Learning Resources LER2936 Coding Robot STEM Toy User Manual

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Introducing Botley, the Coding Robot

Coding is the language we use to communicate with computers. When you program Botley using the included Remote Programmer, you engage in a basic form of “coding.” Beginning with the very basics of sequence programming is a great way to get started in the world of coding. So why is learning this so important? Because it helps teach and encourage:

1. Basic coding concepts
2. Advanced coding concepts like If/Then logic
3. Critical thinking
4. Spatial concepts
5. Collaboration and teamwork

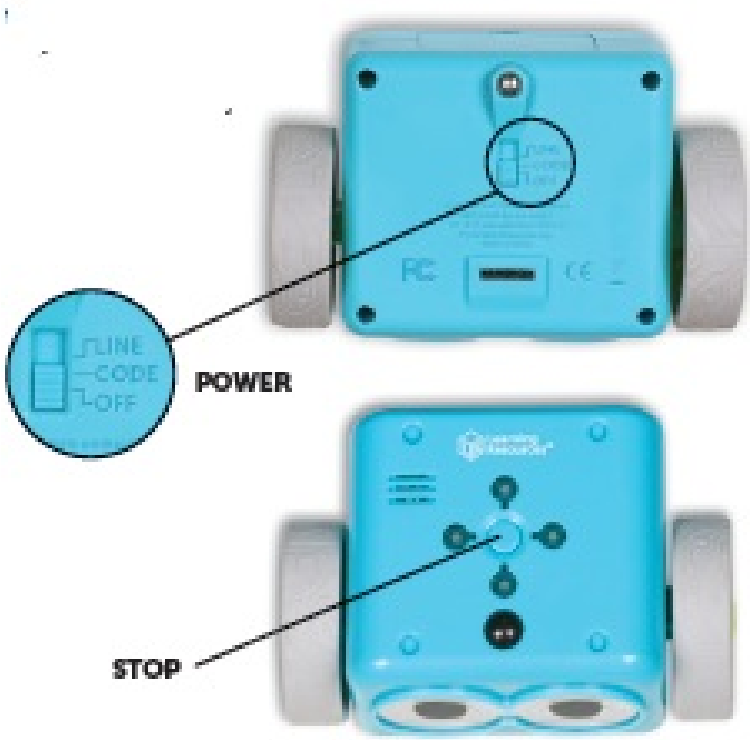
Set includes

- 1 Botley robot
- 1 Remote Programmer
- Detachable robot arms

- 40 Coding cards

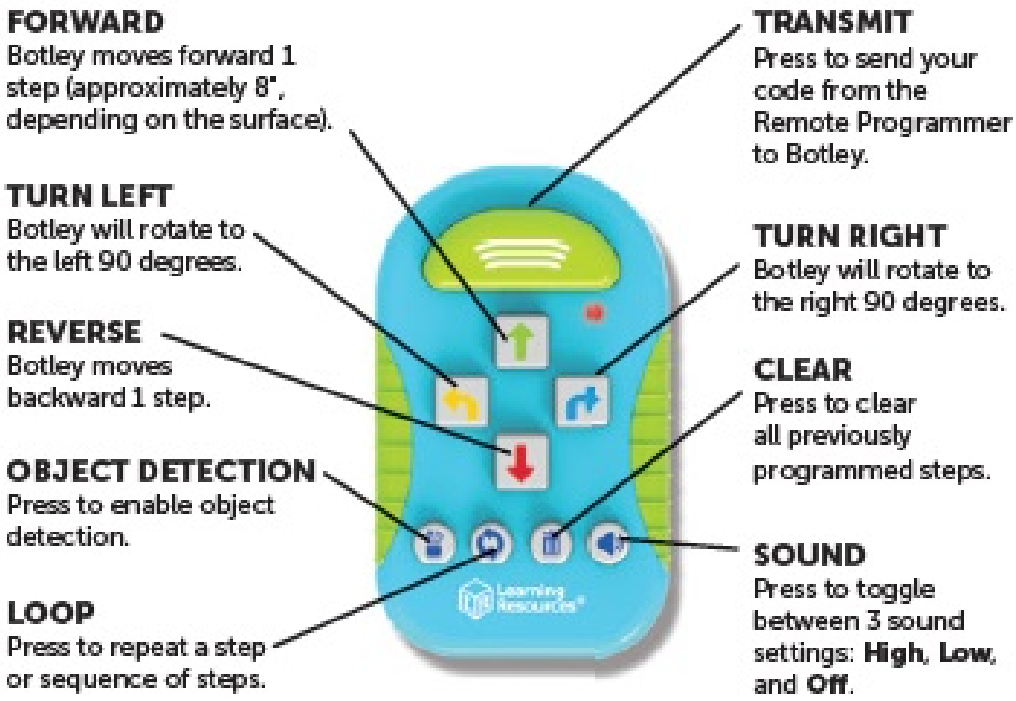
Basic Operation

Power— Slide this switch to toggle between OFF, CODE, and LINE following modes.



