



企鵝王国
PENGUIN KINGDOM

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科学实验说明书

CHILDREN'S PUZZLE TOY SET



对讲机 Walkie-Talkie

作品简介/Introduction to the work

DIY 无线对讲机主要由木质面板、对讲机模块、电池盒、接线器以及螺丝组成。这款科学玩具不仅能培养孩子的学习能力、动手能力以及独立思考的能力，更能让孩子们在玩乐的时候学到真正的科学知识，增加孩子们对科学世界无尽探索的兴趣，通过亲手制作也能让孩子了解简单的电路连接，电路的开合状态。

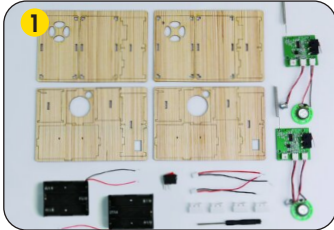
The DIY wireless walkie talkie mainly consists of wooden panels, walkie talkie modules, battery boxes, connectors, and screws. This science toy not only cultivates children's learning ability, hands-on ability, and independent thinking ability, but also allows them to learn true scientific knowledge while playing, increasing their interest in endless exploration of the scientific world. By making it by hand, children can also understand simple circuit connections and the opening and closing states of circuits.

知识原理/Knowledge principle

对讲机原理是通过发射射频载波信号，滤波器接收到信号后，经过滤除、鉴频，得到音频信号，经过处理就得到了人们需要的语音信息。该对讲机具有全集成半双工调频收发，自动降噪，超小尺寸等优点，是一款完整的高性能玩具对讲机。

The principle of walkie talkies is to transmit radio frequency carrier signals, which are received by a filter. After filtering and frequency discrimination, the audio signal is obtained, and after processing, the voice information that people need is obtained. This walkie talkie has the advantages of fully integrated half duplex FM transceiver, automatic noise reduction, and ultra small size, making it a complete high-performance toy walkie talkie.

操作步骤/Operation steps



CHN 认识材料

GBR Understanding materials

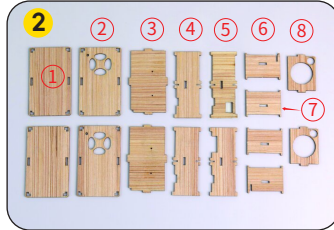
DEU Materialien verstehen

ESP Materiales cognitivos

FRA Reconnaître le matériel

ITA Comprendere i materiali

JPN 認識材料



CHN 将木板上的所有零件全部取下

GBR Remove all parts from the wooden board

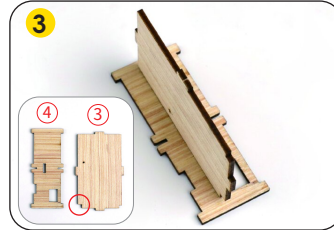
DEU Entfernen Sie alle Teile vom Holzbrett

ESP Retire todas las piezas de la tabla

FRA Retirer toutes les pièces de la planche

ITA Rimuovere tutte le parti dalla tavola di legno

JPN 板のすべての部品をすべて取り外します



CHN 将4号板、3号板进行组合，注意缺口的方向

GBR Combine the 4th and 3rd boards, paying attention to the direction of the gap

DEU Kombiniere das vierte und dritte Brett und achte dabei auf die Richtung des Spalts

ESP Combine la placa 4 y la placa 3 y preste atención a la dirección de la brecha

FRA Combinez les plaques 4, 3, faites attention à la direction de l'encoche

ITA Combinare la quarta e la terza tavola, prestando attenzione alla direzione dello spazio

JPN 4番板、3番板を組み合わせ、切り欠きの方向に注意する



CHN 接上个步骤安装5号板，注意缺口的方向

GBR Follow the previous step to install board 5, paying attention to the direction of the gap

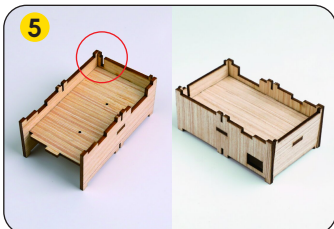
DEU Folgen Sie dem vorherigen Schritt, um Platine 5 zu installieren, achten Sie auf die Richtung des Spalts

ESP Siga el paso anterior para instalar la placa 5 y preste atención a la dirección de la brecha

FRA Étape suivante installez la plaque 5, faites attention à la direction de l'encoche

ITA Seguire il passo precedente per installare la scheda 5, prestando attenzione alla direzione dello spazio

