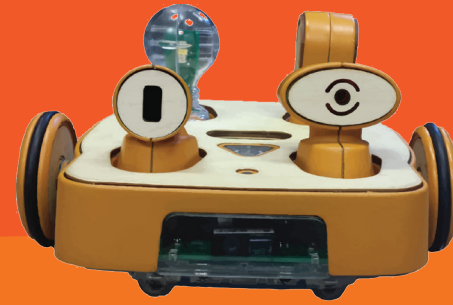# Getting started with KIBO
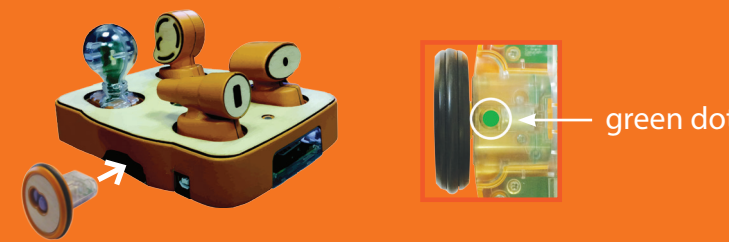
1. If this is your first time using your KIBO, insert 4 AA batteries into the battery case. The red scanner light will start blinking.

Screwdriver and batteries not included

2. Choose the motors, wheels, and sensors that you want to use. Insert the motors so that the green dot shows through KIBO's transparent bottom.
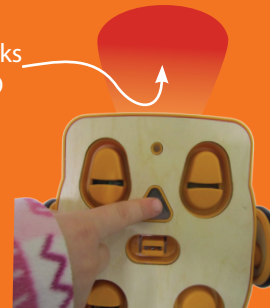
← green dot

3. Sequence some blocks into a program. Every program needs a BEGIN block and an END block.

| BEGIN | PLAY □ | WAIT FOR CLAP | FORWARD | END |

4. Push KIBO's triangular button to turn KIBO on. The red scanner light will blink.

red scanner light blinks through front of KIBO

KIBO will turn itself off if left alone for a few minutes.

5. Use KIBO to scan the bar codes on the programming blocks, left to right, one at a time*. If your scan was successful, KIBO will beep and the scan indicator LED will glow green after each block.

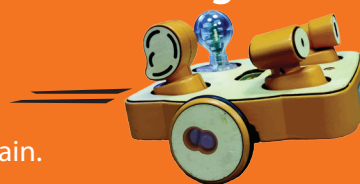(A red scan indicator LED indicates a scanning error.)

See scanning tips on the back of this guide.

| BEGIN | PLAY □ | END |

blinking red scanner light

scan indicator LED
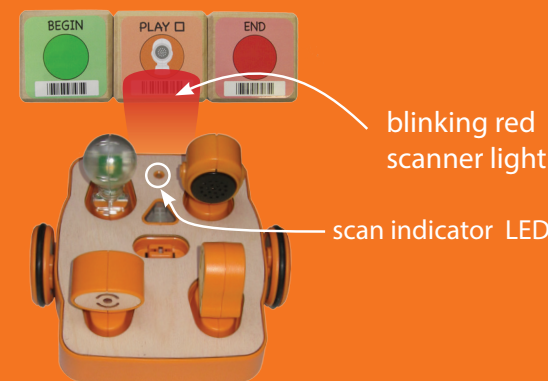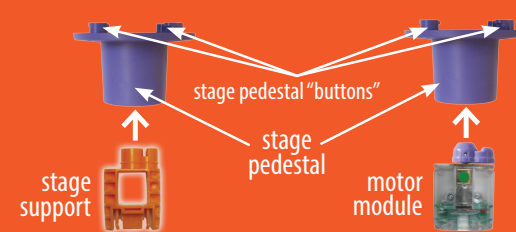
6. Push KIBO's triangular button to tell KIBO to go!

To re-run the program: push KIBO's button again.

