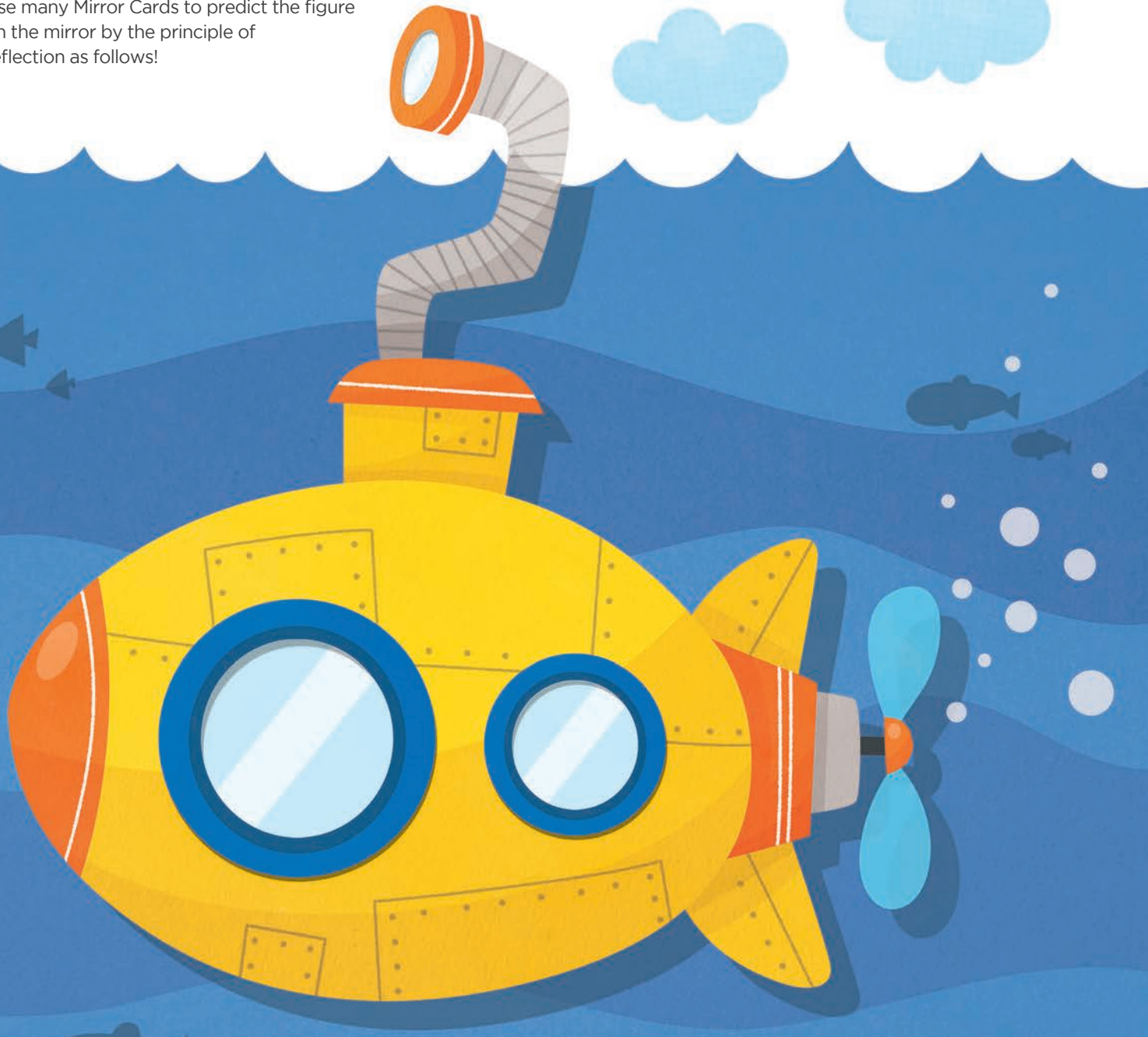
The Pipe Connector supports the Connector so it can be attached securely.

- The Pipe Connector is connected as below and helps inside connectors to be attached securely.

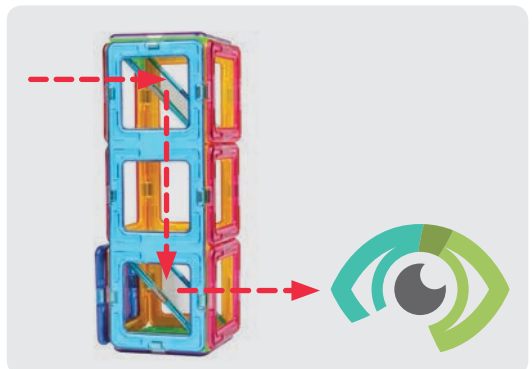
- Blocks shown below can be attached to the Magformers square or mini rectangle on each side. In some cases, if Magformers are placed between blocks, the blocks become securely attached.

How can the Submarine see the outside world in the water?

Use many Mirror Cards to predict the figure on the mirror by the principle of reflection as follows!



Principle of reflection



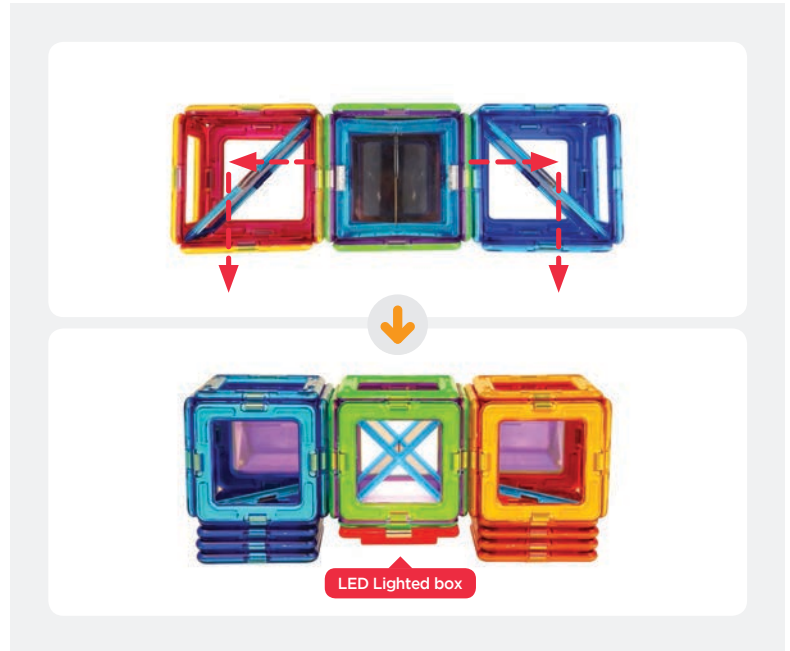
The new Magformers S.T.E.A.M Master Set - Reflection of light!

The mirror reflects the light and shows the object.
Use many mirror pieces to experience the principle of reflection.

How to Utilize Reflective Blocks

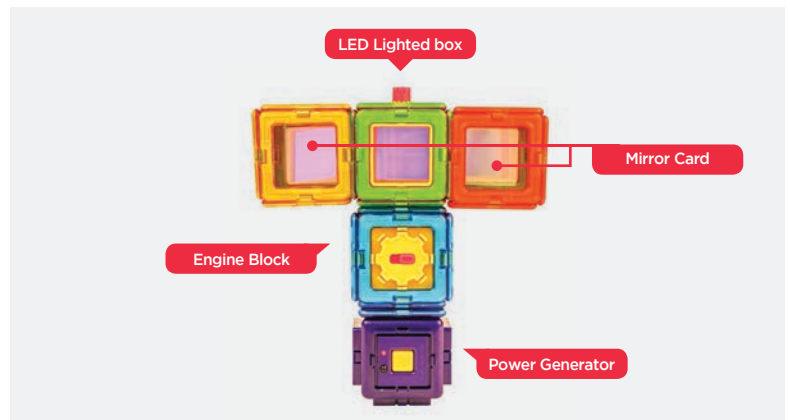
Mirror Cards can be utilized by making a cube as shown on the right.

※The LED light on the bottom is reflected on the X Shape Mirror Card, then the X Shape Mirror Card reflects the light from both Mirror Cards.

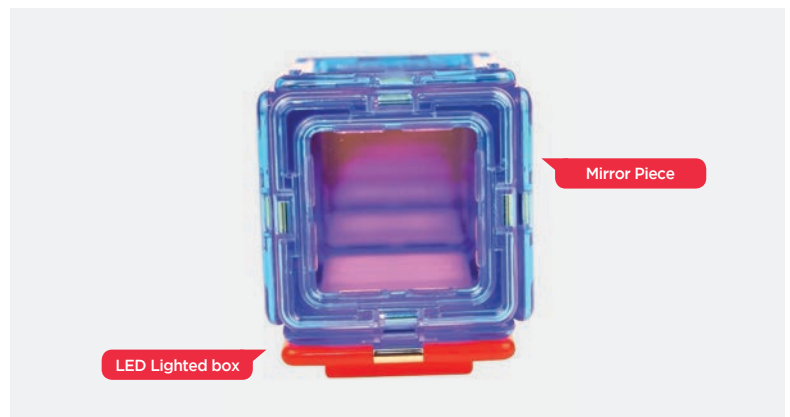


When the Mirror Block is connected to the Engine Block and the Power Generator as shown on the right, the Reflection Card inside automatically rotates. When you use many Mirror Cards, the Mirror Block rotates and the object flickers.

※Connect the LED Lighted Box to the back of the Mirror Block and turn it on.



When facing 2 mirrors, the image on the mirror is infinitely reflected on both mirrors. You can see the unique view as follows.

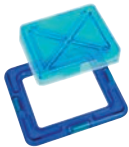


How to Use Accessories

Pulley, Crane and Propeller



Block and Card



How to assemble blocks

Assembly diagram of completed blocks

Using blocks



How to assemble cards

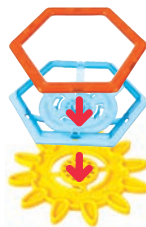
Assembly diagram of completed cards

Examples of how to use cards

Gear



Gear + Rotating Block

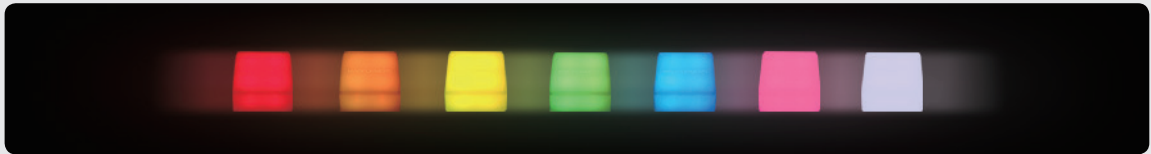


Gear + Playground + Piece



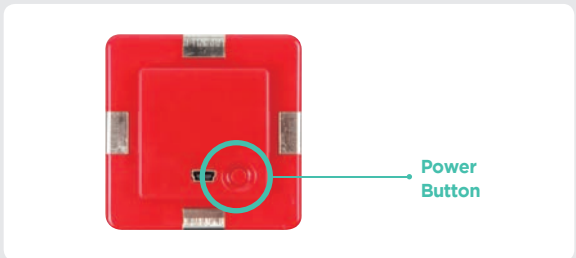
LED LIGHTED BOX and LED Infinity

LED LIGHTED BOX helps children make models beyond what they can imagine with its various vivid colors. Breathe new life into Magformers models with the LED LIGHTED BOX.



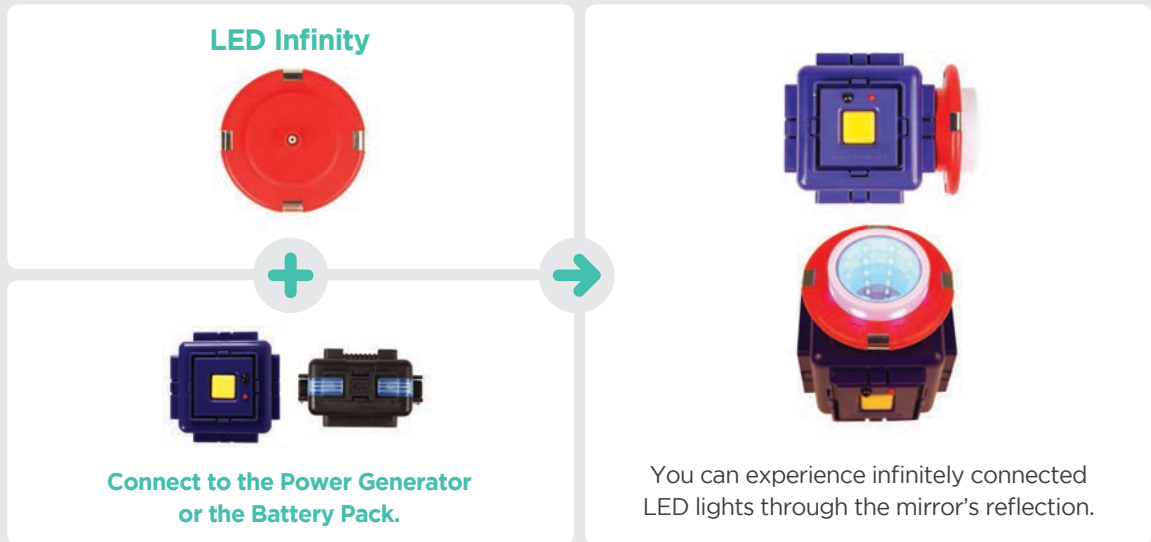
How to Use LED LIGHTED BOX

LED LIGHTED BOX makes various vivid colors. Press the button once to change colors quickly, and press the button again to change colors slowly. After then, each color will be fixed.