JPN 前の手順に続いて5番板を取り付け、切り欠きの方向に注意する



CHN 将6、7号板安装在前后方，注意缺口的朝向

GBR Install plates 6 and 7 at the front and rear, paying attention to the orientation of the notches

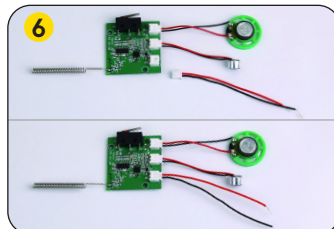
DEU Montieren Sie Platten 6 und 7 vorne und hinten, achten Sie auf die Ausrichtung der Kerben

ESP Instale las placas 6 y 7 en la parte delantera y trasera, preste atención a la orientación de la brecha

FRA Installez les plaques 6, 7 à l'avant et à l'arrière, faites attention à l'orientation de l'encoche

ITA Installare piastre 6 e 7 davanti e dietro, prestando attenzione all'orientamento delle tacche

JPN 6、7番プレートを手前・後ろに取り付け、切り欠きの向きに注意する



CHN 将接线模块插入对讲机模块上

GBR Insert the wiring module into the walkie talkie module

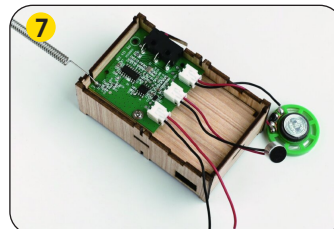
DEU Setzen Sie das Verdrahtungsmodul in das Walkie Talkie Modul ein

ESP Insertar el módulo de cableado en el módulo de walkie - talkie

FRA Insérer le module de câblage sur le module d'interphone

ITA Inserire il modulo di cablaggio nel modulo walkie talkie

JPN インターホンモジュールに配線モジュールを挿入する



CHN 将对讲机模块安装到木块组合上，注意方向

GBR Install the walkie talkie module onto the wooden block assembly, paying attention to the direction

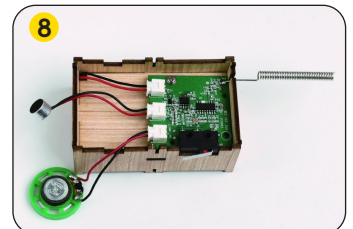
DEU Installieren Sie das Walkie Talkie-Modul auf die Holzblockanordnung und achten Sie auf die Richtung

ESP Instale el módulo de walkie - talkie en la combinación de bloques de madera y preste atención a la Dirección

FRA Installez le module d'interphone sur la combinaison de blocs de bois, faites attention à l'orientation

ITA Installare il modulo walkie talkie sul gruppo di blocchi di legno, prestando attenzione alla direzione

JPN 方向に注意してインターホンモジュールを木組みに取り付ける



CHN 将对讲机模块上多余的2根线通过小孔穿到背部

GBR Thread the excess 2 wires from the walkie talkie module through small holes to the back

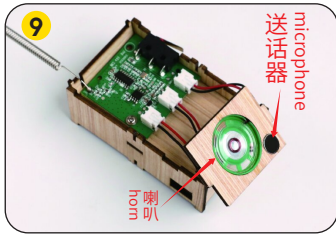
DEU Fädeln Sie die überschüssigen 2-Drähte vom Walkie Talkie Modul durch kleine Löcher nach hinten

ESP Coloque los 2 cables restantes del módulo de walkie - talkie en la espalda a través de pequeños agujeros

FRA Percer les 2 fils supplémentaires sur le module interphone à travers de petits trous dans le dos

ITA Infilare i fili in eccesso dal modulo walkie talkie attraverso piccoli fori sul retro

JPN トランシーバモジュール上の余分な2本の線を小さな穴を通して背中に通す



CHN 将发送器和喇叭安装到8号板上

GBR Install the transmitter and speaker onto board 8

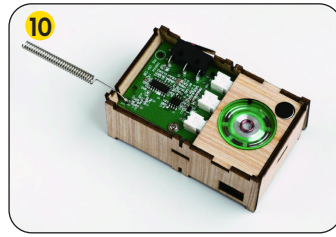
DEU Installieren Sie den Sender und Lautsprecher an Bord 8

ESP Instalar el altavoz y la bocina en la placa 8

FRA Monter le transmetteur et le klaxon sur la planche 8

ITA Installare il trasmettitore e l'altoparlante a bordo 8

JPN 送話器とスピーカーを8番板に取り付ける



CHN 接着将8号板固定到木板组合的缺口上

GBR Next, fix the 8th board to the gap of the wooden board combination

DEU Als nächstes befestigen Sie das achte Brett an der Lücke der Holzbrettkombination

ESP A continuación, la placa 8 se fija a la brecha de la combinación de tablas de madera.