Using the Remote Programmer

You can program Botley using the Remote Programmer. Press these buttons to enter commands.



Inserting Batteries
Botley requires (3) three AAA batteries. The Remote Programmer requires (2) two AAA batteries. Please follow the directions for battery installation on page 6 of this guide.

Note: When the batteries are low on power, Botley will beep repeatedly and functionality will be limited. Please insert new batteries

Getting Started

In CODE mode, each arrow button you press represents a step in your code. When you transmit your code to Botley, he will execute all the steps in order. The lights on the top of Botley will light up at the beginning of each step. Botley will stop and make a sound when he completes the code.

- **STOP** Botley from moving at any time by pressing the center button on top of him.
- **CLEAR:** deletes all previously programmed steps. Note that the Remote Programmer retains code even if Botley is turned on. Press CLEAR to start a new program. Botley will power down if left idle for 5 minutes. Press the center button on top of Botley to wake him up.

Start with a simple program. Try this:

1. Slide the POWER switch on the bottom of Botley to CODE.
2. Place Botley on the floor (he works best on hard surfaces).
3. Press the FORWARD arrow on the Remote Programmer.
4. Point the Remote Programmer at Botley and press the transmit button.
5. Botley will light up, make a sound to indicate the program has been transmitted, and move forward one step.

Note: If you hear a negative sound after pressing the transmit button:

- Press TRANSMIT again. (Do not re-enter your program— it will remain in the Remote Programmer's memory

until you clear it.)

- Check that the POWER button on the bottom of Botley is in the CODE position
- Check the lighting of your surroundings. Bright light can affect the way the Remote Programmer works.
- Point the Remote Programmer directly at Botley.
- Bring the Remote Programmer closer to Botley.

Now, try a longer program. Try this:

1. Press CLEAR to delete the old program.
2. Enter the following sequence: FORWARD, FORWARD, RIGHT, RIGHT, FORWARD.
3. Press TRANSMIT and Botley will execute the program

Tips:

1. STOP Botley at any time by pressing the center button on top of him.
2. Depending on the lighting, you can transmit a program from up to 10' away (Botley works best in ordinary room lighting).
3. You can add steps to a program. Once Botley completes a program, you can add more steps by entering them into the Remote Programmer. When you press TRANSMIT, Botley will restart the program from the beginning, adding on the additional steps at the end.
4. Botley can perform sequences of up to 80 steps! If you enter a programmed sequence that exceeds 80 steps, you'll hear a sound indicating the step limit has been reached.

Loops

Professional programmers and coders try to work as efficiently as possible. One way to do this is by using LOOPS to repeat a sequence of steps. Performing a task in the fewest steps possible is a great way to make your code efficient. Every time you press the LOOP button, Botley will repeat that sequence.

Try this (in CODE mode):

1. Press CLEAR to delete the old program.
2. Press LOOP, RIGHT, RIGHT, RIGHT, RIGHT, LOOP again (to repeat the steps).
3. Press TRANSMIT.

Botley will perform two 360s, turning completely around twice

Now, add a loop in the middle of a program. Try this:

1. Press CLEAR to delete the old program.
2. Enter the following sequence: FORWARD, LOOP, RIGHT, LEFT, LOOP, LOOP, REVERSE.
3. Press TRANSMIT and Botley will execute the program.

You can use LOOP as many times as you'd like, as long as you don't exceed the maximum number of steps (80).

Object Detection & If/Then Programming

If/Then programming is a way to teach robots how to behave in certain conditions. We use If/Then behavior and logic all the time. For example, IF it looks like rain outside, THEN we might carry an umbrella. Robots can be programmed to use sensors to interact with the world around them. Botley has an object detection (OD) sensor that can help him “see” objects in his path. Using this sensor is a great way to learn about If/ Then programming.

Try this (in CODE mode):

1. Place an object (such as a cup) about 10 inches directly in front of Botley.
2. Press CLEAR to delete the old program.
3. Enter the following sequence: FORWARD, FORWARD, FORWARD.
4. Press the OBJECT DETECTION (OD) button. You’ll hear the sound of the red light on the Remote The programmer will stay lit to indicate that the OD sensor is on. Next, enter what you would like BOTLEY to do if he “sees” an object in his path—try RIGHT, FORWARD, LEFT.

