

## **Lecture 9: Educational robotics. Data Wires**

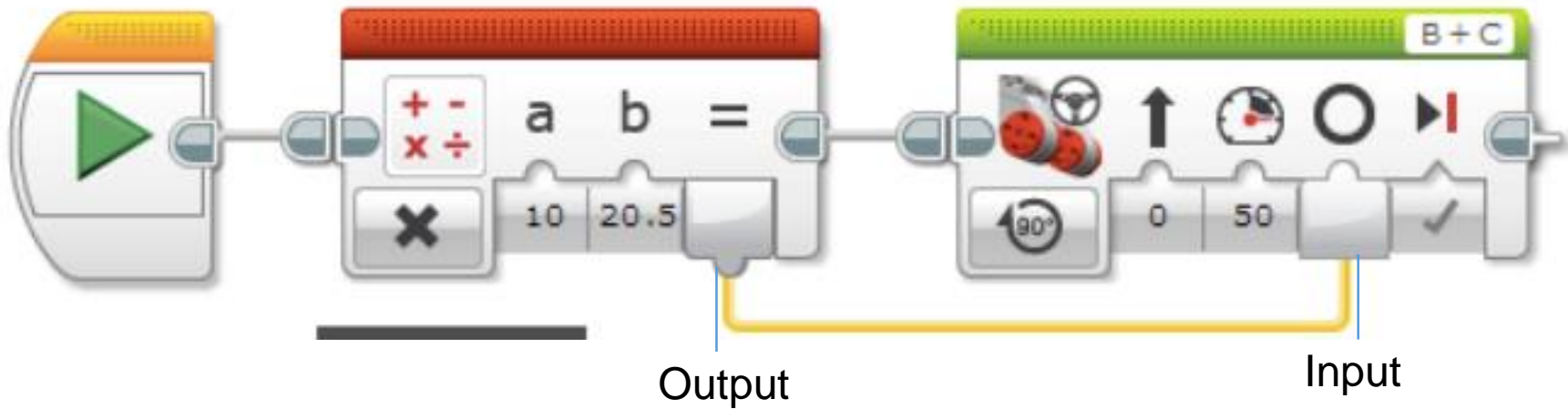
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## Lesson Objectives












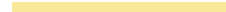



Learn what Data Wires are and how to use them

# Data Wires

A Data Wire allows you to take an output from one programming block and input it into another.



# Data Wire Types

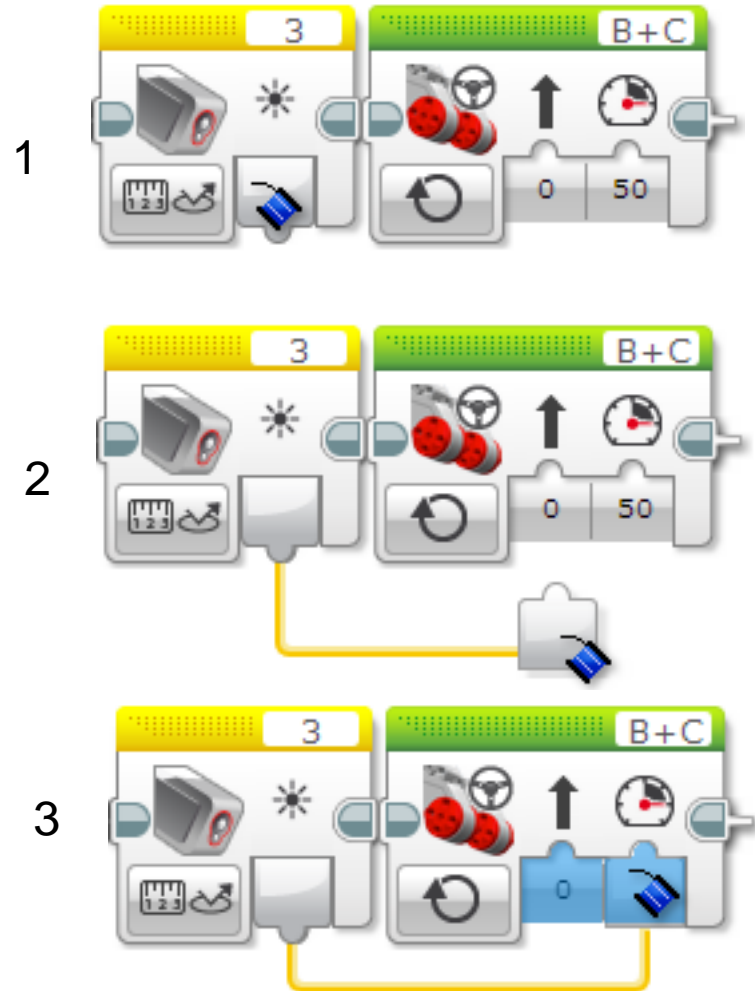
Data Type	Input	Output	Output Data Wire	
Logic		True or False		
Numeric		Number		
Text		Text		
Numeric Array				
Logic Array				