LED Infinity

When connected to the Power Generator or Battery Pack, LED light shines.

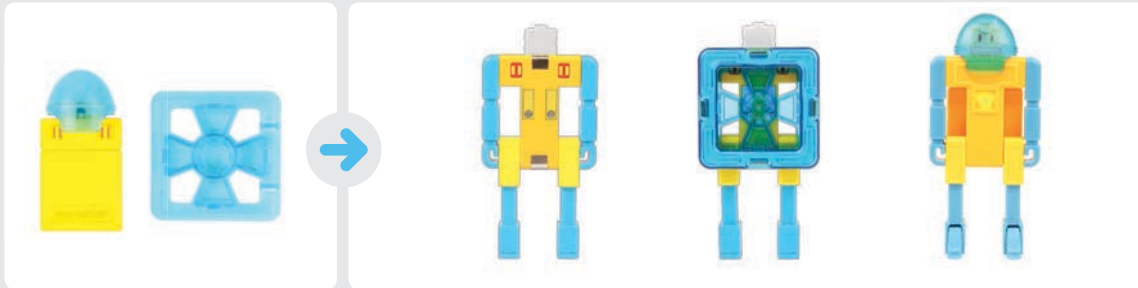


LED Warnings

- Please do not look at the light of the LED for an extended period of time to protect your vision.
- Please make sure to turn off all power blocks after use. (No light means the status is 'off'.)
- The proper charging time is 2 hours for the charging blocks. Please be careful not to overcharge.
- Please note that if you force connection or incorrectly connect to the USB CABLE, it may cause damage to the terminal.(Failures due to the negligence of the consumer cannot be compensated.)
- Included USB CABLE is for charging LED LIGHTED BOX. Please do not use it for other products, or connect it to the other product cables.
- Do not disassemble.
- Please do not throw, drop, or place in water.

Figure

You can attach the space backpack or another backpack to the groove on the back of the figure as shown below



How to Transform the Figure

- Figure legs are attached to the main body block and move at the same time. Please note that there is a risk of breakage if they move separately.
- Please transform in reverse to return to the cube form.

Warnings



- 1 Push the figure legs forward from behind. There is a risk of breakage if you push them backward from the front.
- 2 Do not press the head forcefully. This may cause damage.

※ The figure needs a mercury battery. If the light on the figure is not sparkling, please change the mercury battery. (Mercury battery ; LR41)

- 1 Remove the connection preventing film behind the figure.



- 2 Put the arms up in the direction of the arrow.



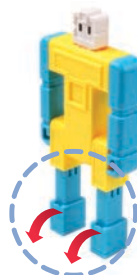
- 3 Put both legs down at the same time in the direction of the arrow.



- 4 Pull the legs in the direction of the arrow.



- 5 Open the feet in the direction of the arrow.



- 6 The figure is complete and the LED light flashes in the chest.



R/C Introduction

Make your own car with Magformers R/C and drive it. With the Magformers car that moves without being touched like magic, your dreams can come true.

R/C Motor Wheel

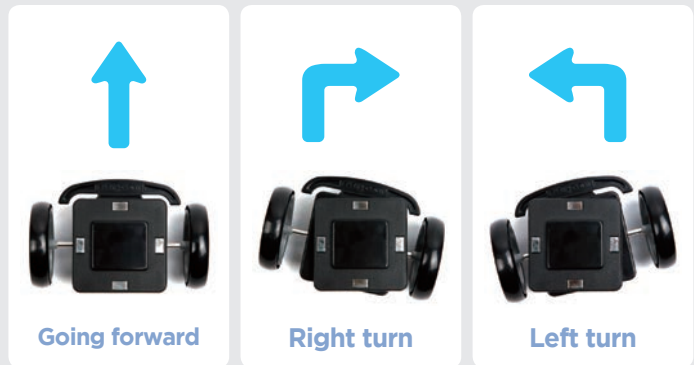
You can use the R/C motor wheel with the receiver in many ways, such as the rear wheel of a car and the front wheel of a train. When you turn on the power at the bottom of the R/C motor wheel, the red lamp lights up. And, you can control it if you connect it in the direction of the power button on the back side. The receiver will be on the back side as shown in the picture on the right.

※Batteries are not included.
(Use AAA 1.5V X 3EA)



R/C Front Wheel

The wheel helps the car change directions smoothly and should be equipped on the front.



R/C Remote Control

It is equipped with a transmitter, so you can control the R/C motor wheel. When you turn on the power, the red lamp lights up (light blinks) and starts transmission.

※Batteries are not included.
(Use AAA 1.5V X 3EA)



How to Use Accessories

How to Use R/C Remote Control

Going forward

Press the front buttons at the same time to move forward.



Going backward

Press the back buttons at the same time to move backward.



Left turn

Press the front left button to turn left.



Right turn

Press the front right button to turn right.



Sharp turn to the left

Press the front left button and the back right button at the same time to make a sharp turn to the left.



Sharp turn to the right

Press the back left button and the front right button at the same time to make a sharp turn to the right.



R/C Warnings

R/C - Troubleshooting

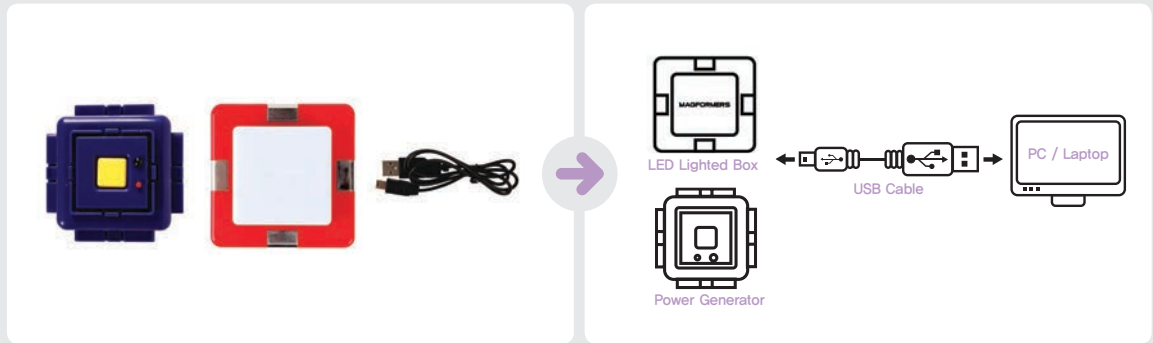
- If the R/C motor wheel moves slowly or does not work smoothly, there might be a power issue. Please change the batteries.
- Please aim the R/C remote control transmitter towards the receiver of the R/C motor wheel. Please do not cover the transmitter.
- Remote control range is up to 5-8m (16.4-26.2 ft.). However, lagging may occur depending on its operating condition. Please use it within a 3-4m (9.8-13.1 ft.) range.

R/C - Other Warnings

- Please make sure to turn off the power after use since it may drain the battery.
- Control on an actual road may be dangerous, so please only use indoors.
- Please do not throw, or drop Magformers R/C.
- Magformers R/C uses a single frequency. If you use multiple units at the same time, it may cause a malfunction.

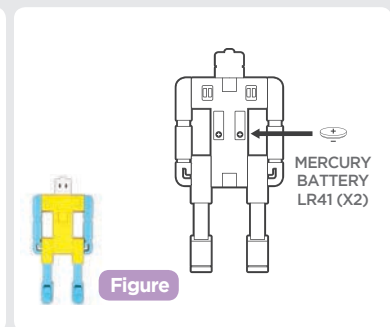
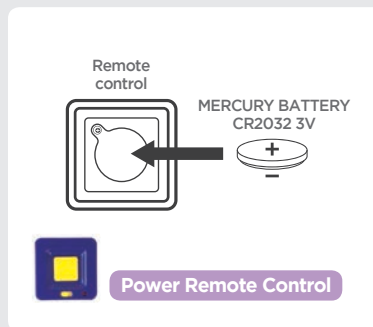
How to Charge Accessories

Connect the included USB CABLE to a USB port on a computer.
The proper charging time is 2 hours.

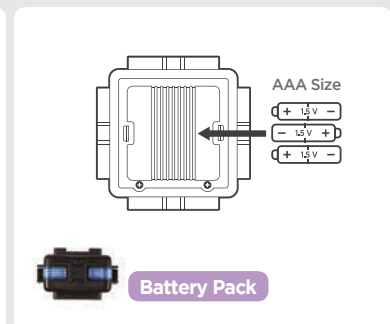
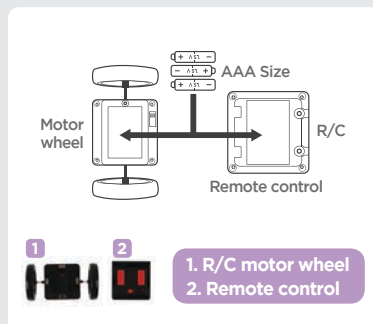


How to Change Batteries for Accessories

If the Power Remote Control and the Figure are not working, please change the mercury battery. (Refer to the model name.)



The R/C Motor Wheel, the R/C Remote Control and the Battery Pack each need 3 AAA batteries. Please insert the batteries according to the marked (+) and (-) poles. (Batteries are not included.)



How to remove and insert replaceable batteries.

- Remove screws and place three AAA batteries in the correct position as displayed inside.
- Non-rechargeable batteries are not to be recharged.
- Rechargeable batteries are to be removed from the toy before being charged.
- Rechargeable batteries are only to be charged under adult supervision.
- Batteries are to be inserted with the correct polarity.
- Exhausted batteries are to be removed from the toy.
- The supply terminals are not to be short-circuited.

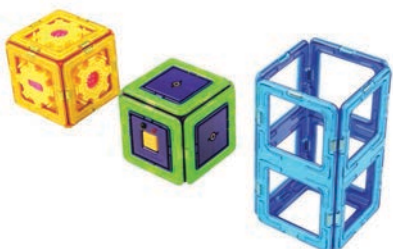
S.T.E.A.M Factory

At the S.T.E.A.M Factory, we are researching to develop future mineral resources. Be the scientist of the future while exploring the strata with the geological observer and sampling underground resources.



Mirror Alarm Lamp

1



2



3





*The image above is a sample. The actual configuration and color may vary.

4



Composition



-  Square 19
-  Isosceles Triangle 4
-  Rectangle 4
-  Mini Rectangle 4
-  Power Generator 1
-  Mirror Block 1
-  LED 1
-  Engine Block 1

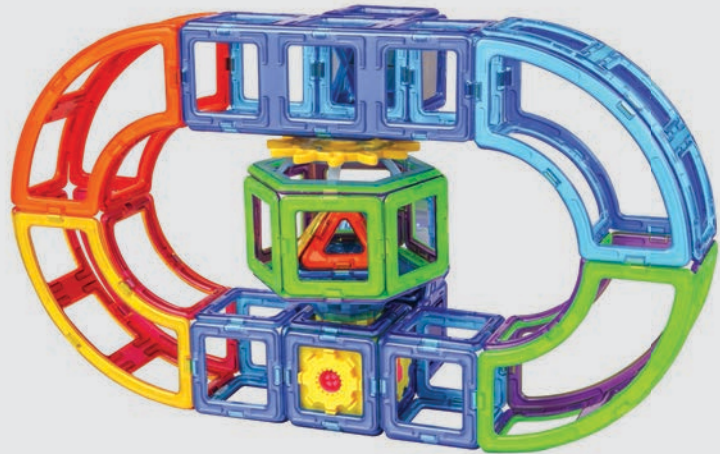
Mineral Analyzer



Geological Observer



7



Composition

- | | | | | |
|-------------|-------------------|--------------------|--------------------------|-------------------------|
| Triangle 4 | Arch 4 | New Rotate Block 1 | Iso.Right Triangle 2 | X Shape Mirror Card 1 |
| Square 32 | Super Rectangle 2 | Big Gear 1 | Engine Block 1 | LED Infinity 1 |
| Rectangle 1 | Super Sector 8 | Big Playground 1 | Back Rushing Connector 1 | Square Auto Connector 1 |
| Hexagon 2 | Super Arch 4 | PowerGenerator 1 | Mirror Piece 5 | |



7



Composition

- | | | | | |
|-------------|-------------------|----------------------|-------------------------|-------------------------|
| Triangle 4 | Sector 2 | Iso.Right Triangle 4 | Mirror Card 2 | Square Auto Connector 1 |
| Square 33 | Boy Square 1 | Engine Block 1 | Mirror Piece 8 | LED 1 |
| Rectangle 4 | Pulley Block 1 | Auto Connector 1 | Female Auto Connector 1 | Figure 1 |
| Trapezoid 2 | Crane 1 | Elevator Block 1 | Pipe Connector 1 | Space Back Pack 1 |
| Arch 1 | Power Generator 1 | | | |

