

YFROBOT

Micro:Bit基础课程

Micro:Bit V2专属

第六课 自制闹钟

目录

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学习目标

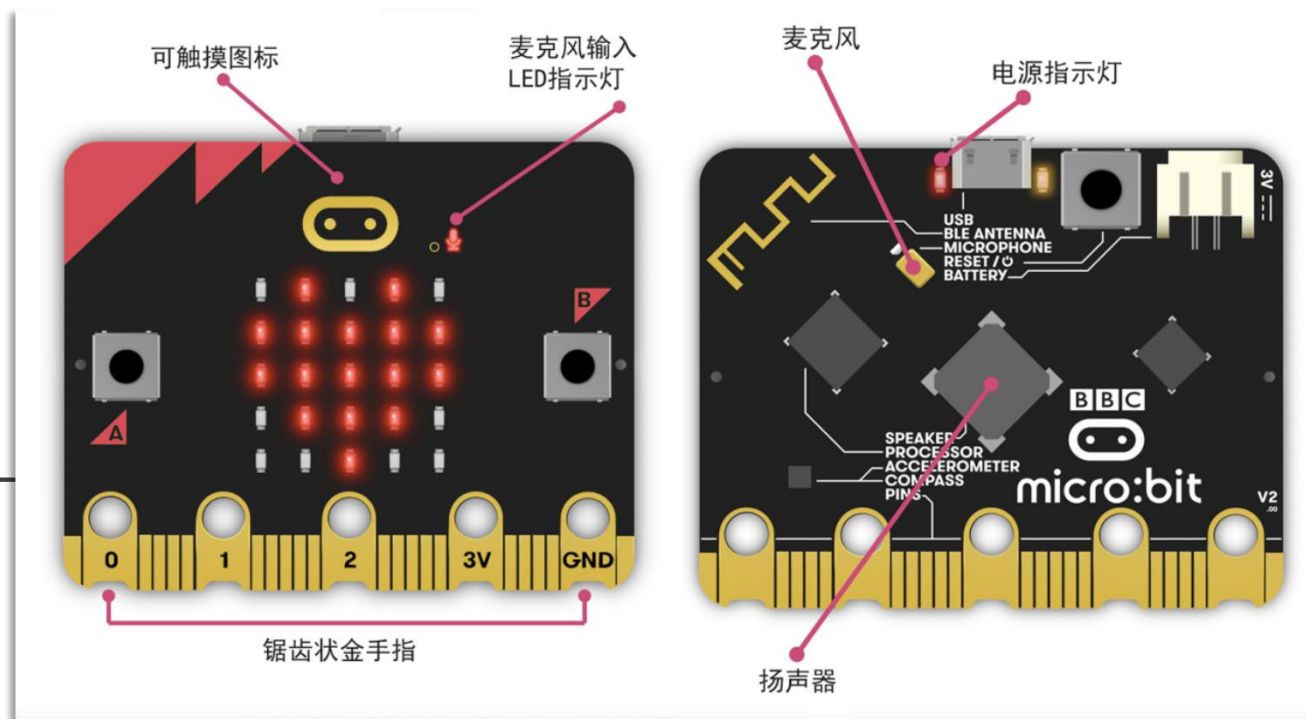
02. **Part 2**
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拓展思考



V2主板新特征



*板载扬声器

*带LED指示灯的麦克风

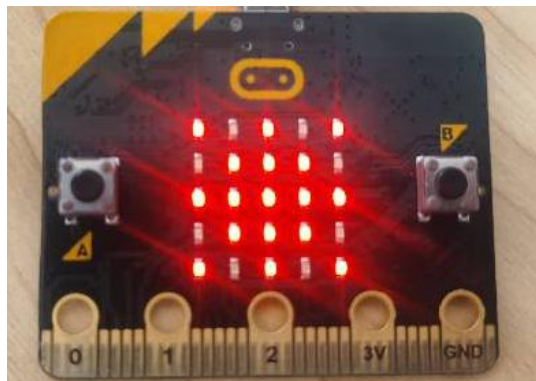
*触控式徽标

*内置睡眠/关闭模式，这意味着板可以在连接电池的情况下断电

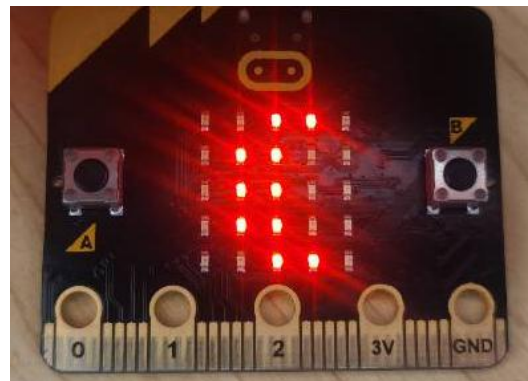
*可向外部附件提供高达 190mA 电流的分立式稳压器

Part 1

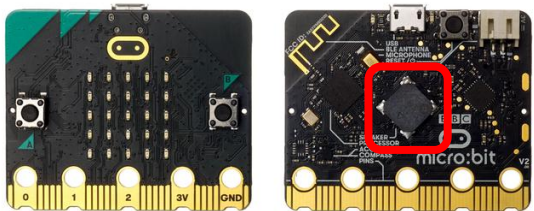
学习目标



太阳
(早安)



月亮
(晚安)



本次课学习使用micro:bit V2板载蜂鸣器和光敏传感器功能；使用编程器MakeCode内置2.0程序块，实现检测到光照强度较暗时，显示越亮；光照强度较强时，表示天亮了，启动闹钟并显示一个太阳。

