



The tiny guide to building robots!

建構迷你機器人的小指南!

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Like to Make Mechanized Minions?

想製作個機械化的可愛小小兵嗎?

Welcome to the itty-bitty robotic engineering lab. Your Tiny Robots set comes with teensy tools to make miniature mechanized minions. You'll build wee walkers, tiny dancers, and much more. As you create, you'll learn all about the mechanisms inside the machines that make our world go round!

歡迎來到小機器人工程實驗室。你的小機器人套裝配有微型零件工具，可以製作迷你機械小小兵。你將建造小行走者，小舞者，以及更多型態的小機器人。在你創造的過程中，你同時會學習到讓整個世界運轉的各式機器內部中基本機械運作的原理。

Look at all the stuff in your toolbox!

瞭解一下你工具箱裡的所有東西!

GEARS & AXLES 齒輪和軸

Long Ring Axle 長環軸

Short Axle 短軸

Short Ring Axle 短環軸

Axle with Small Gear 小齒輪軸

Crown Gear 冠狀齒輪

Large Gears (x2) 大齒輪(x2)

ELBOWS 肘

Center + 中心+

Arm + 臂+

Wheels Only 僅輪子

LEGS 腿

Slot 槽

Pivot Point 旋轉點

FACE 臉

HEAD 頭

BODY 身體

Top Chassis 上底盤

Extender Chassis 延伸底盤

Gear Slot 齒槽

On/Off Switch 開/關按鈕

Battery Compartment 電池盒

Drive Gear 驅動齒輪

Motor Box 電機盒

Motor 發動機

Notch 凹槽

Bottom Chassis 下底盤

WHEELS 輪子

Small Wheels (x2) 小輪子(x2)

Fixed Wheel: The hub and wheel are one piece. The fixed wheel always moves with the axle rotation. This wheel makes the bot roll.

固定輪：輪轂與輪為一體，固定輪總是隨著軸的轉動而運動，該輪子使機器人滾動。

Free Wheel: The axle spins the hub, but the wheel spins independently. Sometimes the free wheel does not spin.

自由輪：軸旋轉輪殼，但車輪獨立旋轉，有時自由輪不旋轉。

Front Wheel 前輪

ARMS WITH GRIPPERS 帶夾子的手臂

CENTER ROLLER 中心滾輪

Gear Assemblies 齒輪裝置

SHORT GEAR ASSEMBLY 短齒輪傳動裝置

Short segment 短節

Large gear always goes on end with short segment

大齒輪總是與短節連接在一起

LONG GEAR ASSEMBLY 長齒輪傳動裝置

Short segment 短節

NOTE: In the instructions, we refer to the drive gear side of the robot as the “right” side. That’s because it is on the right when you are looking at it.

注：在說明書中，我們將機器人的驅動齒輪側稱爲右側，那是因爲當你看到時它就在右邊。

What’s a Robot? 機器人是什麼呢?

A robot is a machine, but not everyone agrees about which machines are robots and which aren’t. Here’s a list of some robot features. If a machine has most or all of them, you can be pretty sure it’s a robot.

機器人是機器，但並不是每個人都同意哪些機器是機器人，哪些不是。下面列舉一些機器人的特點，如果一台機器具有以下大部分或者全部特點，你可以非常肯定它就是一個機器人。

- A robot works by itself or by remote control.
機器人靠自己或遙控工作
- A robot interacts with its environment, for example by moving around or handling objects.
機器人與環境相互作用，例如四處移動或處理物體

- A robot follows instructions. They might be as simple as “go forward, then back” or as complicated as the software programs for self-driving cars or space probes.

機器人遵循指令，它們可能像前進、後退一樣簡單，也可能像自動駕駛汽車或太空探測器的軟體程式那樣複雜。

- A robot senses its environment. Most robots have sensors for detecting features of the world around them. A sensor might be as simple as a bumper switch or as complicated as a 3-D camera system.

機器人感知環境，大多數機器人都有感測器來探測周圍世界的特徵。感測器可能像保險桿開關一樣簡單，也可能像3D相機系統那樣複雜。

- A robot repeats itself. Many, such as factory robots, are made to do the same tasks over and over.

機器人重複自己的動作，許多機器人，比如工廠機器人，被製造出來一遍又一遍地重複做同樣的任務。

How Gears Work 齒輪的工作原理

When two gears work together, they send power from one place to another. Gears can change speed and direction.

