Unofficial SPIKE Prime Block Guide by PrimeLessons.org

- Text descriptions based on SPIKE Prime Help Menu, but modified where necessary. Some blocks in the Help are not in the software. Other text in the Help does not match the actual block.
- To download additional programming blocks, click on the icon with blocks and a plus sign at the bottom left of the SPIKE Prime App and add the Extensions.

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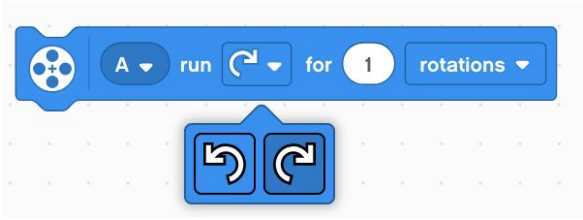
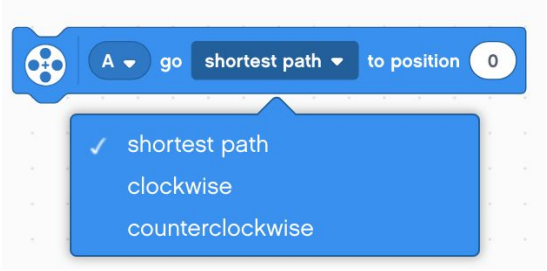
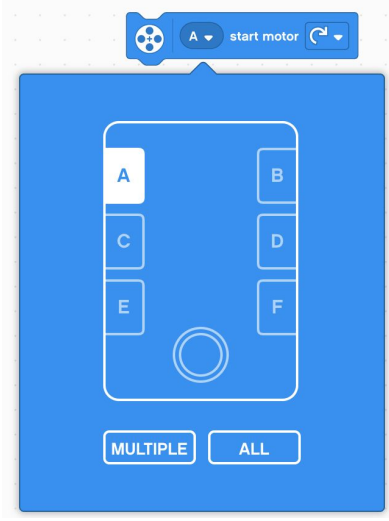
MOTOR BLOCKS



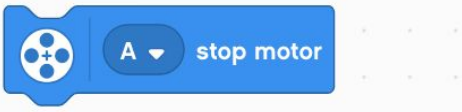
Run Motor for Duration: Tells the motor(s) to run in a clockwise or counterclockwise direction for a number of rotations, seconds or degrees. (Default speed: 75%, and Stall Detection enabled).



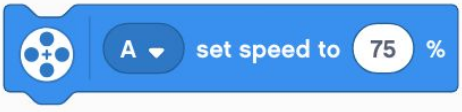
Motor Go to Position: Tells the motor(s) to travel the shortest path, clockwise or counterclockwise to the position selected (0-360). (Default speed: 75%, and Stall Detection enabled).



Start Motor: Starts the motor(s) turning in a clockwise or counterclockwise direction. (Default speed: 75%, and Stall Detection enabled).



Stop Motor: Stops the motor(s) selected. The motor will brake, and will not post the position



Set Motor Speed: Sets the speed of the motor(s) to the maximum percentage (-100 to 100). Negative value reverses direction.

Motor Position: Reports the current position of the selected motor (0-359).

Motor Speed: Reports the actual current speed of the motor (-100-100).

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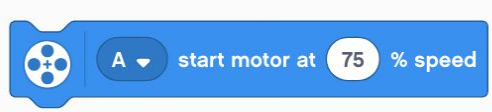
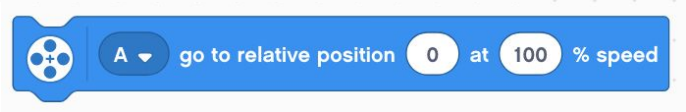
MORE MOTOR BLOCKS

You will need to add these blocks using Extensions.

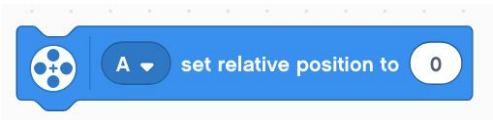
Run Motor for Duration at Speed: Runs motor(s) clockwise or counterclockwise for a number of rotations, seconds, or degrees at a specified speed (as a percentage or rpm). Stall detection is enabled.