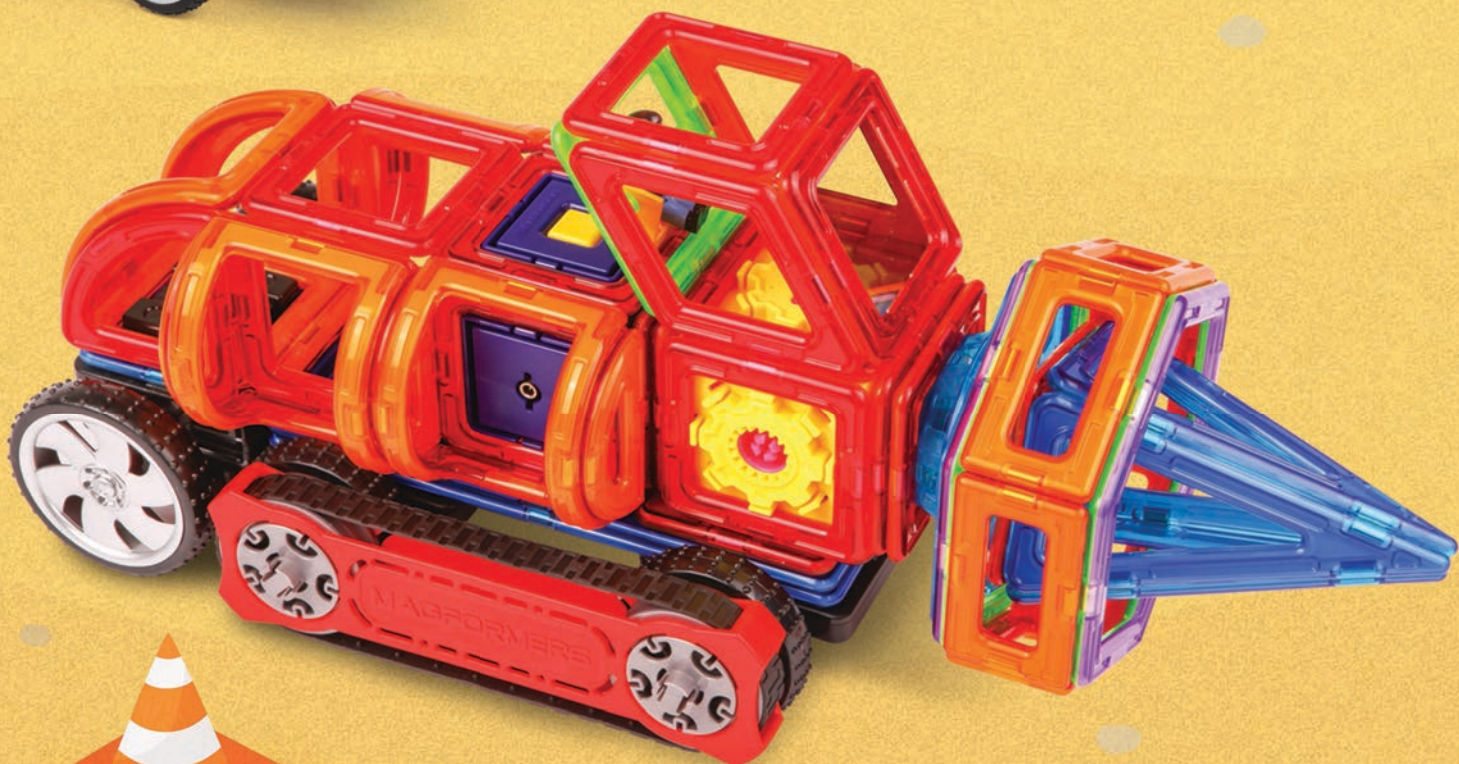




Comes with wheels.

Not only cars, buses and trains that we ride,
but also heavy-duty vehicles that move like they are real...

Try to make them move with Magformers.



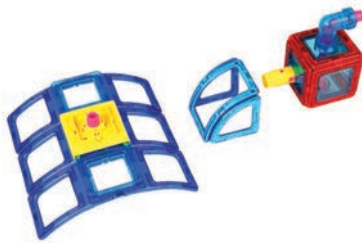


Bulldozer

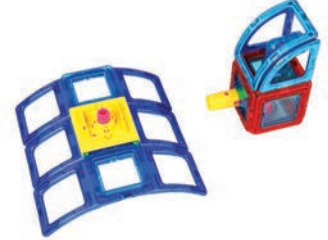
1



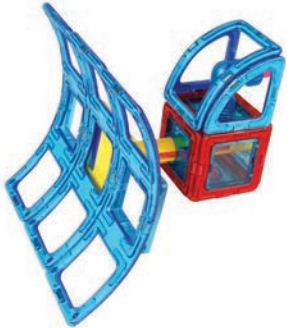
2



3



4



5

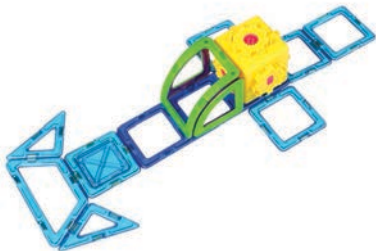


6



Loader

1



2



3



4

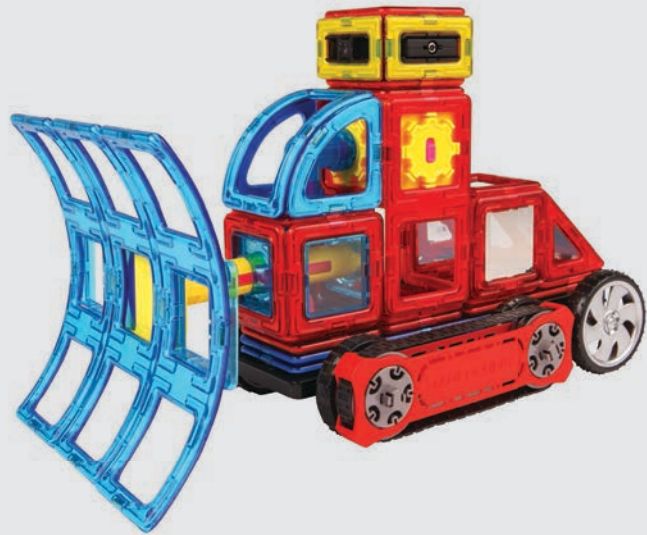


5



6





Composition

- | | | | | |
|---------------|---------------------|------------------------|------------------------|-------------------------|
| □ Square 19 | □ Mini Rectangle 4 | ▬ Caterpillar 2 | □ Auto Sliding Block 1 | ♀ 90°Female Connector 1 |
| □ Rectangle 3 | □ Super Rectangle 1 | △ Iso.Right Triangle 2 | ■ Mirror Card 1 | ⚙ Engine Block 1 |
| □ Arch 1 | ⊠ Wheel 2 | ⊠ Motor Wheel 1 | □ Mirror Piece 3 | |
| ⤵ Sector 2 | □ Super Arch 3 | ⊠ Elevator Block 1 | ⊠ Battery Pack 1 | |



Composition

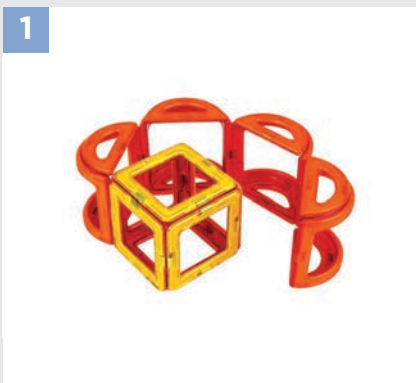
- | | | | | |
|---------------|---------------------|------------------------|---------------------------|------------------|
| □ Square 11 | ⤵ Sector 4 | ⊠ Wheel 1 | ⊠ Elevator Block 1 | □ Mirror Piece 2 |
| □ Rectangle 1 | □ Mini Rectangle 2 | △ Iso.Right Triangle 2 | ⊠ Battery Pack 1 | |
| ▱ Trapezoid 1 | □ Super Rectangle 2 | ⊠ Motor Wheel 1 | ♀ 90°Female Connector 1 | |
| □ Arch 2 | ⊠ Block 1 | ⚙ Engine Block 1 | ♀ Female Auto Connector 1 | |



Ladder Truck



Steam Roller



7

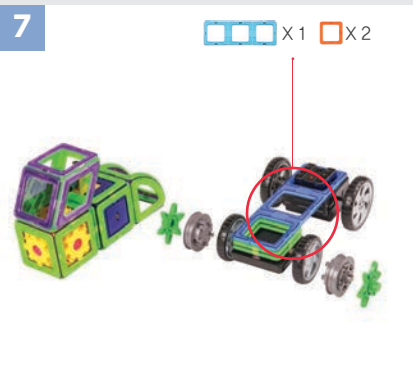


Composition

- | | | | |
|-------------|-------------------|-------------------|----------------------|
| Triangle 2 | Mini Rectangle 6 | Wheel 2 | Auto Sliding Block 1 |
| Square 26 | Super Rectangle 2 | Power Generator 1 | Mirror Piece 1 |
| Rectangle 4 | Boy Square 1 | Motor Wheel 1 | Battery Pack 1 |
| Diamond 4 | Block 2 | Engine Block 1 | Isosceles Triangle 2 |



7























Composition

- | | | | | |
|-----------|-------------------|----------------------|--------------------------|----------------|
| Square 24 | Super Rectangle 1 | Power Generator 1 | Back Rushing Connector 2 | Engine Block 1 |
| Hexagon 2 | Boy Square 1 | Half Arch 4 | Mirror Piece 1 | |
| Diamond 2 | Wheel 1 | Half Circle 8 | 90° Female Connector 2 | |
| Arch 1 | Gear Wheel 2 | Motor Wheel 1 | Square Auto Connector 2 | |
| Sector 2 | Small Gear 2 | 90° Auto Connector 2 | Female Auto Connector 2 | |





Composition

- | | | | | |
|--|--|---|---|---|
|  Square 22 |  Diamond 2 |  Super Rectangle 2 |  Power Generator 1 |  Engine Block 1 |
|  Isosceles Triangle 4 |  Arch 1 |  Boy Square 1 |  Half Arch 4 |  Back Rushing Connector 1 |
|  Rectangle 1 |  Sector 2 |  Wheel 2 |  Half Circle 6 |  Mirror Piece 1 |
|  Hexagon 2 |  Mini Rectangle 6 |  Caterpillar 2 |  Motor Wheel 1 |  Square Auto Connector 1 |



Composition

- | | | | |
|--|---|---|---|
|  Square 30 |  Mini Rectangle 4 |  Power Generator 1 |  90°Female Connector 2 |
|  Isosceles Triangle 2 |  Super Rectangle 2 |  Motor Wheel 1 |  Female Auto Connector 1 |
|  Rectangle 4 |  Insert Square 10 |  Engine Block 1 |  Square Auto Connector 1 |
|  Trapezoid 2 |  Wheel 2 |  Elevator Block 1 |  Battery Pack 1 |



Bus

1



2



3



Train

1

□□ x2 □□ x2



2



3



Car

1

□□□ x1 □□ x6



2



3



4



Composition



- Triangle 6
- Square 9
- Rectangle 1
- Diamond 2
- Trapezoid 2
- Arch 1
- Sector 2
- Mini Rectangle 2
- Super Rectangle 2
- Boy Square 1
- Girl Square 1
- Block 3
- Motor Wheel 1
- Front Wheel 1
- Mirror Piece 5

4



Composition



- Triangle 4
- Square 25
- Rectangle 2
- Trapezoid 2
- Boy Square 1
- Girl Square 1
- Half Arch 4
- Female Auto Connector 1
- Square Auto Connector 1
- Motor Wheel 1
- Front Wheel 1
- Wheel 2
- Power Generator 1
- Half Circle 8
- Engine Block 1
- Mini Rectangle 8

4



Composition

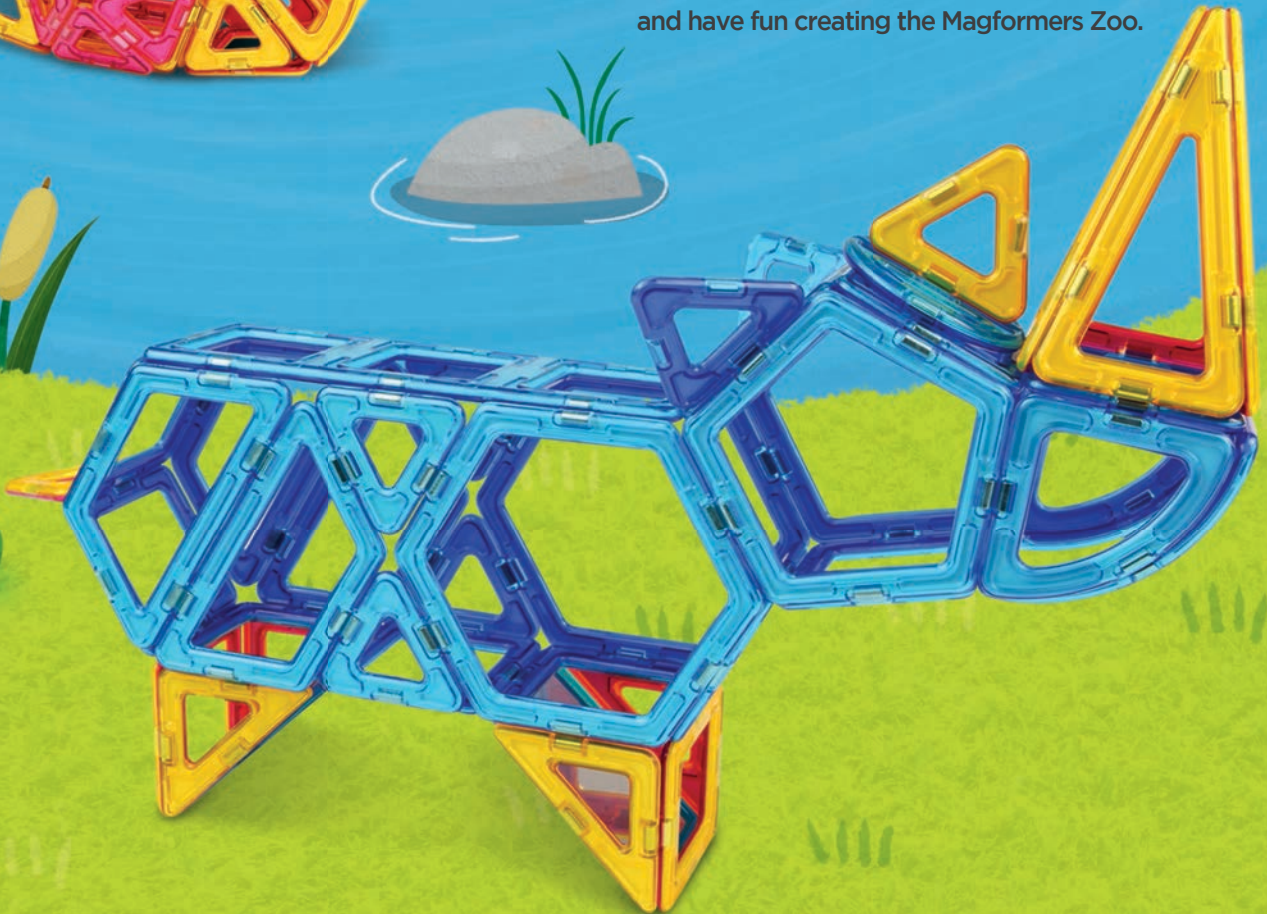


- Triangle 2
- Square 10
- Diamond 2
- Mini Rectangle 7
- Super Rectangle 2
- Boy Square 1
- Girl Square 1
- Motor Wheel 1
- Front Wheel 1
- Mirror Piece 2
- Battery Pack 1
- Block 2



I've got animal friends.

