

# Bill of materials

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## Notes about the microcontroller

This project is based on the microcontroller [Arduino Nano 33 BLE Sense](#). Please don't confuse it with the similarly named [Arduino Nano 33 BLE](#)! It is recommended to get the one **with headers**, so you can immediately start using it on a breadboard without needing to solder the headers on it.

## Minimum materials

This is the list of minimum required materials for Tiny Trainable Instruments

Item	Quantity	Cost (USD)	Retailer	Comment
<a href="#">Arduino Nano 33 BLE Sense with headers</a>	1	33.40	Arduino	Microcontroller
<a href="#">Breadboard</a>	1	5.95	Adafruit	Prototyping
<a href="#">Jumper wires</a>	1	3.95	Adafruit	Connections
<a href="#">Micro USB cable</a>	1	2.95	Adafruit	Power

## Sound and movement outputs

These are the recommended materials for starters, and are taught in the workshop.

Item	Quantity	Cost (USD)	Retailer	Comment
<a href="#">Piezo buzzer</a>	1	1.50	Adafruit	Output sound
<a href="#">Micro servo</a>	1	5.95	Adafruit	Output movement

## Additional outputs

These additional outputs include more expensive or more complex materials, and they are recommended for more advanced users. They are not covered on the beginner workshop, but are supported by the Tiny Trainable Instruments project and software library.

Item	Quantity	Cost (USD)	Retailer	Comment
<a href="#">LED</a>	1	6.95	Adafruit	Output light
<a href="#">MIDI DIN</a>	1	1.75	Adafruit	Output MIDI data
<a href="#">Thermal printer</a>	1	61.95	Adafruit	Output printed text
<a href="#">128x32 OLED screen</a>	1	12.50	Adafruit	Output screen