To change your program: re-arrange the blocks, re-scan, and push KIBO's button. Watch KIBO go!
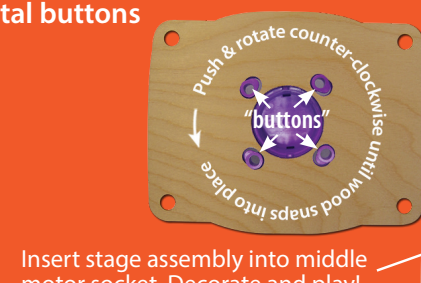
7. Decorate KIBO with the round or rectangular stage.

Insert stage support or motor module into stage pedestal

stage pedestal "buttons"

stage support

stage pedestal

motor module

Insert the wood stage onto the stage pedestal buttons

Push & rotate counter-clockwise until wood snaps into place

"buttons"

Insert stage assembly into middle motor socket. Decorate and play!

Sound Record/Playback Module

microphone for recording

speaker for playing back

The Sound Record/Playback Module contains a *microphone* and a *speaker*. The microphone records sounds that you want to use in your program. The speaker plays the sounds that you recorded.

Insert the module and turn KIBO on. **Record a sound** by pressing and holding one of the three buttons (□ △ ○). Let go of the button to stop recording. You can record up to three sounds (□ △ ○). Each sound can be up to 10 seconds long.

Create your program. Include the "PLAY" blocks that match the buttons you pressed to record your sounds.

| BEGIN | WAIT FOR CLAP | PLAY ○ | END |

Scan and run your program. Listen for the sounds you recorded. Play them as many times as you like, by adding the appropriate blocks to your program.

Good things to know

KIBO's lights can tell you lots of useful things:

° KIBO's red scanner light and triangular button will blink when KIBO is ready to *scan* a program – OR – when KIBO is ready to *run* a program. The button will stop blinking while KIBO is scanning a program; the red scanner light will stop blinking while KIBO is running a program.

° When KIBO's triangular button blinks, it means that KIBO has a program stored in its memory. The triangular button will go dark while KIBO is scanning a new program, and also after inserting new batteries.

° You can put KIBO to sleep by pressing and holding the triangular button for several seconds.


Expression Module

~ Express yourself!

KIBO's Flagpole and Whiteboard are a fun way to add to a story!

To make a flag, decorate some paper or cloth, make a loop, and hang your flag on the Flagpole. Insert it on the Stage Support for a stationary flag, or mount the Flagpole on a Motor Module, and KIBO will wave your flag!

Use the Whiteboard and dry-erase marker to draw a picture or make a sign. Insert the white board into the Flagpole "hooks" horizontally or vertically and display your art work!
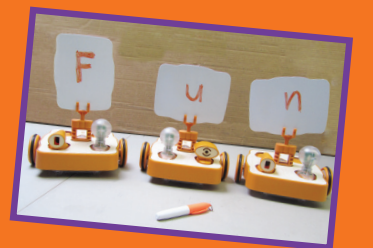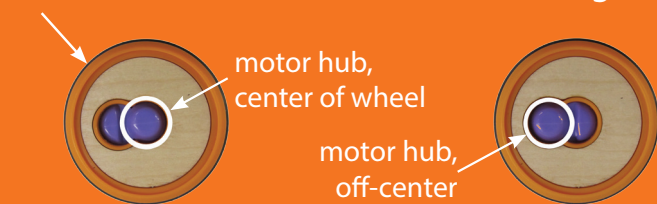
Fun things to try

Try inserting the motors "upside-down," with the green dot *not* showing, and see what happens.

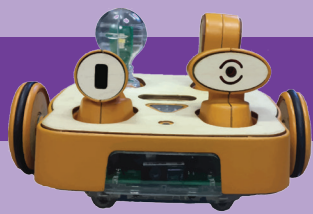Or, insert the motors into the wheels so that the motors' axles are *off-center*, and see what happens!

Outside of wheel with motor hub showing through:

motor hub, center of wheel

motor hub, off-center

Check out more fun challenges and activity guides at **resources.kinderlabrobotics.com.**

KinderLab robotics

Tips & Troubleshooting

Uh-oh ...