Imagine the animal friends that you met at the zoo and have fun creating the Magformers Zoo.





*The image above is a sample. The actual configuration and color may vary.

Pig

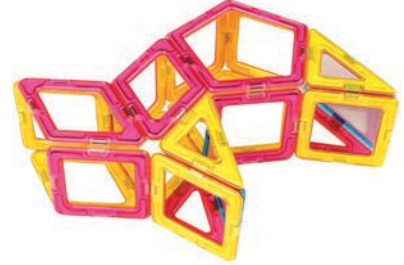
1



2

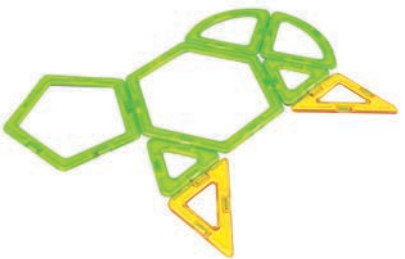


3

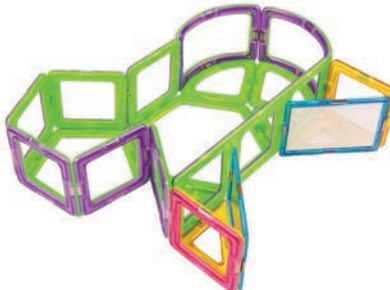


Elephant

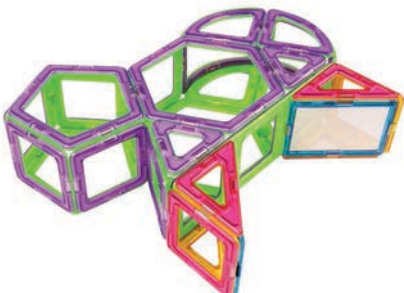
1



2

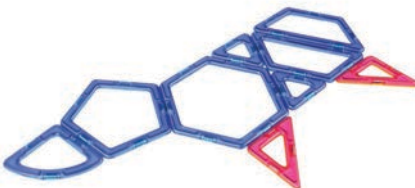


3

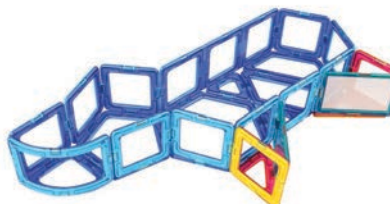


Rhinoceros

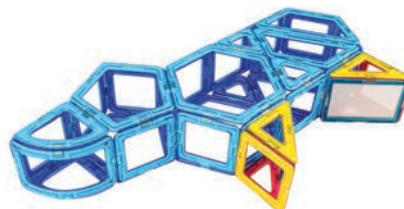
1



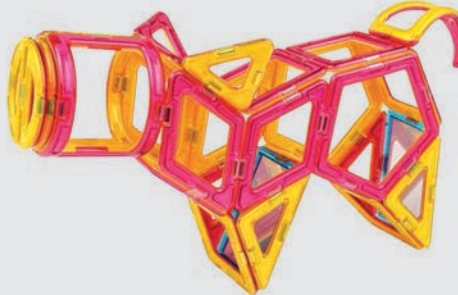
2



3




4

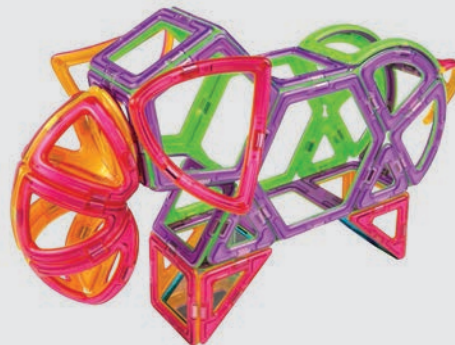


Composition





-  Triangle 2
-  Square 8
-  Pentagon 2
-  Diamond 4
-  Iso.Right Triangle 4
-  Half Arch 2
-  Half Circle 4
-  Mirror Card 2
-  Triangle Arch 1

4

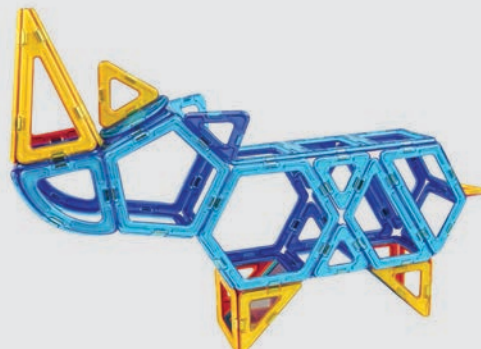


Composition














-  Triangle 4
-  Square 8
-  Pentagon 2
-  Hexagon 2
-  Arch 2
-  Sector 4
-  Super Rectangle 1
-  1/8 Sphere 2
-  Iso.Right Triangle 4
-  Triangle Arch 7
-  Half Circle 4
-  Mirror Card 2

4

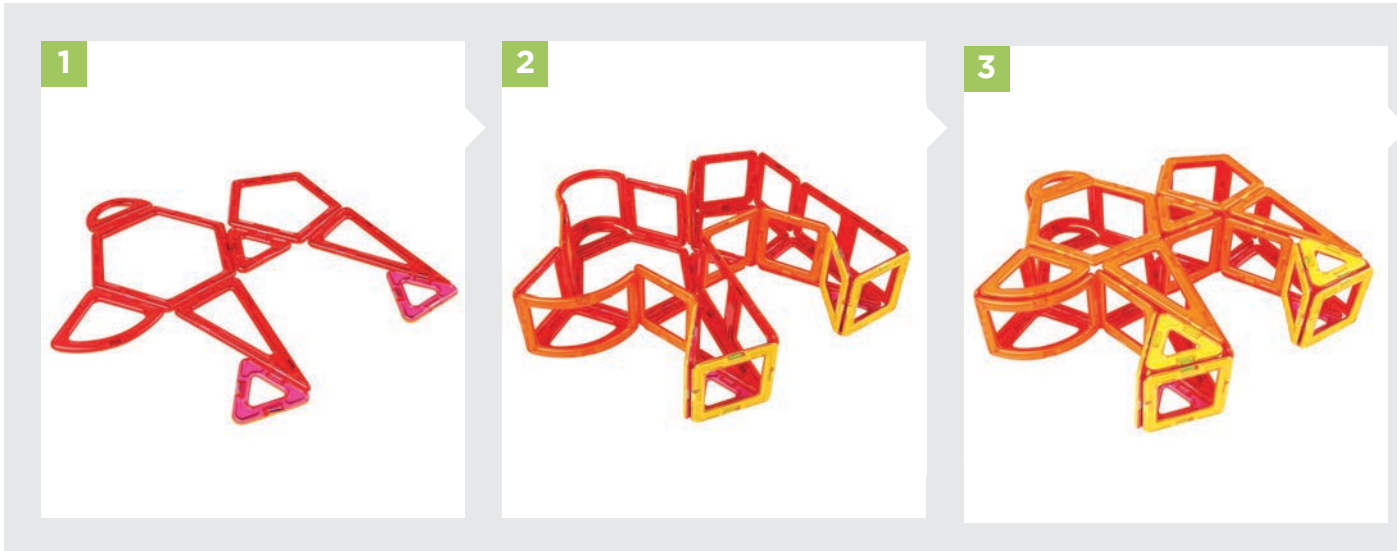


Composition

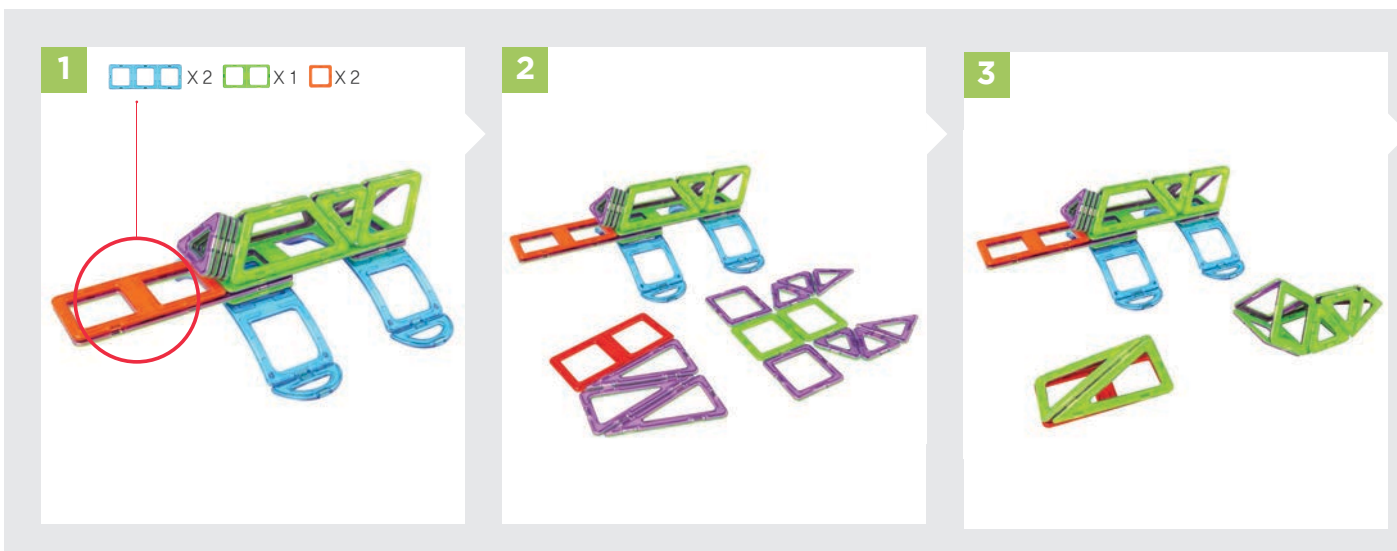


-  Triangle 8
-  Square 12
-  Arch 1
-  Pentagon 2
-  Hexagon 2
-  Trapezoid 4
-  Sector 2
-  Super Rectangle 1
-  Iso.Right Triangle 4
-  Isosceles Triangle 4
-  Half Circle 2
-  Mirror Card 2

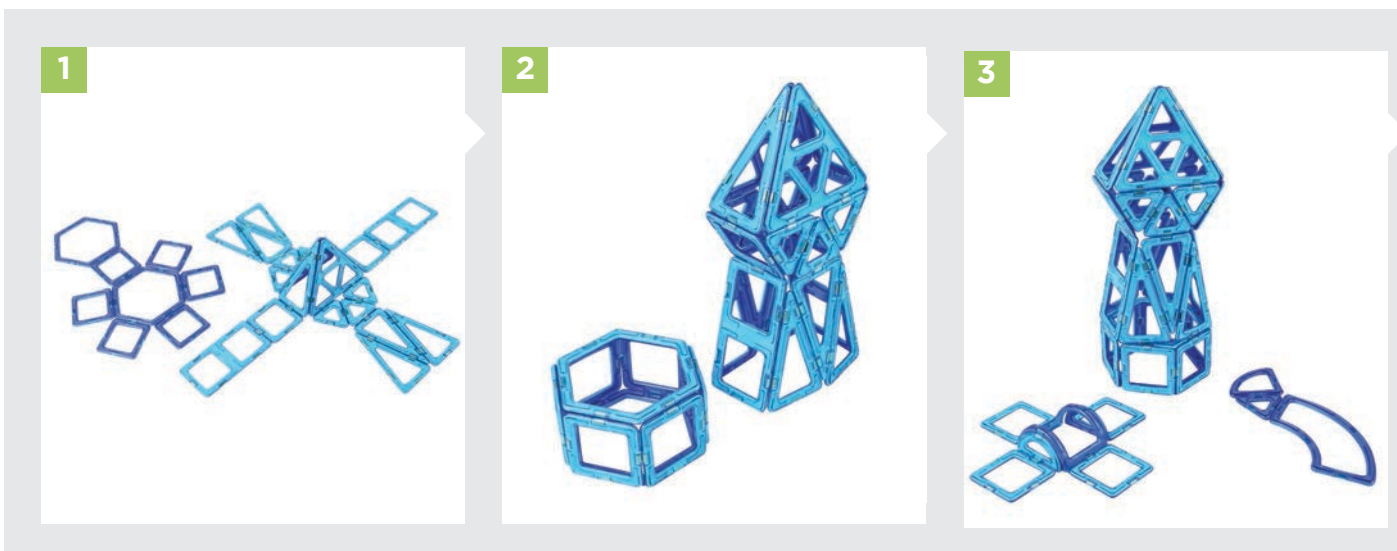
Camel



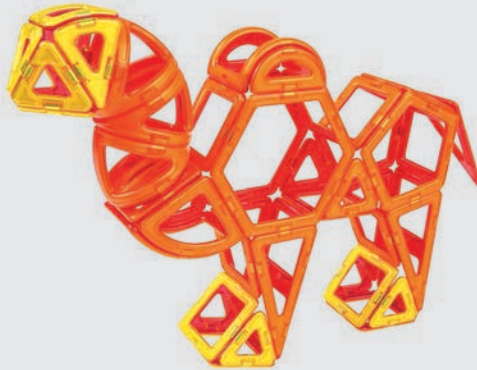
Crocodile



Squid



4



Composition












-  Triangle 10
-  Square 13
-  Arch 1
-  Rectangle 2
-  Pentagon 2
-  Hexagon 2
-  Sector 2
-  1/8 Mini Sector 2
-  1/8 Mini Arch 1
-  Triangle Arch 6
-  Half Arch 1
-  Half Circle 4
-  Isosceles Triangle 5