FRA Ensuite, fixez la planche n° 8 à l'encoche de la combinaison de planches en bois

ITA Successivamente, fissare l'ottava scheda allo spazio della combinazione di schede di legno

JPN 次に8番のプレートをプレートの組み合わせの切り欠きに固定します



CHN 然后盖上2号板

GBR Then cover the 2nd board

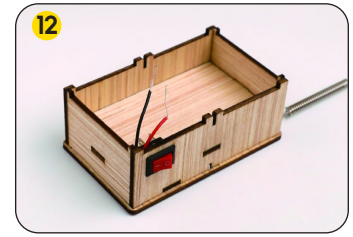
DEU Dann bedecke das zweite Brett

ESP Luego cubra la placa 2.

FRA Puis couvrir la plaque n°2

ITA Poi copri la seconda tavola

JPN 次にプレート2をかぶせる



CHN 用扎带固定住注射器, 扎带接口在底部

GBR Secure the syringe with a tie, with the tie interface at the bottom

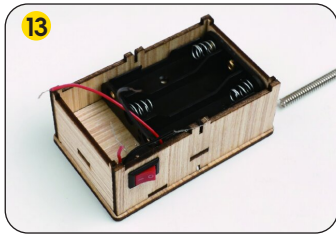
DEU Sichern Sie die Spritze mit einem Binder, mit der Bindschnittstelle unten

ESP Sujetar la jeringa con una correa con la interfaz de la correa en el Fondo

FRA Tenir la seringue avec une attache, l'interface de fixation est en bas

ITA Fissare la siringa con una fascetta, con l'interfaccia fascetta nella parte inferiore

JPN インジェクタをテープで固定し、底にコネクタをテープで結ぶ



CHN 放入电池盒

GBR Insert into the battery box

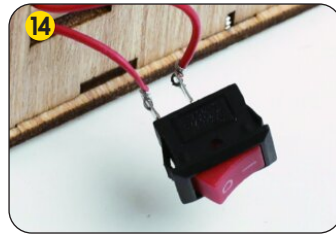
DEU Einsetzen in den Batteriekasten

ESP Poner en la Caja de la batería

FRA Mettre dans la boîte de batterie

ITA Inserire nella scatola della batteria

JPN バッテリーボックスに入れる



CHN 将电池盒上的红线和电路板上的红线分别连接到开关上

GBR Connect the red wire on the battery box and the red wire on the circuit board to the switch, respectively

DEU Schließen Sie das rote Kabel am Batteriekasten und das rote Kabel auf der Leiterplatte an den Schalter an.

ESP Conecte el cable rojo en la Caja de la batería y el cable rojo en la placa de circuito al interruptor, respectivamente.

FRA Connectez la ligne rouge sur le boîtier de la batterie et la ligne rouge sur le circuit imprimé à l'interrupteur séparément

ITA Collegare il cavo rosso sulla scatola della batteria e il cavo rosso sul circuito stampato all'interruttore, rispettivamente

JPN バッテリーボックスの赤い線と回路基板の赤い線をそれぞれスイッチに接続する



CHN 将另外的2条黑线接到一起, 然后将开关固定好, 并装上电池

GBR Connect the other two black wires together, then secure the switch and install the battery

DEU Verbinden Sie die anderen beiden schwarzen Kabel miteinander, sichern Sie dann den Schalter und installieren Sie die Batterie

ESP Conecte las otras dos líneas negras, luego asegure el interruptor e instale la batería.

FRA Connectez les 2 autres fils noirs ensemble, puis fixez bien l'interrupteur et chargez la batterie

ITA Collegare gli altri due fili neri insieme, quindi fissare l'interruttore e installare la batteria

JPN 別の2本の黒い線をつなぎ、スイッチを固定して電池を入れます



CHN 然后在底部盖上1号板, 并固定好螺丝, 安装完成

GBR Then cover the bottom with the No.1 board and secure the screws, completing the installation

DEU Dann bedecken Sie die Unterseite mit der No.1-Platine und sichern Sie die Schrauben, um die Installation abzuschließen

ESP Luego cubra la placa 1 en la parte inferior y fije los tornillos para completar la instalación.

FRA Ensuite, sur le couvercle inférieur de la plaque n° 1 et fixer les bonnes vis, l'installation est terminée

ITA Quindi coprire il fondo con la scheda n. 1 e fissare le viti, completando l'installazione

JPN 次に底にプレート1ボチをかぶせ、ネジを固定して取り付け完了

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction