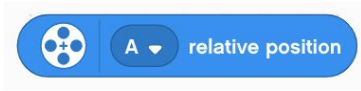
Start Motor at Speed: Runs motor(s) clockwise or counterclockwise forever at the specified speed (percentage or rpm). Stall detection is enabled.



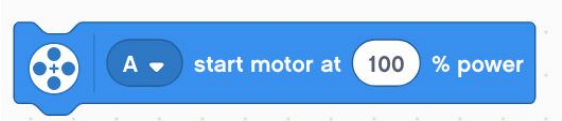
Go to Relative Position at Speed: Runs motor(s) to a relative position at the specified speed (%). Stall detection is enabled.



Set Relative Motor Position to 0: Sets the relative position of selected motor(s) to a specified value. “0” resets the relative position.

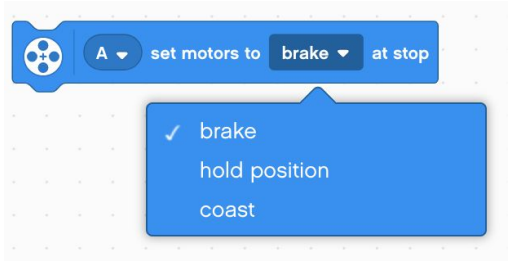


Relative Motor Position: Reruns the number of degrees the motor has turned since the program started or was reset to 0.



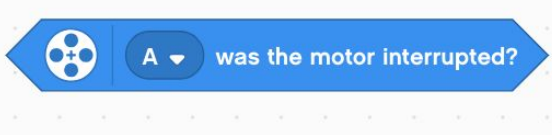
Start Motor with Power: Runs motor(s) at specified percentage of power forever. Stall detection enabled.

Motor Power: Returns the power level being used on a specified motor (in %)



Stop and Coast Motors: Defines how the motor with stop. Brake (default method applied friction to the motor). Hold (uses power to brake and moves moto back to the position it was stopped at). Coast (the power to the motr is cut when stopping)

Turn Stall Detection On/Off. Use this to disable Stall detection on motor and movement blocks. If stall detection is off, the motor will keep trying to complete even when physically prevented. If on, the code will move on to the next block.



Was Movement Interrupted? If a motor block with a specified duration did not complete, it was interrupted.

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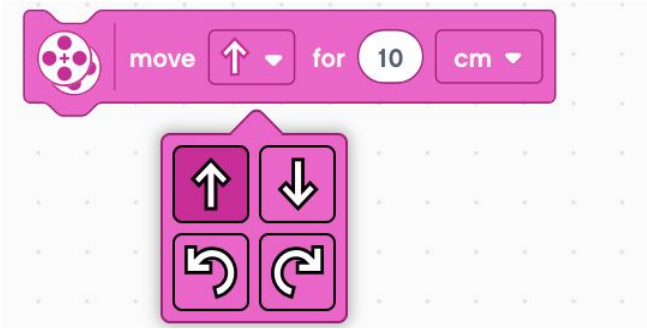
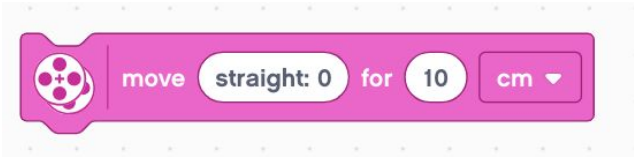
MOVEMENT BLOCKS

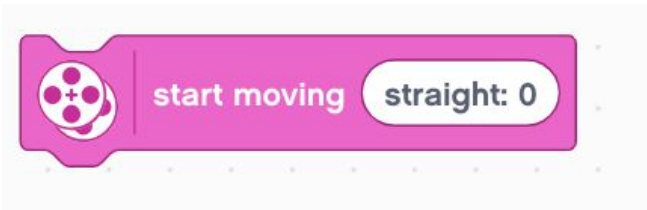
Movement Block motors are synchronized. They must be two of the same type.