當兩個齒輪一起工作時，它們把能量從一個地方傳送到另一個地方。齒輪可以改變速度和方向。

The motor turns the drive gear. A gear turned by the drive gear is called a driven gear.

發動機轉動驅動齒輪，由驅動齒輪轉動的齒輪稱為從動齒輪。

In the build below, the drive gear spins quickly clockwise. The large gear doesn't spin as fast and it's going counterclockwise.

在下面的組建中，驅動齒輪快速順時針旋轉。這個大齒輪轉得沒那麼快，而且是逆時針的。

Drive Gear 驅動齒輪

Two gears meshing together and turning is called a gear train.

兩個齒輪嚙合並轉動稱為齒輪系

讓我們開始組裝各種不同造型的機器人吧!

BUILD 01 High-5 Bot

組建01 擊掌機器人

1. Slide the tabs on the motor box over the slots on the bottom chassis.

將電機盒上的插片插入下底盤上的凹槽內

Short gear assembly 短齒輪傳動裝置

Drive gear 驅動齒輪

2. Set the short gear assembly in the motor box. The gears should be on the right and the on/off switch in the back. The large gear should be inside the chassis and meshing with the drive gear.

在電機盒中安置短齒輪傳動裝置，齒輪應該在右邊，開關應該在後面。大齒輪應在底盤內，並與驅動齒輪嚙合。

3. Attach the top chassis, sloped slide facing front.

安裝上底盤，傾斜面朝前。

Now Try This! 現在嘗試一下！

Turn the motor on and watch the drive gear turn the driven gear.

Turn the motor off.

打開發動機，觀察驅動齒輪轉動從動齒輪。關閉發動機。

4. Attach an arm to the end of the axle (either side).

在軸的任意一端安裝一個手臂。

5. Add the head. Turn the motor on for a tiny high-five!

安裝頭部，打開發動機，擊掌完成！

BUILD 02 RollBot

組建02 滾動機器人

1. Set the long gear assembly in the bottom chassis, gear on the right side.

在下底盤上安置長齒輪傳動裝置，齒輪在右側。

2. Attach the fixed wheel to the right end of the long axle (near the gears).

將固定輪安裝在長軸的右端(靠近齒輪)

Fixed Wheel 固定輪

Free Wheel 自由輪

3. Attach the free wheel to the other end of the axle.

將自由輪連接到軸的另一端

4. Attach the motor box, with the drive gear on the right side.

安裝電機盒，驅動齒輪在右側。

5. Attach the top chassis

安裝上底盤

6. Add the head.

安裝頭部

7. Switch on the motor. How does RollBot move?

打開發動機，滾動機器人如何運動？

8. Switch the free wheel and the fixed wheel. Now how does it move?

交換自由輪和固定輪的位置，現在它是如何運動的？

Now Try This! 現在嘗試一下！

Can you make the robot turn right or left by gently directing it with your finger?

你能用手指輕輕地引導機器人向左或向右轉嗎？

BUILD 03 Scooter

組建03 小機車

1. Starting with the RollBot build, remove the free wheel on the left.

從滾動機器人組建開始，移除左邊的自由輪

2. Slide the short purple axle through the + holes on the bottom chassis.

將紫色的短軸插入下底盤+孔內。

Short Axle

短軸

3. Add an elbow (arm +) to each end of the short axle.

在短軸的每一端各安裝一個肘(手臂+)

4. Add small wheels to the elbows.

在肘部安裝小輪子

5. Replace the free wheel on the left.

重新裝上左邊的自由輪

6. Switch on the motor and watch your bot scoot!

打開發動機，觀察你的機器人奔馳!

Now Try This! 現在嘗試一下!

Does your bot balance on its four wheels? If not:

- Turn the top chassis around.
- Try the head in different positions

你的機器人靠四個輪子保持平衡嗎？如果不是：

- 轉動上底盤。
- 嘗試不同的頭部位置

BUILD 04 StumbleBot

組建04 蹣跚機器人

1. Starting with the RollBot build, remove both wheels.

從滾軸機器人組建開始，移除兩邊的輪子

2. Add elbows (center +) in place of the wheels.

在輪子的位置安裝肘（中心+）

3. Attach an arm to the back of the motor box, for a tail.

將一隻手臂安裝在電機盒的後面，作為尾部

Center + 中心+

4. Switch on the robot. What does it do now?

打開機器人，它在做什麼？

Now Try This! 現在嘗試一下！

- Attach the elbows in different configurations. For example, point one elbow up and one elbow down. Try pointing both elbows up or down.
- Lay the bot on its “tummy” and see what it does.
- Attach the elbows at the arm + instead of the center +.
- 將肘部按不同的形狀固定。舉個例子，一隻肘朝上，一隻肘朝下。試著把雙肘同時向上或向下。
- 把機器人“肚子”朝下放置，看看它會做什麼。
- 將肘部固定在手臂+上，而不是中心+上。