4

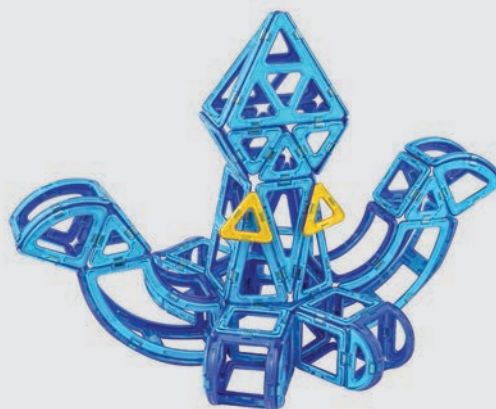


Composition

-  Triangle 10
-  Square 6
-  Isosceles Triangle 3
-  Rectangle 2
-  Diamond 2
-  Trapezoid 2
-  Super Rectangle 2
-  Super Arch 2
-  1/8 Mini Sector 4
-  Iso.Right Triangle 2
-  Half Circle 6



4



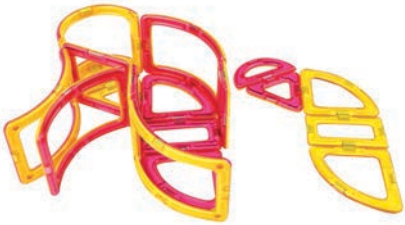
Composition

-  Triangle 12
-  Square 28
-  Hexagon 2
-  Rectangle 2
-  Arch 4
-  Sector 4
-  Super Triangle 2
-  Super Sector 4
-  Super Arch 2
-  Half Arch 4
-  Half Circle 8
-  Isosceles Triangle 8



Duck

1



2



3



Swan

1



2



3



Dog

1



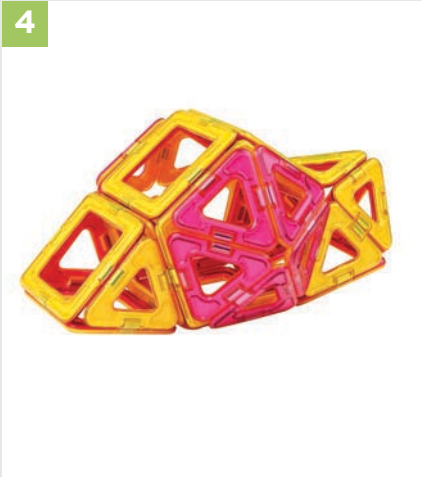
2



3



4



Composition



- Triangle 20
- Square 9
- Pentagon 2
- Arch 4
- Sector 4
- Mini Rectangle 4
- Half Arch 1
- Half Circle 2

4



Composition



- Square 1
- Half Arch 1
- Rectangle 2
- Diamond 4
- Arch 3
- Sector 4
- Super Sector 4
- Super Arch 1
- Iso.Right Triangle 2
- Isosceles Triangle 6
- Half Circle 2
- Mirror Card 1
- Mini Rectangle 4

4

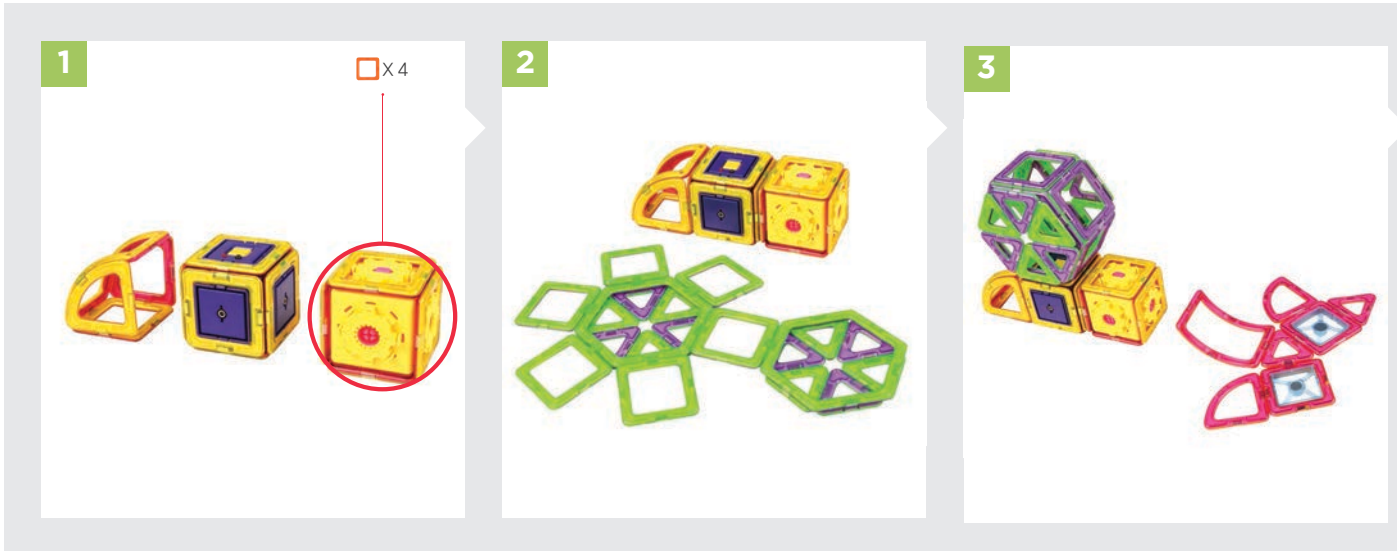


Composition

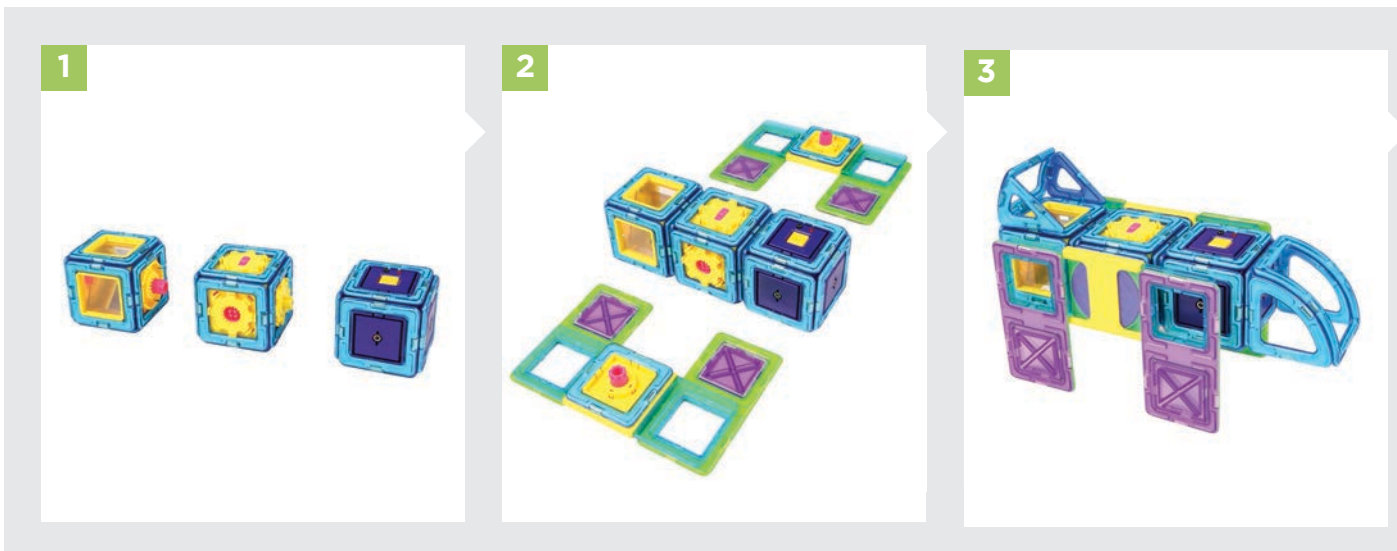


- Square 13
- Arch 3
- Sector 2
- Half Arch 1
- Half Circle 2
- Mirror Piece 1
- 1/8 Mini Sector 2
- 1/8 Mini Arch 1
- Triangle Arch 1
- Mini Rectangle 8
- Super Rectangle 1
- Block 3
- Battery Pack 1
- Walking Block 2
- Engine Block 1
- 90°Female Connector 1
- Female Auto Connector 1

Snail



Brachiosaurus



Ceratosaurus



4



Attach the large gear to make the Snail faster!



Composition

- Triangle 14
- Square 21
- Hexagon 2
- Arch 2
- Sector 4
- New Rotate Block 2
- Power Generator 1
- Bar 2
- Engine Block 1
- Square Auto Connector 2



4



Composition

- Square 21
- Super Arch 1
- Rectangle 4
- Arch 4
- Sector 6
- Block 4
- Super Sector 2
- 1/8 Mini Sector 2
- 1/8 Mini Arch 1
- Power Generator 1
- Half Circle 4
- Engine Block 1
- Mirror Block 1
- Auto Sliding Block 2
- Isosceles Triangle 4



4



Composition

- Triangle 5
- Square 6
- Rectangle 1
- Diamond 3
- Mini Rectangle 4
- Iso.Right Triangle 2
- Half Circle 2
- Engine Block 1
- Battery Pack 1
- Walking Block 1
- LED 1
- Mirror Card 1
- Isosceles Triangle 3



Welcome to the Magic Castle.

A new world unfolds where a pumpkin turns into a carriage and a puppy figure becomes alive when the crystal ball is lit.



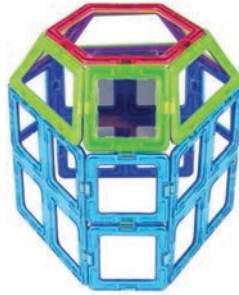


Magic Castle

1



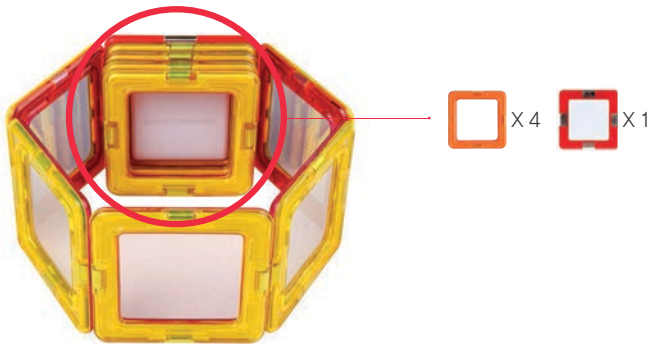
2



3



4



5



6



7



8



9



10



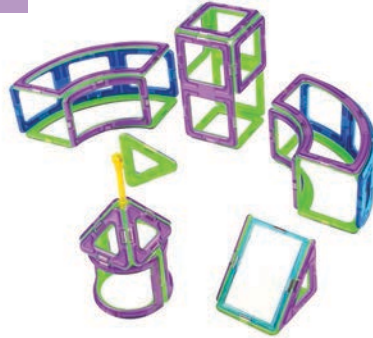
11



12



13



14

Try to
make two.