5. Press TRANSMIT.

Botley will execute the sequence. IF Botley “sees” an object in his path, THEN he will perform the alternate sequence. He will then finish the original sequence.

Note:

Botley’s OD sensor is between his eyes. He only detects objects that are directly in front of him and are at least 2″ tall by 11⁄2″ wide. If Botley isn’t “seeing” an object in front of him, check the following:

- Is the POWER button on the bottom of Botley in the CODE position?
- Is the OBJECT DETECTION sensor on (the red light on the programmer should be lit)?
- Is the object too small?
- Is the object directly in front of Botley?
- Is the lighting too bright? Botley works best in ordinary room lighting. His performance may be inconsistent in very bright sunlight.
- Botley will not move forward when he “sees” an object. He’ll just honk until you move the object out of his way.

Black Line Following

Botley has a special sensor underneath him that allows him to follow a black line. You can also draw your path for Botley to follow. Use a white piece of paper and a thick black marker. Hand-drawn lines must be between 4mm and 10mm wide and solid black against white. Note that any dark patter or color change will affect his movements, so be sure there are no other color or surface changes near the black line. Draw something like this:

Botley will turn around and go back when he reaches the end of the line.

Try this:

1. Slide the POWER switch on the bottom of Botley to LINE.
2. Place Botley on the black line. The sensor on the bottom of Botley needs to be directly over the black line.

3. Press the center button on top of Botley to start linefollowing. If he just keeps spinning around, nudge him closer to the line—he'll say "Ah-ha" when he finds the line.
4. Press the center button again to stop Botley—or just pick him up!

Detachable Robot Arms

Botley comes equipped with detachable robot arms, designed to help him perform tasks. Snap the gear onto Botley's face, and insert the two robot arms. Botley can now move objects. Set up mazes and try to build a code to direct Botley to move an object from one place to another.

Note: The object detection (OD) feature will not function well when the detachable robot arms are attached. Please remove detachable robot arms when using this feature.

Coding Cards

Use the coding cards to keep track of each step in your code. Each card features a direction or "step" to program into Botley. These cards are color-coordinated to match the buttons on the Remote Programmer.
We recommend lining up the coding cards horizontally in sequence to mirror each step in your program and to help follow and remember the sequence.

Easter Eggs and Hidden Features

Enter these sequences on the Remote Programmer to make Botley performs secret tricks! Press CLEAR before trying each one.

1. Forward, Forward, Right, Right, Forward. Then press Transmit. Botley wants to say "Hi!"
2. Forward, Forward, Forward, Forward, Forward, Forward (that's Forward x 6). Then press Transmit. Botley is having fun now!
3. Right, Right, Right, Right, Left, Left, Left, Left, and Transmit. Uh-oh, Botley's a little dizzy.

For even more tips, tricks, and hidden features, please visit **http://learningresources.com/botley**

Troubleshooting

Remote Programmer/Transmitting codes
If you hear a negative sound after pressing the TRANSMIT button, try the following:

- Check the lighting. Bright light can affect the way the Remote Programmer works.
- Point the Remote Programmer directly at Botley.
- Bring the Remote Programmer closer to Botley.
- Botley can be programmed with a maximum of 80 steps. Be sure a programmed code is 80 steps or fewer. Botley will power down after 5 minutes if left idle. Press the center button on top of Botley to wake him up. (He'll try to get your attention four times before he powers down.)
- Be sure fresh batteries are inserted properly in both Botley and the Remote Programmer.
- Check that nothing is obstructing the lens on the programmer or the top of Botley

Botley's moves
If Botley isn't moving properly, check the following:

- Be sure Botley's wheels can move freely and nothing is blocking their movement.
- Botley can move on a variety of surfaces but works best on smooth, fl at surfaces like wood or fl at tile.
- Do not use Botley in sand or water.
- Be sure fresh batteries are inserted properly in both Botley and the Remote Programmer.

Object Detection

If Botley isn't detecting objects or working erratically using this feature, check the following:

- Remove detachable robot arms before using object detection.
- If Botley isn't "seeing" an object, check its size and shape. Objects should be at least 2″ tall and 1½" wide.
- When OD is on, Botley will not move forward when he "sees" an object—he'll just stay in place and honk until you move the object out of his way. Try reprogramming Botley to go around the object.