BUILD 05 Box-Step Bot

組建05 方形步機器人

1. Slide the crown gear onto the long gear assembly, gears facing the center.

將齒冠齒輪插入長齒輪傳動裝置上，齒輪朝向中心

2. Set the gear assembly into the bottom chassis.

將齒輪傳動裝置安裝在下底盤上

3. Insert the axle with small gear into the notch on the bottom chassis, so it meshes with the crown gear.

將帶有小齒輪的軸插入下底盤的凹槽中，使其與冠齒輪嚙合。

4. Attach the motor box, top chassis and the head.

安裝電機盒、上底盤和頭部。

5. Attach the fixed wheel to the gear-side axle and the free wheel to the opposite side.

將固定輪安裝在齒輪一側的軸上，自由輪固定在另一側

6. Attach an elbow (center +) to the axle in front.

在軸的前端安裝一個肘(中心+)

7. Attach an elbow (center +) onto the back to act as a stabilizer.

將肘(中間+)安裝在背面作為穩定器。

8. Turn on the robot and watch the gears as they turn the side wheels and front elbow.

打開機器人，觀察齒輪轉動側輪和前肘。

BUILD 06 Mr. Wobbles

組建06 搖擺先生

1. Build steps 1–4 for the Box-Step Bot.

按方形步機器人1-4步驟組建

2. Attach the free wheel to the axle on the left side.

將自由輪安裝到左側的軸上。

3. Attach an elbow (center +) to the axle on the gear side.

在齒輪一側的軸上安裝一個肘(中心+)。

4. Attach an elbow (center +) to the front axle.

在前軸上安裝一個肘(中心+)。

5. Attach an arm to the back to act as a stabilizer.

將手臂安裝在背面作為穩定器。

How does Mr. Wobbles behave? Can you build other Wobble Bots?

搖擺先生表現如何？你能組建其他的搖擺機器人嗎？

BUILD 07 Roll-Don't-Fall Bot

組建07 不滾落機器人

1. Build steps 1–4 for the Box-Step Bot.

按方形步機器人1-4步驟組建

2. Thread the short axle through the + holes on the bottom chassis.

將短軸插入下底盤上的+孔

3. Attach an elbow (Arm +) to each end of the axle.

在軸的兩端各安裝一個肘(臂+)

4 Attach the front wheel to the axle with small gear on the front of the bottom chassis.

將前輪安裝在軸上，小齒輪在下底盤的前端

5 Attach the fixed wheel to the gear-side axle and the free wheel to the opposite side.

將固定輪安裝在齒輪一側的軸上，自由輪固定在另一側。

6. Add the center roller between the two elbows.

在兩個肘之間安裝中心滾輪

7. Switch on your bot.

打開機器人

Now Try This! 現在嘗試一下！

Place your robot on a clear work surface and switch it on.

Watch how it behaves when it reaches the edge of the work top.

把你的機器人放在一個開闊的工作面上並打開它的開關。

觀察它到達工作面邊緣時的行為。

Edge Sensor 邊緣感測器

Sensors give a robot information about its surroundings. The robot can change what it does based on the information from its sensors. The roller on the front of your Roll-Don't-Fall Bot acts as an edge-detecting sensor. It detects the edge of the surface by falling off it before the robot does. When the roller drops, the front wheel touches down and turns the robot to keep it from going over the edge.

感測器給機器人提供它周圍環境的資訊，機器人可以根據來自感測器的資訊改變自己的運動。不滾落機器人前端的滾輪就像一個邊緣探測感測器，它通過從平面上墜落探測到邊緣並阻止機器人繼續前行，當滾輪墜落時，前輪觸地並轉動機器人，以防止它越過邊緣。

Tiny Walking Robots 小行走機器人

How Robots Walk 機器人怎麼行走

Walking is all about balance. With each step, the robot has to pick up one foot, step forward, shift its weight from one foot to the other, and then do it over again and again without falling over.

行走就是平衡。每走一步，機器人都要抬起一隻腳，向前邁一步，把重心從一隻腳移到另一隻腳上，然後一遍又一遍地重複這個動作，而不摔倒。

Your robots don't have to shift their weight from one side to another. Because of their large, specially shaped feet, one foot is always on the ground.