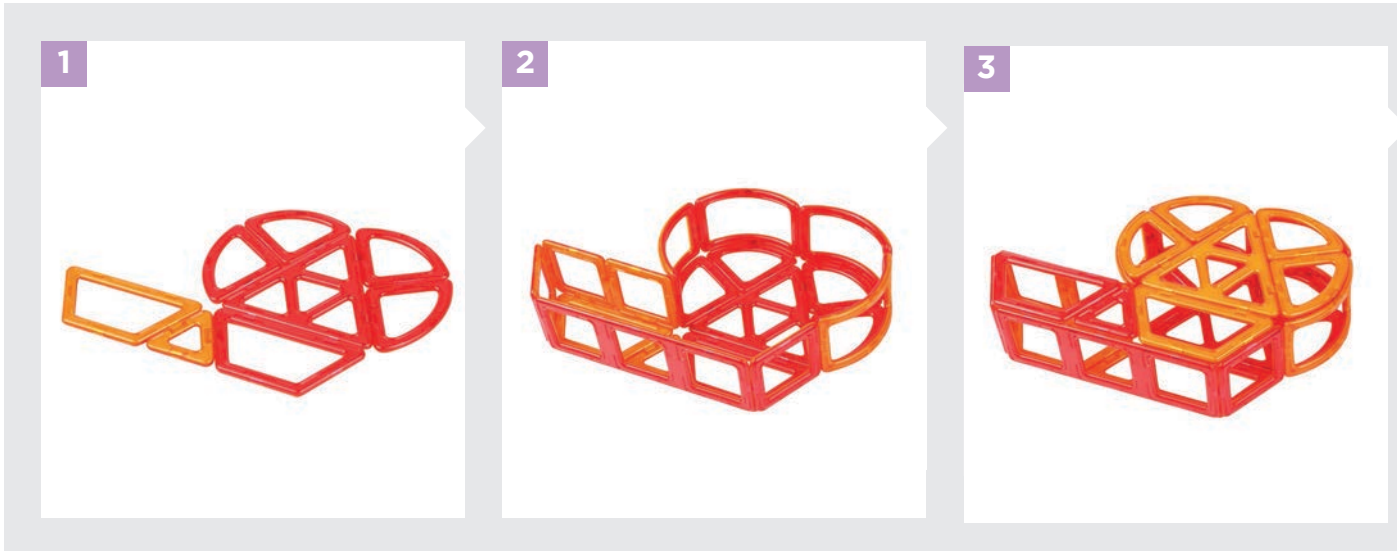


Composition

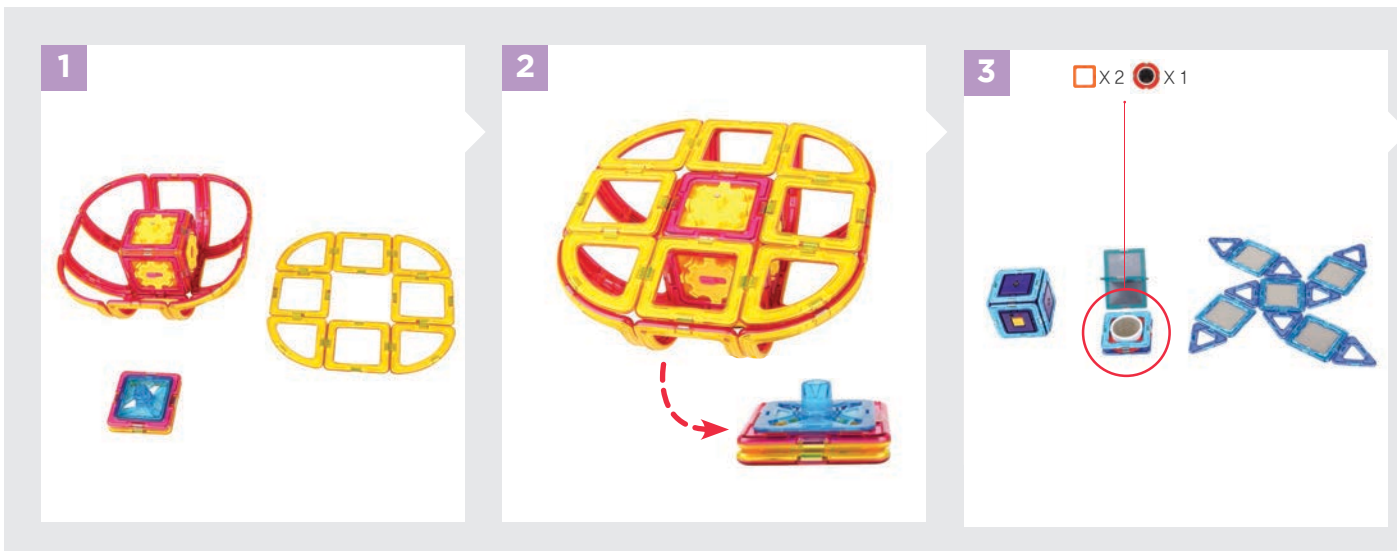
- | | | | | | |
|----------------------|------------------|--------------------|----------------------|----------------|----------------|
| Triangle 17 | Hexagon 2 | Girl Square 1 | Power Generator 1 | Half Circle 4 | Mirror Piece 8 |
| Square 33 | Trapezoid 3 | Super Sector 8 | Iso.Right Triangle 4 | Engine Block 1 | LED 1 |
| Isosceles Triangle 6 | Arch 4 | Super Arch 4 | Triangle Arch 2 | Mirror Block 1 | Bar 3 |
| Rectangle 4 | Mini Rectangle 4 | New Super Square 3 | Half Arch 4 | Mirror Card 2 | |



Pumpkin Carriage



Crystal Ball



Music box



4



Composition



-  Triangle 2
-  Square 6
-  Diamond 2
-  Trapezoid 4
-  Arch 4
-  Sector 8
-  Super Rectangle 1
-  Super Triangle 2
-  Girl Square 1
-  Wheel 1
-  Motor Wheel 1

4



Composition



-  Triangle 8
-  Square 20
-  Arch 4
-  Sector 4
-  1/8 Sphere 4
-  Power Generator 1
-  Engine Block 1
-  Mirror Piece 5
-  X Shape Mirror Card 1
-  LED Infinity 1
-  Square Auto Connector 1

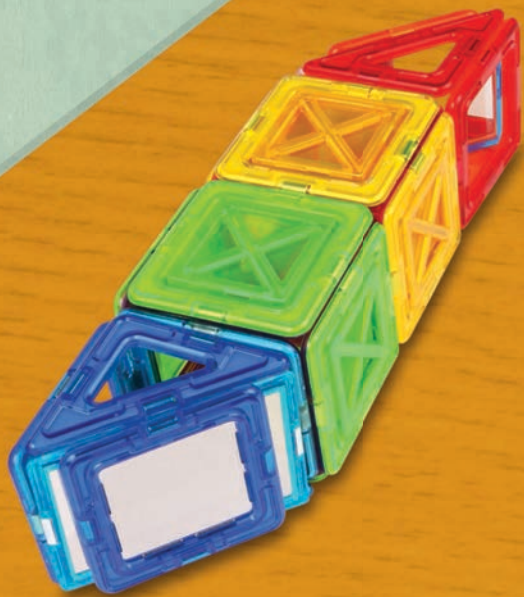
4



Composition

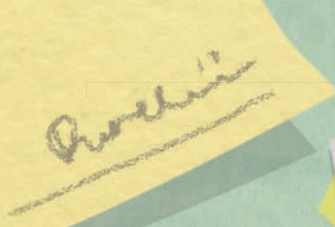


-  Triangle 6
-  Square 32
-  Diamond 4
-  Trapezoid 2
-  Arch 4
-  Sector 8
-  Super Rectangle 1
-  Boy Square 1
-  Girl Square 1
-  Square Auto Connector 1
-  Iso.Right Triangle 4
-  Auto Sliding Block 1
-  Mirror Card 2
-  Mirror Piece 6
-  X Shape Mirror Card 1
-  LED 1
-  Power Generator 1
-  Half Circle 2
-  Engine Block 1



What do you see?

Experience a new world with the reflection of the mirror.



MAGFORMERS



*The image above is a sample. The actual configuration and color may vary.

Lighting

1



2



3



Projector

1



2



3

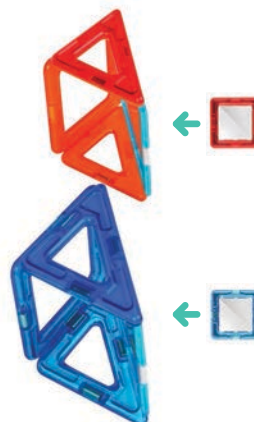


Periscope

1



2



3













4

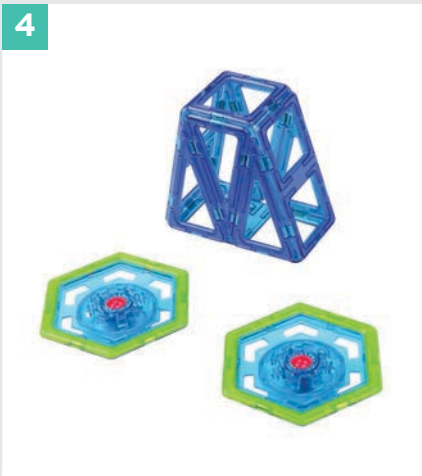


Composition







-  Square 13
-  Rectangle 4
-  Cone 4
-  Power Generator 1
-  Half Arch 4
-  Half Circle 8
-  Mirror Piece 5
-  X Shape Mirror Card 1
-  LED Infinity 1
-  Mirror Card 1

4



Composition








-  Square 20
-  Isosceles Triangle 6
-  Rectangle 3
-  Hexagon 2
-  Power Generator 1
-  Half Arch 2
-  Engine Block 1
-  Back Rushing Connector 2
-  Mirror Piece 4
-  LED Infinity 1
-  90°Female Connector 2

4

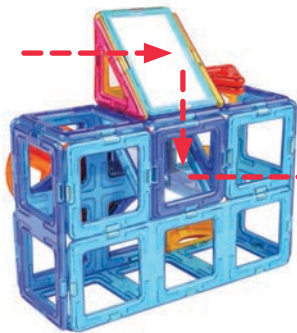
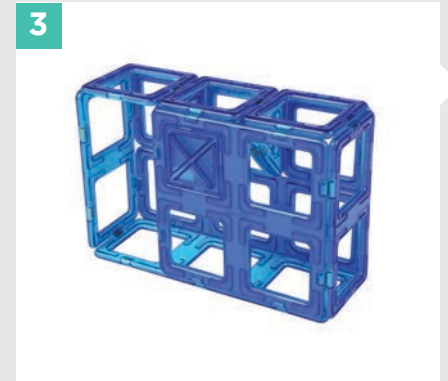
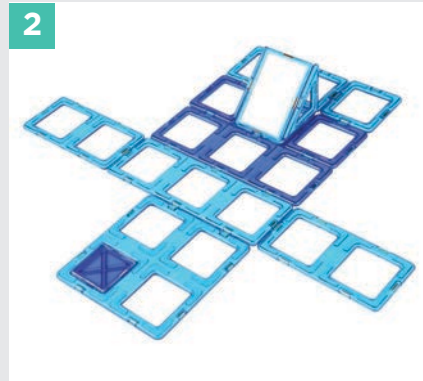
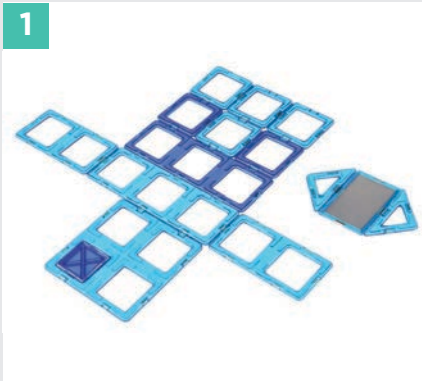


Composition



-  Square 12
-  Insert Square 8
-  Iso.Right Triangle 4
-  Mirror Card 2
-  Mirror Piece 2

Camera



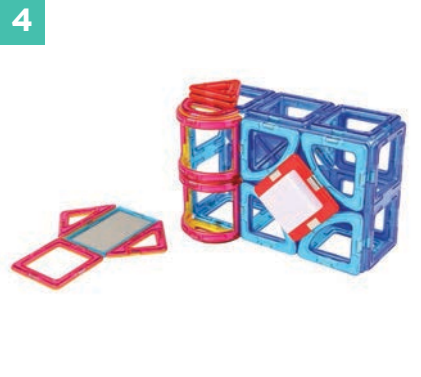
Experience the principle of reflection.

Cross-Spectrum






LED light is reflected on the rotating Mirror Block. Then, the reflected light is reflected again on the 3 Reflection Cards.

4

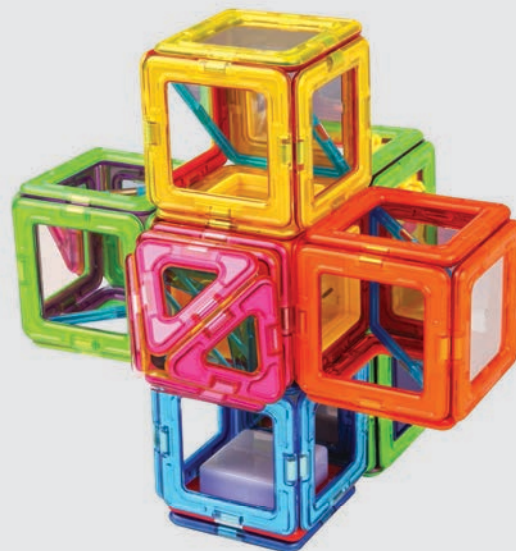


Composition










-  Triangle 2
-  Square 7
-  Rectangle 2
-  Sector 4
-  Super Rectangle 2
-  Block 1
-  New Super Square 1
-  Right Iso.Triangle 4
-  Half Arch 4
-  Half Circle 2
-  LED 1
-  Mirror Card 2



4



Composition

-  Triangle 4
-  Square 32
-  Power Generator 1
-  Engine Block 1
-  Mirror Block 1
-  Mirror Card 3
-  Mirror Piece 7
-  Square Auto Connector 1
-  LED 1



Magformers Play Sheet

You can build your own world with Magformers S.T.E.A.M Master Set.

Have fun creating your own world with each theme, including space, airport, playground and beach.