Move for Duration: Move forward, backwards, left or right for centimeters, inches, rotations, degrees, or seconds. Distance moved in cm/in depends on what the “Set 1 Rotation to Distance Moved” block is defined as.

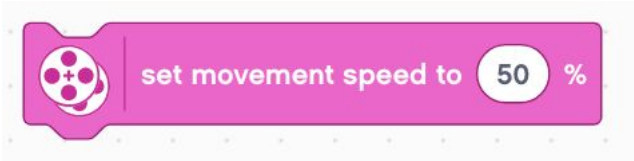


Move with Steering for Duration: Move forward, backwards, left or right for centimeters, inches, rotations, degrees, or seconds at a given steering. Left (-100), Right (100), Straight (0)



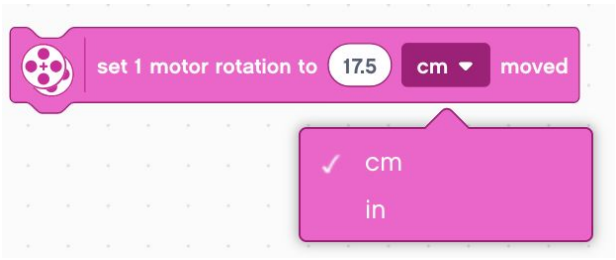
Start Moving with Steering: Starts the motors moving at a steering. Left (-100), Right (100), Straight (0)

Stop Moving: Stops the motor(s) moving



Set Movement Speed: Sets the motors to move at a percentage of their maximum speed by default(-100 to 100).

Set Movement Motors: Defines which two motors are used for movement for your driving base



Set 1 Rotation to Distance Moved: Defines how many cm or inches one motor rotation equals.

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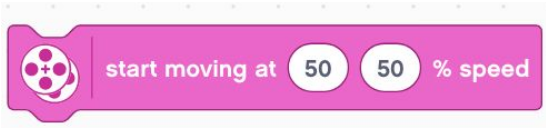
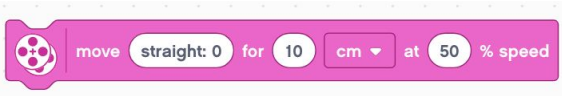
MORE MOVEMENT BLOCKS

You will need to add these blocks using Extensions.

Move for Duration at Speed: Moves the driving base for specified centimeters, inches, secs, degrees or rotations at a specified speed for left and right motors.

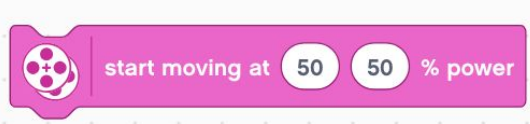


Start Moving at Speed: Moves the driving base forever at a specified speed for left and right motors.



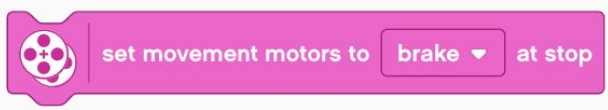
Move for Duration with Steering at Speed: Moves the driving base for a specified duration (cm, in, sec, degrees or rotations) at a specified speed while steering. Left (-100), Right (100), Straight (0)

Start moving with Steering at Speed: Moves the driving base at specified speed while steering left (-100), right (100) or straight (0) forever.



Start Moving with Power: Move driving base forever at the specified power for left and right motors. Speed will not be regulated.

Start Moving with Steering and Power: Moves the driving base at specified power (unregulated) while steering left (-100), right (100) or straight (0) forever.



Set Movement Motors to Brake at stop Determines how the motors will stop when using a Movement Block for a specified duration. Brake (Power to brake), Hold (Power to break and motor moves back to the position when it stopped), Coast (Power to the motor is cut)

Did movement get interrupted? Returns true if the movement of the last motor block with a specified duration did not complete because a programming block interrupted it.