你的機器人不必把重心從一邊移到另一邊，因為它們巨大且形狀特殊的腳，一隻腳總是保持在地面上。

Dancing Bot 跳舞機器人

Slot 凹槽

Pivot Point 旋轉點

Wheel 輪子

Leg 腿

Your Tiny Robots use offset pivots to step forward one leg at a time. Here's what you need to know:

你的小機器人使用偏移軸，一次向前跨一條腿。以下是你需要瞭解的：

Set both legs on the table and look at the blue wheels. Notice that the pivot points are at the top of the blue wheels and the wheels fall below the slots.

把兩條腿放在桌子上，觀察藍色的輪子。請注意，旋轉點位於藍色輪子的上方，輪子落在凹槽的下面。

Walking Bot 行走機器人

Use your finger to move one of the wheels clockwise, so the pivot point is at the bottom of the wheel and the wheel shows through the slot. This position is the opposite of the first position.

用你的手指順時針移動一個輪子，這樣旋轉點就位於輪子的底部，輪子會透過凹槽顯現

出來，該位置與第一個位置相反。

When building a walking robot, the pivot points on the two legs must be OPPOSITE one another. So when you place the first leg on the robot, notice where the pivot is and make sure the pivot point on the other leg is the opposite.

在組建行走機器人時，兩條腿上的旋轉點必須是**相反的**，所以當你把第一條腿放在機器人上時，注意旋轉點的位置，確保另一條腿上的旋轉點是相反的。

BUILD 08 Walk Bot 3000

組建08 行走機器人3000

1. Set the short gear assembly in the bottom chassis, gear on the right. Make sure the + on the axle is straight (not tilted to either side).

把短齒輪傳動裝置安置在下底盤，齒輪在右側，確保軸上的+是直的(不向兩邊傾斜)。

2. Attach the motor box, with the drive gear on the right.

安裝電機盒，驅動齒輪在右側。

3. Set the long gear assembly in the motor box, gear on the right. Make sure the + on the axle is straight (not tilted to either side).

把長齒輪傳動裝置安置在電機盒，齒輪在右側，確保軸上的+是直的(不向兩邊傾斜)。

4. Add the top chassis and the head.

安裝上底盤和頭部

5. Attach the right leg to the gear-side axle. The top of the slot fits over the top axle.

將右腿固定在齒輪一側的軸上，槽口的上方與上方軸相吻合。

6. Attach the left leg to the opposite side, with the pivot point in the OPPOSITE position.

將左腿固定在另一側，旋轉點在相反的位置。

7. Add arms to the top axle in any position you want.

在上方軸的任何位置安裝手臂。

8. Switch on your bot.

打開你的機器人

Walk Challenges: 行走挑戰：

Can your WalkBot follow a straight line? Can it walk up or down a slight incline without falling?

你的行走機器人能走直線嗎？它能在輕微的斜面上行或下行而不摔倒嗎？

Pivot 1 旋轉點1

Pivot 2 (Opposite Position)

旋轉點 2（相反的位置）

BUILD 09 DanceBot

組建09 跳舞機器人

1. Build steps 1–5 of the WalkBot 3000.

按行走機器人 3000 步驟 1-5 組建

Pivot 1 旋轉點 1

Pivot 2 (Same Position) 旋轉點2（相同的位置）

2. Attach the left leg to the opposite side, with the pivot point in the SAME position as the right leg's pivot point.

把左腿安裝在另一側，旋轉點與右側相同的位置

3. Add arms in any position you want.

在任何位置安裝手臂

4. Switch on your bot.

打開機器人

Instead of stepping forward, DanceBot stands in one place and the gears move its body up and down.

跳舞機器人不是向前走，而是站在一個地方，齒輪上下移動它的身體。

BUILD 10 Tall Walker

組建10 高個兒行走機器人

1. Build steps 1–3 of the WalkBot 3000.

按行走機器人3000步驟1-3組建

2. Add the extender chassis, top chassis, and head.

安裝延伸底盤，上底盤和頭部

3. Add legs in the walking position (pivot points opposite).

把腿安裝在行走的位置(旋轉點相反)

4. Add arms.

安裝手臂

5. Switch on your bot.

打開你的機器人

Does adding height change the robot's center of gravity?

增加高度會改變機器人的重心嗎？

Use the Tall Walker build to store all your bot's bits! (Just don't turn it on!)

使用高個行走機器人來儲存你的機器人的所有零件(只是不要打開它!)