Battery Information

When the batteries are low on power, Botley will beep repeatedly. Please insert new batteries to continue using Botley.

Installing or Replacing Batteries

WARNING:

To avoid battery leakage, please follow these instructions carefully.
Failure to follow these instructions can result in battery acid leakage that may cause burns, personal injury, and property damage.

Requires: 5 x 1.5V AAA batteries and a Phillips screwdriver

- Batteries should be installed or replaced by an adult.
- Botley requires (3) three AAA batteries. The Remote Programmer requires (2) AAA batteries.
- On both Botley and the Remote Programmer, the battery compartment is located on the back of the unit.
- To install batteries, first undo the screw with a Phillips screwdriver and remove the battery compartment door. Install batteries as indicated inside the compartment.
- Replace the compartment door and secure it with a screw.

Battery Care and Maintenance Tips

- Use (3) three AAA batteries for Botley and (2) two AAA batteries for the Remote Programmer.
- Be sure to insert batteries correctly (with adult supervision) and always follow the toy and battery manufacturer’s instructions.
- Do not mix alkaline, standard (carbon-zinc), or rechargeable (nickel-cadmium) batteries.
- Do not mix new and used batteries.
- Insert the battery with the correct polarity. Positive (+) and negative (-) ends must be inserted in the correct directions as indicated inside the battery compartment.
- Do not recharge non-rechargeable batteries.
- Only charge rechargeable batteries under adult supervision.
- Remove rechargeable batteries from the toy before charging.
- Only use batteries of the same or equivalent type.
- Do not short-circuit the supply terminals.
- Always remove weak or dead batteries from the product.
- Remove batteries if the product will be stored for an extended period.
- Store at room temperature.
- To clean, wipe the surface of the unit with a dry cloth.
- Please retain these instructions for future reference.

FAQs

What is the main educational benefit of the Learning Resources LER2936 Coding Robot STEM Toy?

The Learning Resources LER2936 Coding Robot STEM Toy helps children develop essential coding skills through hands-on play and problem-solving activities.

What age group is the Learning Resources LER2936 Coding Robot STEM Toy suitable for?

The Learning Resources LER2936 Coding Robot STEM Toy is designed for children aged 5 and up, making it perfect for early learners interested in STEM.

Can the Learning Resources LER2936 Coding Robot STEM Toy be used to teach basic coding concepts?

Absolutely, the Learning Resources LER2936 Coding Robot STEM Toy introduces children to basic coding concepts such as sequencing, loops, and problem-solving.

How many activities or challenges are included with the Learning Resources LER2936 Coding Robot STEM Toy?

The Learning Resources LER2936 Coding Robot STEM Toy comes with 20 interactive challenges to enhance a child's coding skills.

What materials are used to make the Learning Resources LER2936 Coding Robot STEM Toy?

The Learning Resources LER2936 Coding Robot STEM Toy is made from durable, high-quality plastic that can withstand rough play.

How does the Learning Resources LER2936 Coding Robot STEM Toy encourage critical thinking?

The Learning Resources LER2936 Coding Robot STEM Toy encourages critical thinking by requiring children to plan, test, and refine their coding commands to solve challenges.

What coding languages are introduced through the Learning Resources LER2936 Coding Robot STEM Toy?

While the Learning Resources LER2936 Coding Robot STEM Toy doesn't use specific coding languages, it introduces the foundational concepts of coding that are applicable across various programming languages.

What is the approximate size of the Learning Resources LER2936 Coding Robot STEM Toy?

The Learning Resources LER2936 Coding Robot STEM Toy is compact and portable, measuring approximately 8 inches in height.

What is the Learning Resources LER2936?

The Learning Resources LER2936 is Botley the Coding Robot, a STEM toy designed to teach young children the basics of coding through interactive, screen-free play.

What types of activities can children do with the Learning Resources LER2936?

Children can engage in various activities such as navigating obstacle courses, following coding commands, and using if/then logic to program Botley.

How does the Learning Resources LER2936 help develop critical thinking?

The Learning Resources LER2936 promotes critical thinking as children plan and execute coding sequences to achieve specific tasks with the robot.

Video-Learning Resources LER2936 Coding Robot STEM Toy

Download this pdf: https://manuals.plus/wp-content/uploads/2024/06/Learning-Resources-LER2936-Coding-Robot-STEM-Toy-User-Manual-Resources-LER2936-Coding-Robot-STEM-Toy.mp4

Reference Link

[Learning Resources LER2936 Coding Robot STEM Toy User Manual-device report]

References

- [User Manual]