Space



Airport



Playground

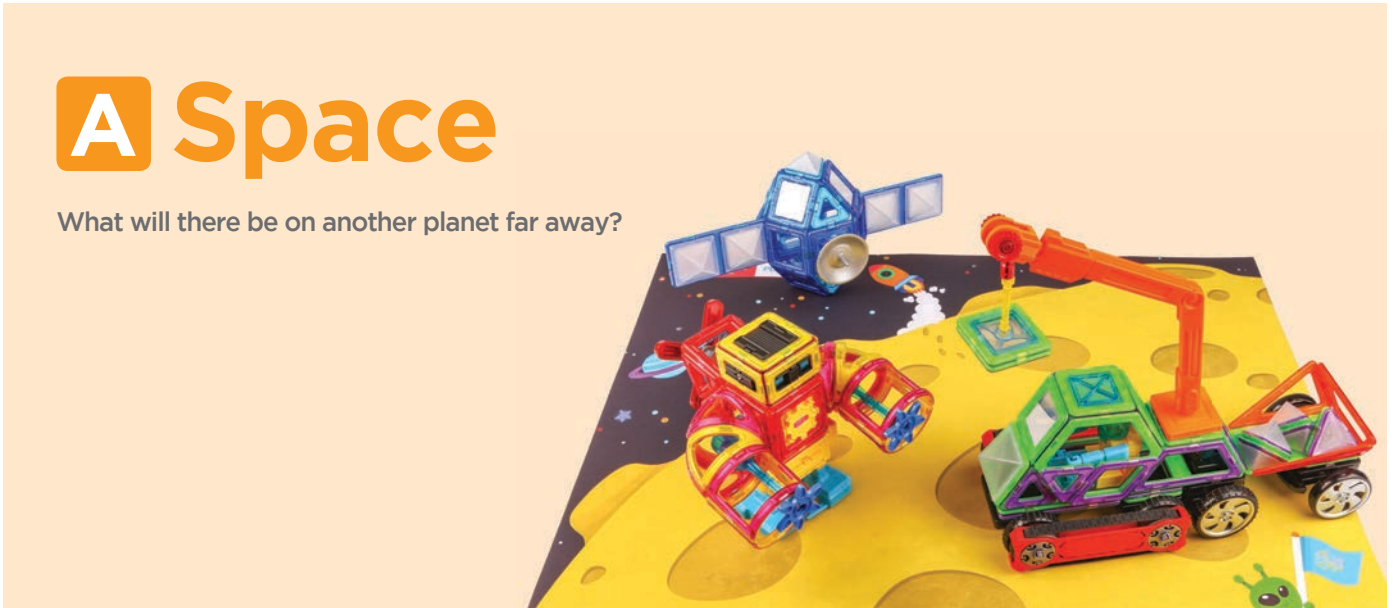


Beach

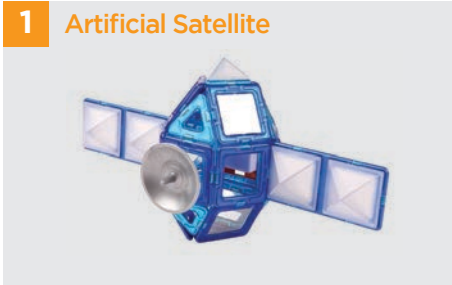


A Space

What will there be on another planet far away?



1 Artificial Satellite



2 Space Robot

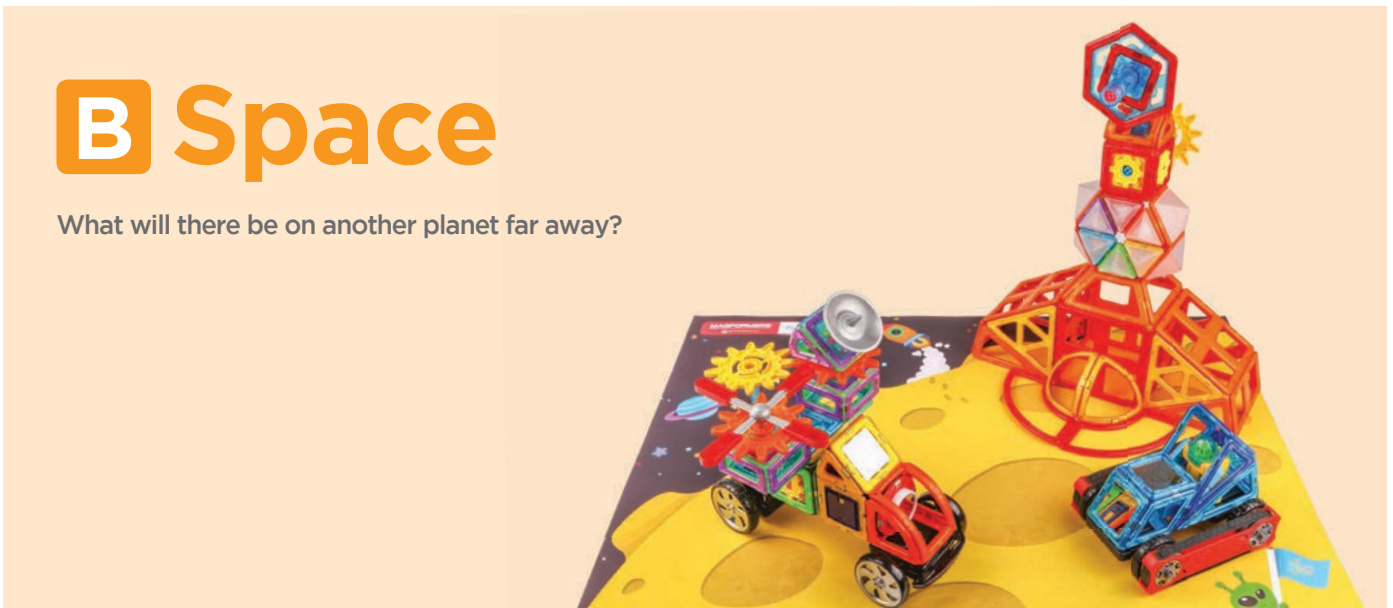


3 Mineral Rover

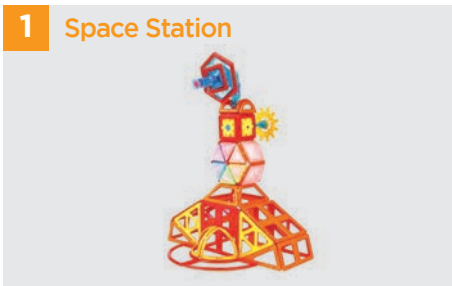


B Space

What will there be on another planet far away?



1 Space Station



2 Space Patrol



3 Weather Rover



Artificial Satellite



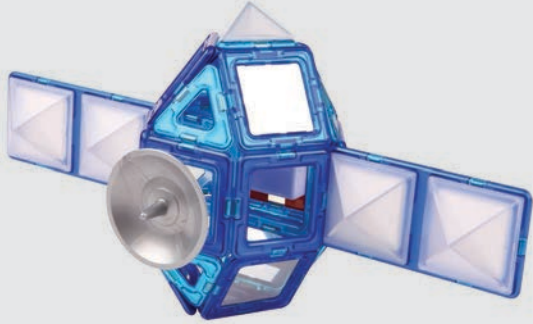
Space Robot



Mineral Rover



4



Composition



- Triangle 8
- Square 6
- Rectangle 1
- Super Rectangle 2
- New Rotate Block 1
- Triangular Pyramid 1
- Mirror Piece 6
- LED 1
- New Extension Pyramid 4
- Antenna 1

4



Composition



- Triangle 2
- Square 11
- Mini Rectangle 4
- Propeller 1
- 1/8 Mini Sector 2
- 1/8 Mini Arch 1
- New Rotate Block 1
- 90°Female Connector 2
- Triangle Arch 8
- Half Arch 4
- Engine Block 1
- Auto Connector 2
- Battery Pack 1
- Small Gear 2
- Walking Block 1

4

x1 x3



Composition



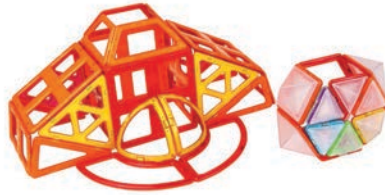
- Triangle 10
- Square 12
- Rectangle 3
- Hexagon 2
- Diamond 2
- Trapezoid 3
- Insert Square 4
- Wheel 2
- Pulley Block 1
- Crane 1
- New Extension Pyramid 2
- Triangular Pyramid 6
- Caterpillar 2
- Bar 1
- Motor Wheel 1
- Front Wheel 1
- Mirror Piece 2
- New Rotate Block 1
- Isosceles Triangle 2

Space Station

1



2



3



Space Patrol

1



2



3



Weather Rover

1



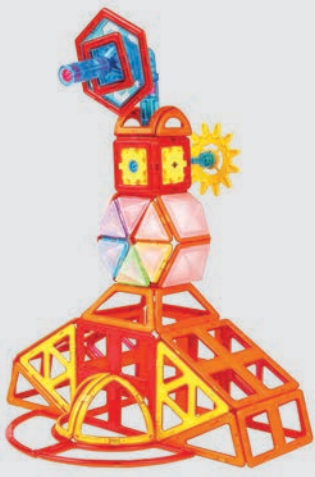
2



3



4



Composition

- Triangle 6
- Square 12
- Isosceles Triangle 4
- Rectangle 2
- Hexagon 2
- Trapezoid 4
- Super Triangle 4
- Super Sector 2
- New Super Square 6
- 1/8 Sphere 2
- Triangular Pyramid 6
- Big Gear 1
- Half Arch 1
- Half Circle 2
- Engine Cube 1
- Auto Connector 1
- Back Rushing Connector 1
- 90°Female Connector 1
- Female Auto Connector 2
- Square Auto Connector 1
- LED 1
- New Extension Pyramid 4

4



Composition

- Square 2
- Isosceles Triangle 4
- Diamond 2
- Super Rectangle 1
- Block 3
- Wheel 2
- Caterpillar 2
- Small Gear 4
- Mirror Piece 2
- Figure 1
- Space Back Pack 1

4



Composition

- Square 12
- Rectangle 2
- Arch 2
- Sector 4
- Mini Rectangle 8
- Super Rectangle 1
- Block 1
- Propeller 1
- 1/8 Mini Sector 4
- 1/8 Mini Arch 3
- New Rotate Block 3
- Big Gear 3
- Square Auto Connector 1
- Power Generator 1
- Motor Wheel 1
- Front Wheel 1
- Engine Block 1
- Auto Connector 1
- Auto Sliding Block 1
- Mirror Piece 1
- LED Infinity 1
- 90°Female Connector 1
- Antenna 1

Airport

Let's go to the Airport to catch a flight.



1 Airplane



2 Control Tower



3 Forklift



4 Helicopter



Airplane



Composition

- | | | | |
|----------------------|-------------------|----------------------|----------------|
| Triangle 6 | Trapezoid 2 | Girl Square 1 | Motor Wheel 1 |
| Square 7 | Arch 2 | Motor Bike wheel 1 | Mirror Card 1 |
| Isosceles Triangle 4 | Sector 4 | Triangular Pyramid 2 | Mirror Piece 6 |
| Diamond 4 | Super Rectangle 1 | Iso.Right Triangle 6 | |



Control Tower

1



2



3



Forklift

1



2



3



Helicopter

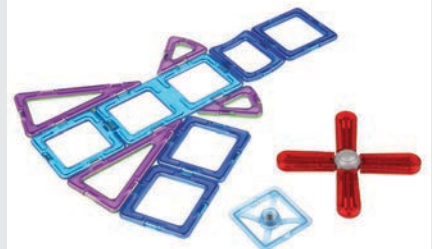
1



2



3

















4



Composition



-  Triangle 8
-  Square 6
-  Square 2
-  Hexagon 1
-  Trapezoid 2
-  Block 10
-  New Super Square 6
-  New Rotate Block 2
-  Big Gear 1
-  Square Auto Connector 1
-  Back Rushing Connector 2
-  Mirror Piece 2
-  90°Female Connector 1
-  Female Auto Connector 1
-  LED 1
-  Antenna 1

4

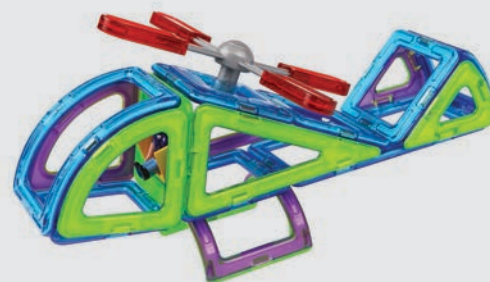


Composition



-  Square 15
-  Rectangle 1
-  Arch 1
-  Sector 2
-  Super Rectangle 1
-  Wheel 2
-  Power Generator 1
-  Iso.Right Triangle 2
-  Engine Block 1
-  Auto Sliding Block 1
-  LED Infinity 1
-  90°Female Connector 1

4



Composition



-  Square 5
-  Isosceles Triangle 2
-  Rectangle 1
-  Arch 1
-  Sector 2
-  Boy Square 1
-  Propeller 1
-  1/8 Mini Sector 2
-  1/8 Mini Arch 1
-  New Rotate Block 1
-  Half Arch 1

Play-ground

Go play at the Playground with your friends.