Center of Gravity 重心

An object's center of gravity is the point where all the weight is balanced (like the center of a seesaw that is balanced). Your robot's center of gravity is the center position of all the robot's weight. If there is more weight in the front, your robot will lean forward.

一個物體的重心是所有重量平衡的點(就像蹺蹺板的中心是平衡的)。你的機器人的重心是所有機器人重量的中心位置。如果前方部分有更多的重量，你的機器人就會向前傾。

To change the center of gravity on your bots, you can:

- Turn the top chassis around.
- Turn the head around.
- Add weight to the back (or front).

要改變機器人的重心，你可以：

- 轉動上底盤。
- 轉動頭部。
- 增加背部(或前部)的重量。

Changing Speeds 改變速度

When two meshed gears are different sizes, they turn at different speeds. For example, if one gear is twice as big around as the other, the small gear will make two full turns for each turn of the big one. With any pair of different-sized gears, the larger one always turns more slowly than the smaller one. In your robot, the driver gear on the motor is smaller than the large (driven) gears, so the wheel axles will turn more slowly than the motor shaft.

當兩個啮合齒輪大小不同時，它們的轉速也不同。例如，如果一個齒輪的大小是另一個齒輪的兩倍，那麼小齒輪在大齒輪每轉一圈時就會轉兩圈。任何一對大小不同的齒輪，大齒輪總是比小齒輪轉得慢。你的機器人在發動機上的驅動齒輪比大型(從動)齒輪小，所以輪軸的轉動速度會比電機軸慢。

BUILD 11 CrawlBot

組建11 爬行機器人

1. Build steps 1–6 of the WalkBot 3000, but don't attach the head.

按行走機器人3000的步驟1-6組建，但不安裝頭部

2. Attach elbows (center +) to the top axle.

把肘（中心+）安裝在上方軸

3. Attach the head, facing away from the feet toward the back of the motor box.

安裝頭部，面向遠離腳，靠近電機盒的後部

4. Switch on your bot.

打開你的機器人

Now how does your robot move? Attach the elbows differently. How does that affect the movement?

你的機器人是如何移動的呢？肘部的安裝方式不同對運動有什麼影響？

BUILD 12 Bot Rod

組建12 機器人賽車

1. Lay the extender chassis on the table, with the tabs pointing to the left and the gear slot facing you

將延伸底盤放在桌上，插片指向左邊，齒輪槽朝向你

2. Lay a large gear inside the extender chassis, over the hole near the gear slot.

在延伸底盤內放置一個大齒輪，對準齒輪槽上的孔。

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3. Thread the long ring axle (short segment first) through the top hole, through the gear, and out the other hole. The gear should align with the gear slot.

將長環軸（短節先）穿過頂部孔，穿過齒輪，從另一個孔穿出。齒輪應與齒輪槽對齊。

4. Attach the free wheel to the gear-side axle and the fixed wheel to the other end. Set the built chassis aside for now.

將自由輪安裝到齒輪一側的軸上，固定輪安裝在另一端，先把組建的底盤放在一邊。

5. Set the short gear assembly in the motor box, with the large gear touching the drive gear. Set aside.

將短齒輪傳動裝置安置在電機盒內，大齒輪與驅動齒輪接觸，先放置一旁備用。

6. In the bottom chassis, thread the short axle through the + slots. Add an elbow (arm +) to each end of the axle.

在下底盤中，短軸從+槽穿過，在軸兩端各加一個肘(臂+)。

7. Add small wheels to the elbows. Set the bottom chassis aside.

在肘部安裝小輪子，把下底盤放在一邊。

8. Attach the built extender chassis to the motor box, with all gears on the right side and the gear slot facing front.

將組建好的延伸底盤安裝到電機盒上，所有齒輪都在右側，齒輪槽面向前方。

9. Pick up the assembly in your left hand and then set it on the table so the gears are on the left side and the wheels are touching the surface.

用左手拿起裝配，然後把它放在桌子上，這樣齒輪就在左邊，輪子就會接觸到表面。

10. Attach the built bottom chassis.

安裝組建好的下底盤

11. Add the top chassis to the back and the head to the top.

把上底盤安裝在後面，頭部安裝在上面

12. Switch on your Bot Rod.

打開你的機器人

Take it further! 來點有創意的玩法！

BUILD 13 Rah-Rah-RahBot

組建13 啦啦隊機器人

Build a walking robot. Make flags or pom-poms for it to wave as it walks!