If the red scanner light is not blinking, it usually indicates a problem with the batteries. Remove and re-install the batteries. If that doesn't help, replace the batteries with new ones.

A tri-tone sound and a red scan indicator LED means that an error occurred. KIBO may have mis-scanned, or there may be an error in your program. Try scanning again or re-arranging your blocks. Have fun experimenting!

If KIBO is turning the wrong way, or going backward when it should be going forward, check the motors to make sure that the green dots are showing through KIBO's transparent bottom.

Take care of your motor modules!

KIBO's motor modules are designed to turn KIBO's wheels; they are not designed to carry a lot of weight. So, please don't force KIBO to go faster than it wants, and don't push down on KIBO's body when its wheels and motors are installed. These behaviors can damage the motor modules. Our warrantee doesn't cover damage caused by improper motor use.

Programming tips

Make sure you plug in the sensors that your program needs! If you use the WAIT FOR CLAP block, you will need the "ear" (sound sensor). To use the LIGHT or DARK parameter cards, you will need the "eye" (light sensor). To use the NEAR or FAR parameter cards, you will need the "telescope" (distance sensor). To use the RED/WHITE/BLUE LIGHT ON blocks, you will need the light bulb. To use the PLAY blocks, you'll need the Sound Record/Playback Module.

Scanning tips

To scan, hold KIBO 2–4" away from the programming block. Shine the red scanner light onto the bar code. It's ok if the light is a little "bigger" than the bar code.

If KIBO won't scan, try changing KIBO's position slightly. Move it a little closer or farther away from the block and try changing the angle a little bit.

this type of reflection can interfere with scanning

Scanning problems can also be caused by light reflecting on the shiny surface of the stickers, interfering with KIBO's ability to read the bar code.

If you are still having scanning problems, notice if there is light reflecting from your stickers. Try moving away from direct overhead lighting and windows. Or, try scanning the sides of the blocks, instead of the top.
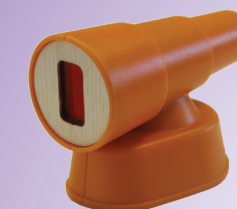
If scanning from the top isn't working ...

Try scanning from the side!
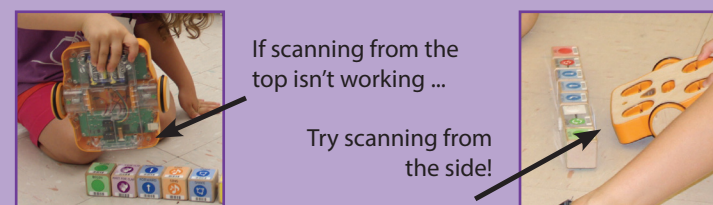
KIBO 21 robot kit contents

KIBO body

light sensor: eye

light output: light bulb

distance sensor: telescope

sound sensor: ear

sound record/ playback module

wheels (2)
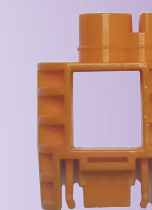
flagpole

whiteboard & marker

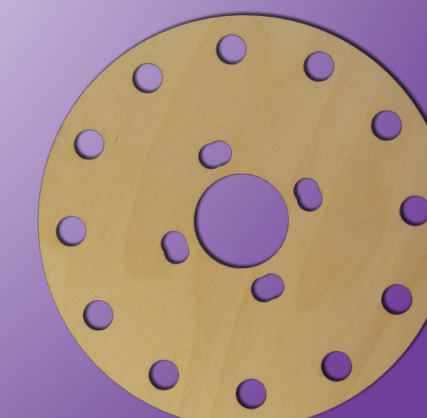motor modules (3)

stage support

stage pedestal

parameter cards (12)

programming blocks (21)

rectangular stage

round stage

Colors of some components may vary.
Additional parts available at **shop.kinderlabrobotics.com**.
FAQs and complete parts list at **kinderlabrobotics.com/compare**