1 Slide



2 School



3 Light Tower

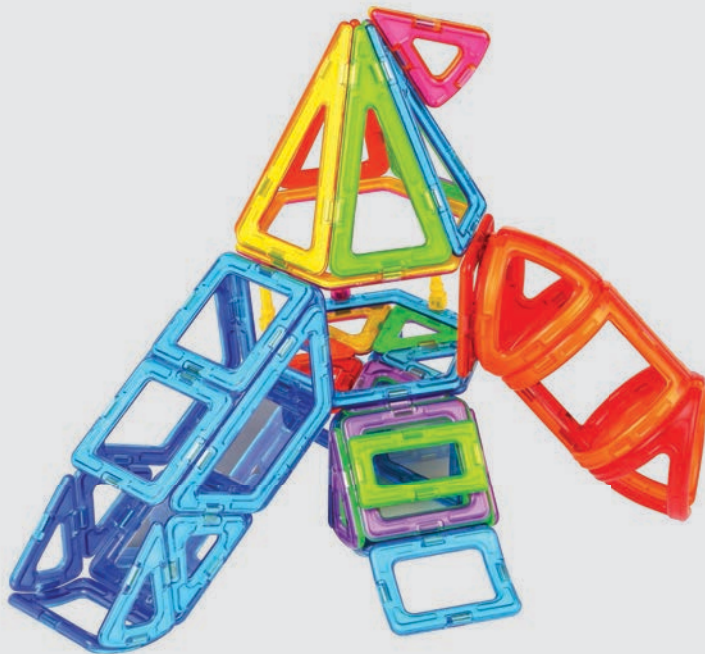


4 Jeep



5 Seesaw





Composition

-  Triangle 8
-  Square 5
-  Isosceles Triangle 6
-  Hexagon 2
-  Trapezoid 2
-  Mini Rectangle 1
-  1/8 Mini Sector 6
-  1/8 Mini Arch 3
-  Triangle Arch 4
-  Half Arch 2
-  Half Circle 2
-  Bar 3
-  Mirror Piece 6

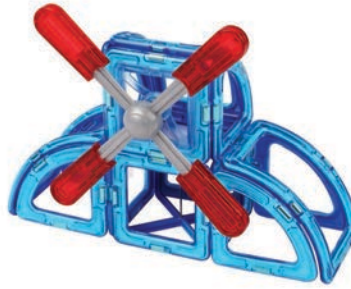


School

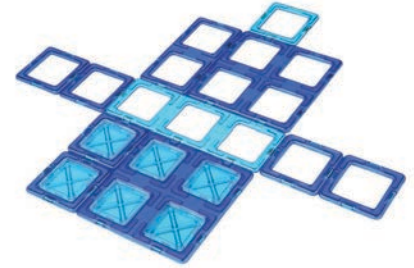
1



2



3



Light Tower

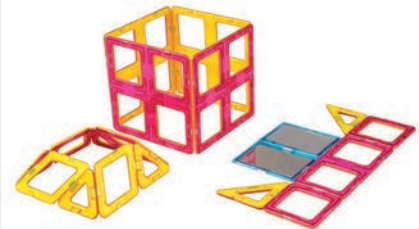
1



2



3




Jeep

1



Composition

-  Square 4
-  Trapezoid 2
-  Mini Rectangle 7
-  Super Rectangle 1
-  Block 2
-  1/8 Mini Arch 1
-  Motor Wheel 1
-  Front Wheel 1
-  Mirror Piece 1
-  Battery Pack 1






4



Composition












-  Square 12
-  Rectangle 1
-  Arch 3
-  Sector 6
-  Block 6
-  Propeller 1
-  New Super Square 2
-  New Rotate Block 1
-  X Shape Mirror Card 1
-  LED 1
-  Super Rectangle 1

4



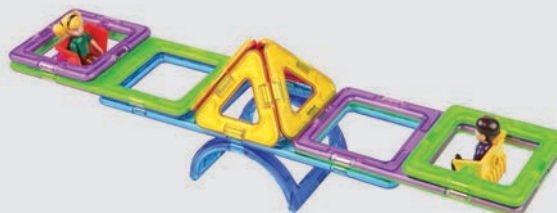
Composition



-  Triangle 8
-  Square 12
-  Rectangle 1
-  Diamond 4
-  New Super Square 4
-  Power Generator 1
-  Iso.Right Triangle 2
-  Mirror Card 3
-  LED Infinity 1

Seesaw

1



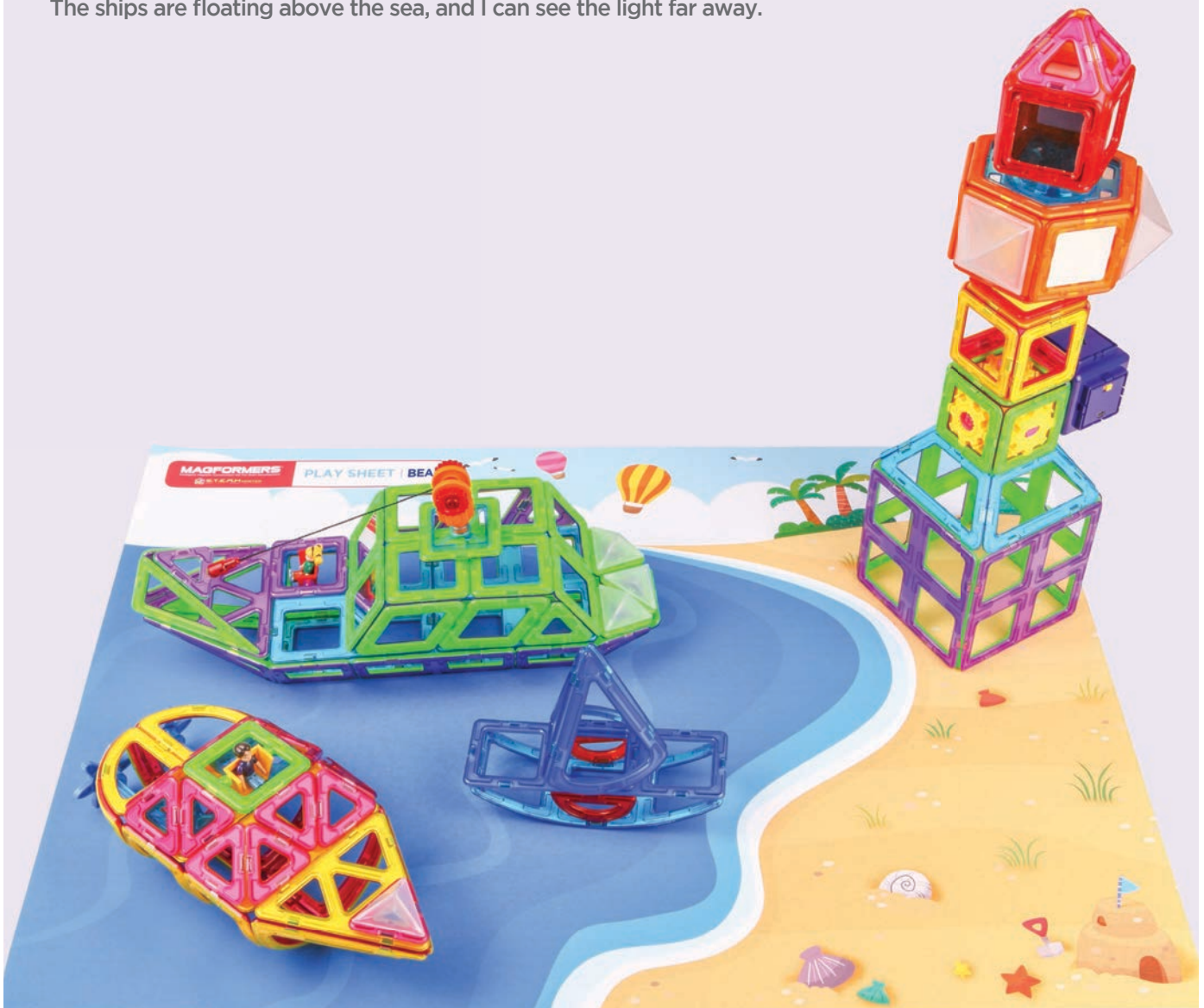
Composition



-  Triangle 4
-  Rectangle 2
-  Super Rectangle 1
-  Boy Square 1
-  Girl Square 1
-  Half Arch 1

Beach

The ships are floating above the sea, and I can see the light far away.



1 Lighthouse



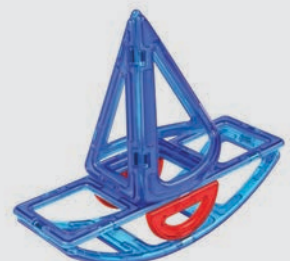
2 Motorboat



3 Yacht



4 Sailboat



Lighthouse



Composition

- | | | | |
|-------------|--------------------|--------------------------|-------------------------|
| Triangle 4 | New Super Square 4 | Auto Connector Bar 1 | LED 1 |
| Square 19 | Power Generator 1 | Back Rushing Connector 1 | New Extension Pyramid 3 |
| Hexagon 2 | Engine Block 1 | Mirror Piece 6 | Square Auto Connector 1 |
| Trapezoid 4 | Engine Cube 1 | | |



Motorboat

1



2

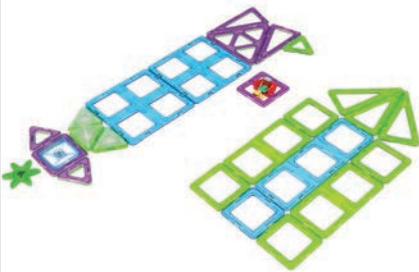


3

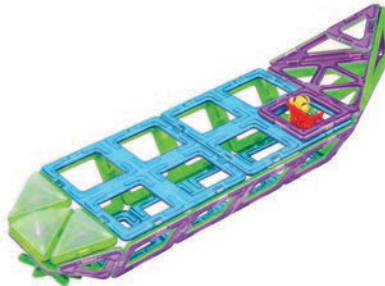


Yacht

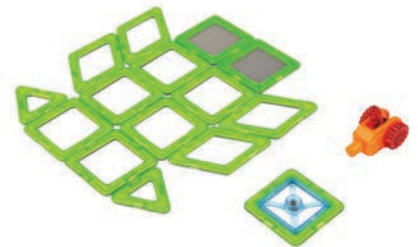
1



2

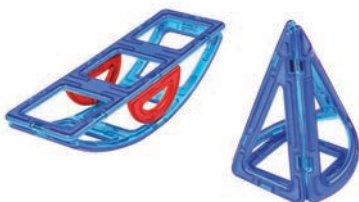


3



Sailboat

1
















4

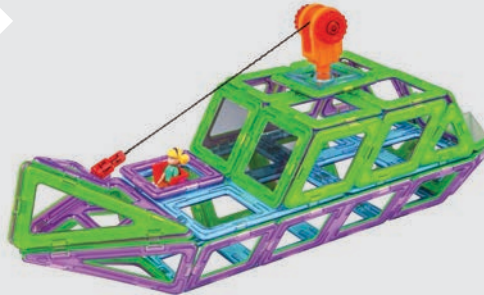


Composition



-  Triangle 13
-  Rectangle 2
-  Arch 4
-  Sector 2
-  Super Triangle 1
-  Boy Square 1
-  Square Auto Connector 2
-  90°Female Connector 2
-  1/8 Sphere 2
-  Triangular Pyramid 1
-  Small Gear 2
-  Auto Connector 2
-  Cone 2

4

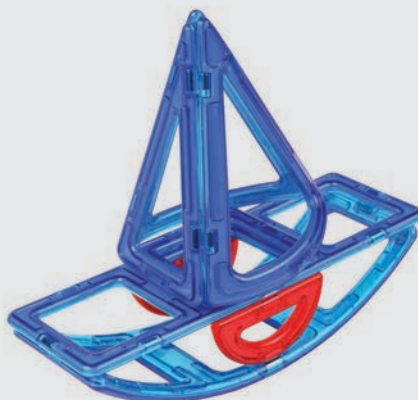


Composition



-  Triangle 8
-  Square 13
-  Small Gear 1
-  Rectangle 2
-  Diamond 4
-  Mirror Piece 2
-  Super Triangle 1
-  Girl Square 1
-  Pulley Block 1
-  New Super Square 2
-  New Rotate Block 2
-  Triangular Pyramid 3
-  Isosceles Triangle 5
-  Super Rectangle 1

Composition



-  Square 1
-  Isosceles Triangle 1
-  Super Rectangle 1
-  Half Circle 2
-  Cone 2
-  Super Arch 1

MAGFORMERS®

Intelligent Magnetic Construction Set For Brain Development



Magformers for the Brain development

Magformers is perfect for the creativity and brain development. Explore and experiment combining the various kinds of shapes to create your own favorite Magformers. There are 100s of possible 3-D combination using different geometric shapes. Feel the magnetic force and have countless hours building and designing unique MAGFORMERS.

Learning Values

- Creative
- Imaginative
- Stimulative
- Mathematical
- Deductive
- Constructive

MAGFORMERS LLC

417 Forest Ave.
Plymouth, MI 48170
Ph. 1-734-667-1673
Fx. 1-888-408-9069

E-Mail: info@magformers.com
[facebook.com/magformersllc](https://www.facebook.com/magformersllc)

This book is a work protected by copyright, thus, any unauthorized copying or reproduction of the content is strictly prohibited. In order to use any or all content, you must receive the consent of MAGFORMERS LLC, the copyright holder and owner of its publication rights.

US Patent No. 7,154,363,B2



©2014 MAGFORMERS® LLC. All rights reserved. MAGFORMERS® is a registered trademark of MAGFORMERS® LLC.

Please retain this information for future reference. Please remove all packaging before entrusted to a child.



Battery Warnings

- If putting a battery in it or using it mistakenly, overheating, rupture and lachrymal fluid could be caused.
- When lachrymal fluid oozes out, never touch it with hands.
- When the fluid which comes out from the battery is stained with the skin or the clothes and gets into the eye, counsel with the doctor immediately.
- Do not mix old and new batteries.
- Do not mix alkaline, standard(carbon-zinc), or rechargeable(nickel-cadmium) batteries.
- Turn off the power when not in use.
- After playing, turn off the power without fail and keep it separate from others.
- Separate the used battery safely.