組建一個行走機器人，添加旗子或彩球，讓它行走時揮動！

BUILD 14 VanGoghBot

部件14 梵谷機器人

1. Build the Scooter (Build 3).

組建小機車（組建3）

2. Attach an arm to its back and put a pencil or thin marker in the gripper.

在它的背部安裝一個手臂，然後把鉛筆或細記號筆放在夾子裡

3. Set your bot on a piece of paper and switch it on. Use your finger to gently direct your bot around the paper. Can you make cool doodles?

把你的機器人放在一張紙上，然後打開它。用你的手指輕輕地繞動你的機器人，你能畫出炫酷的塗鴉嗎？

Can you build other variations of VanGoghBots?

你能組建其他不同造型的梵古機器人嗎？

Working with the Real World 與現實世界結合運作

Some robots just move around, but most of them do things that affect the world

around them. Factory and warehouse robots assemble things, package them, or carry them from place to place. Robot vacuum cleaners travel around the house and pick up dirt. Your VanGoghBot leaves its mark on the world by drawing lines on paper.

有些機器人只是四處走動，但它們中的大多數做的事情會影響到周圍的世界。工廠和倉庫的機器人能組裝，打包，或者從一個地方搬到另一個地方。機器人吸塵器在屋子裡走來走去，吸走灰塵。你的梵谷機器人在紙上畫線，在世界上留下了自己的印記。

Builds 15 and beyond...!

組建15以及更多…….!

BUILD 15 TowBot

組建15 拖行機器人

Build your favorite walking, crawling, or rolling robot and then attach an arm to its back. Find something for it to tow!

組建你最喜歡的行走、爬行或滾動機器人，然後把一隻手臂安裝在它的背上，找點東西拖著它！

BUILD + BricksBot

組建+ 積木機器人

The axles, gears, and wheels are compatible with your favorite building bricks.

Can you create robots that motorize your bricks?

機器人組件中的軸、齒輪和輪子可以你最喜歡的積木相互搭配使用，你能創造機器人來驅動你的積木嗎？

其他說明

Battery Replacement 電池更換

1. Use a Phillips screwdriver to unscrew the battery compartment door.
2. Remove the old batteries and immediately dispose of them in the proper trash receptacle.
3. Insert 3 new 1.5-volt LR44 (AG13) batteries in the battery compartment. Make

sure the polarities match the diagram inside the battery compartment.

4. Replace the battery compartment door and screw it on.

1. 用十字螺絲刀擰開電池盒的門。
2. 拆卸舊電池，並立即將其棄置於資源回收垃圾桶內。
3. 在電池盒內裝入3個新的1.5伏特LR44 (AG13)電池，確保極性與電池室內的圖表相匹配。
4. 關上電池盒門並擰緊。

Battery Cautions 電池的注意事項

- To ensure proper safety and operation, an adult must carry out the battery replacement.
 - Never let a child use this product unless the battery door is secure.
 - Keep all batteries away from small children, and immediately dispose of any batteries safely.
 - Batteries are small objects and could be ingested.
 - Do not recharge nonrechargeable batteries.
 - Remove rechargeable batteries from the toy before charging them.
 - Rechargeable batteries are to be charged under adult supervision only.
 - Different types of batteries or new and used batteries are not to be mixed.
 - Do not mix old and new batteries.
 - Only use batteries of the same or equivalent types as recommended.
 - Do not mix alkaline, standard (carbon-zinc), or rechargeable batteries.
 - Insert batteries with the correct polarity.
 - Remove exhausted batteries from the toy.
 - Do not short-circuit the supply terminals.
 - Dispose of used batteries in accordance with all local, state, and federal laws.
-
- 爲了確保安全和正確的操作，更換電池必須交由成人操作。
 - 絕不讓孩子使用本產品，除非電池門處於安全的狀況。
 - 所有電池遠離兒童，並更換後須立即安全地處理任何電池。
 - 電池是小物件，以免誤吞。
 - 請勿給不可充電的電池充電。
 - 在充電前，將可充電電池從玩具內取出。
 - 可充電電池只能在成人監護下充電。
 - 不同類型的電池或新舊電池不能混合使用。
 - 請勿混合新舊電池。
 - 請使用合格的相同或等效類型的電池。(LR44)

- 請勿混合鹼性、標準(碳鋅)或充電電池。
- 裝入正確極性的電池。
- 將耗盡的電池從玩具中取出。
- 請勿造成電源短路。
- 廢電池請依正確回收方式或管道進行資源回收。