# How to Create a Data Wire

The block with the output must be placed before the block with the input

The input and the output must be the same data type or one that can be automatically converted (see slides 4 and 5)

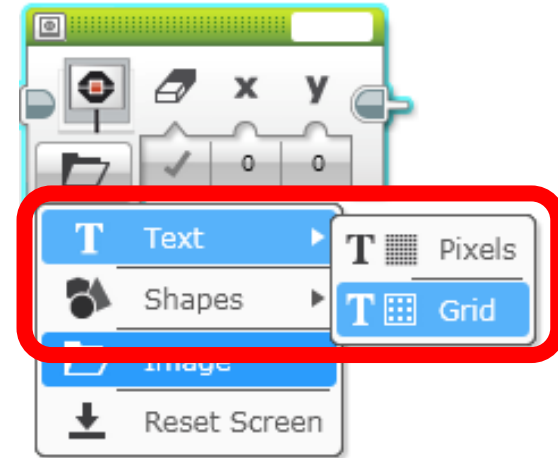
1. Click on the output on the block
2. Hold and drag the wire.
3. Move the icon into the correct input and then let go of the mouse



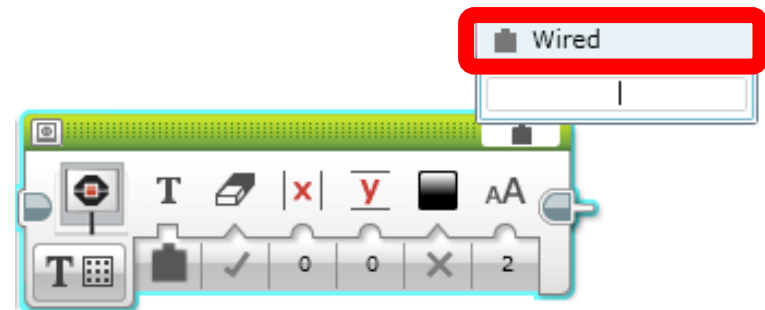
## Sidebar: Display Block - Wired Mode

The Display Block can be used in wired mode to display data from another block to the screen.

For the challenge, you will need to display a number on the screen. Pick Text Mode → Grid from the bottom left corner of the block.



To pick Wired Mode, click on the top right corner of the Display Block and pick wired



# References

- Benedettelli, D. (2014), *THE LEGO® MINDSTORMS® EV3 LABORATORY build, program, and experiment with wicked cool robots*. William Pollock, USA.
- Griffin, T. (2014), *THE ART OF LEGO® MINDSTORMS® EV3 PROGRAMMING*. No Starch Press, USA.
- Valk, L. (2014), *THE LEGO® MINDSTORMS® EV3 DISCOVERY BOOK*. William Pollock, USA.
- Filipov, S.A. (2013), *Robotics for children and parents*, Fradkova, A.L., St. Petersburg.