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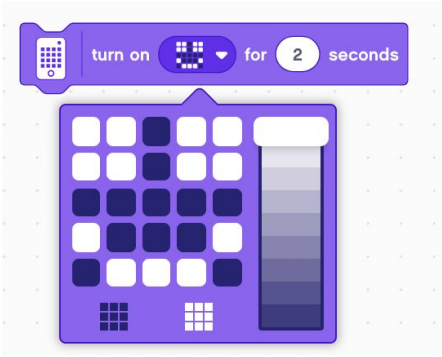
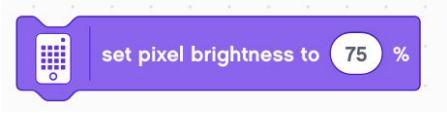
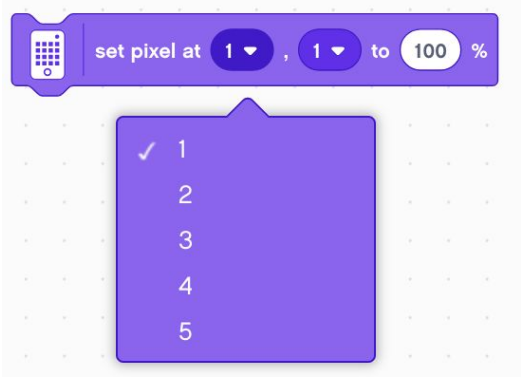
LIGHT BLOCKS



Turn on 5X5 Light matrix for Seconds: Create a pattern that lights up for a specific amount of time. Move the lever to change the intensity of the light.



Set Pixel Brightness: Set the brightness of the 5X5 Light Matrix for the next block using the 5X5 Light Matrix. Default: 100%



Set Pixel: Set the brightness of individual pixels on the 5X5 Light Matrix.

Set Orientation to (Upright): Set the orientation of what is being shown on the Light Matrix. Choose between upright, upside down, left or right. Default: Upright.

Rotate Orientation (Clockwise): Rotate the orientation of what is being shown on the 5X5 Light Matrix to clockwise or counterclockwise.

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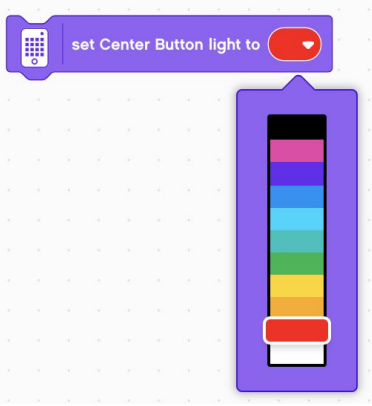
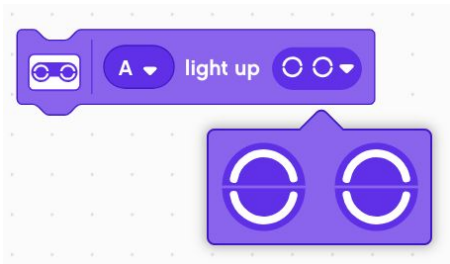
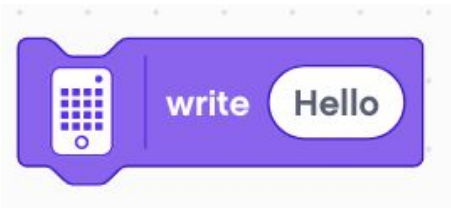
LIGHT BLOCKS



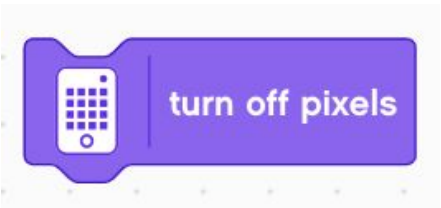
Set Center Button Light: Set the color of the Center Button light



Light up Distance Sensor: Turn on the lights on the four segments of the Distance Senor



Write on 5X5 Matrix: Display a text string on the 5X5 Light Matrix that scrolls by



Turn off Pixels: Turn off the all the lights on the 5X5 Light Matrix.

Turn on 5X5 Light Matrix: Create a pattern to light up on the Light Matrix. Pattern stays light until the Light Matrix is told to do something else or the program is stopped.