Part 2



课前准备

器材准备：

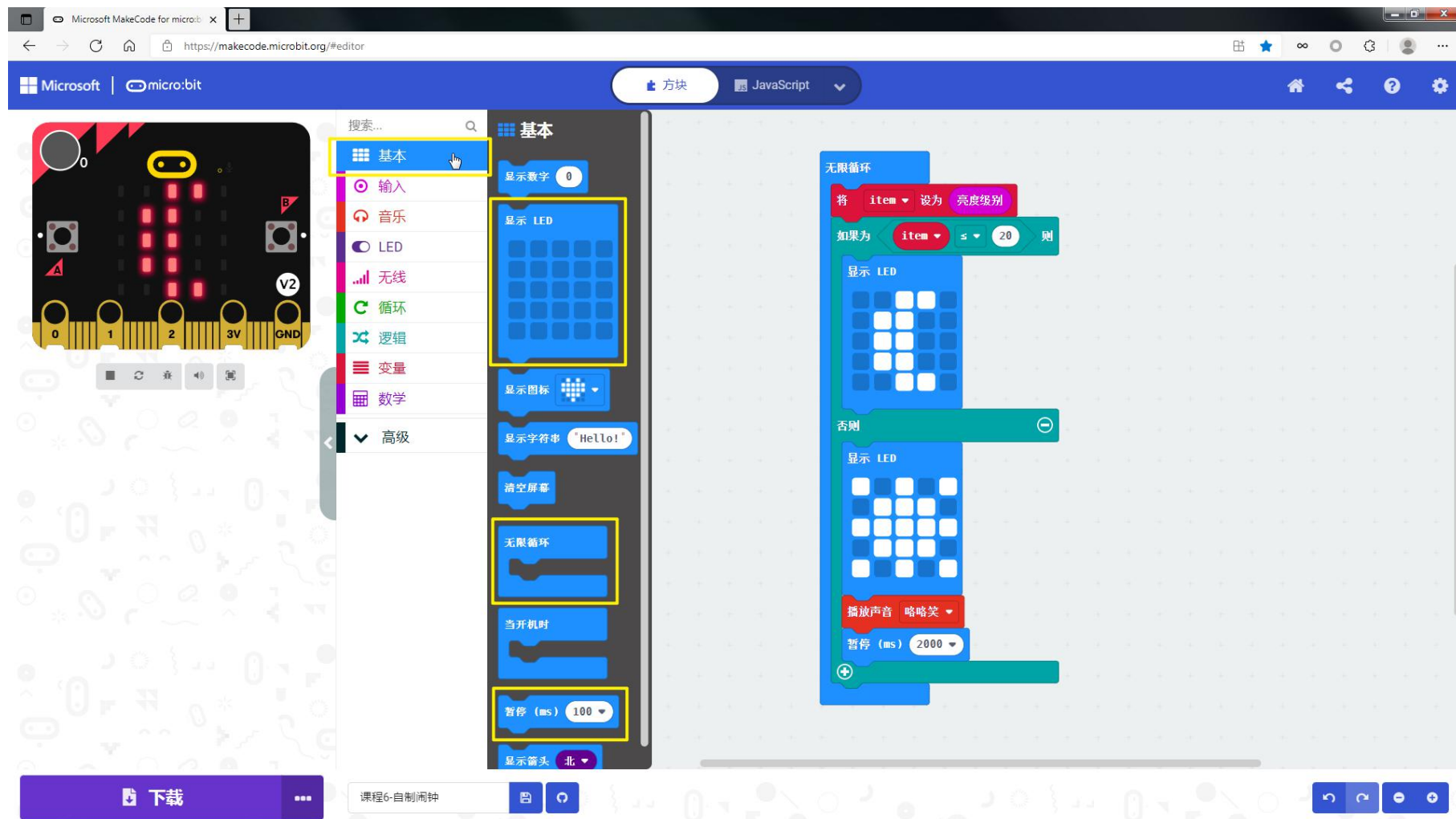
- Micro:bit主板 V2*1
- USB数据线*1
- 一台可以上网的电脑

然后将Micro:Bit通过USB连接电脑，电脑会弹出一个名为“MICROBIT”U盘，
MakeCode编辑器登陆网址：
<https://MakeCode.Micro:Bit.org>，即可进入了编程页面。

Part 3

编程实验

基本栏
显示自定义、
无限循环、暂
停程序块



Part 3

编程实验

输入栏
亮度级别程序
块

The screenshot shows the Microsoft MakeCode for micro:bit editor interface. On the left, there is a visual representation of the micro:bit board. The central pane displays a block-based programming script. The script starts with an '无限循环' (Infinite Loop) block. Inside the loop, there is a '将 item 设为 亮度级别' (Set item to brightness level) block, followed by an '如果为 item ≤ 40 则' (If item ≤ 40 then) conditional block. The 'if' block contains two '显示 LED' (Show LED) blocks, each with a 5x5 grid of lights. The 'else' block contains a '播放声音 咯咯笑' (Play sound giggles) block and a '暂停 (ms) 2000' (Pause 2000 ms) block. The right-hand pane shows the '输入' (Input) block palette, with the '亮度级别' (Brightness level) block highlighted in yellow. The bottom of the editor features a '下载' (Download) button and a status bar indicating '课程6-自制闹钟' (Course 6 - Custom Alarm Clock).

Part 3

编程实验

音乐栏
播放声音程序
块

The screenshot shows the Microsoft MakeCode for micro:bit editor interface. On the left, there is a visual representation of the micro:bit board with a music sequence of red dots. The central block palette is open to the '音乐' (Music) category, which is highlighted with a yellow box. The main workspace contains a JavaScript script with the following blocks:

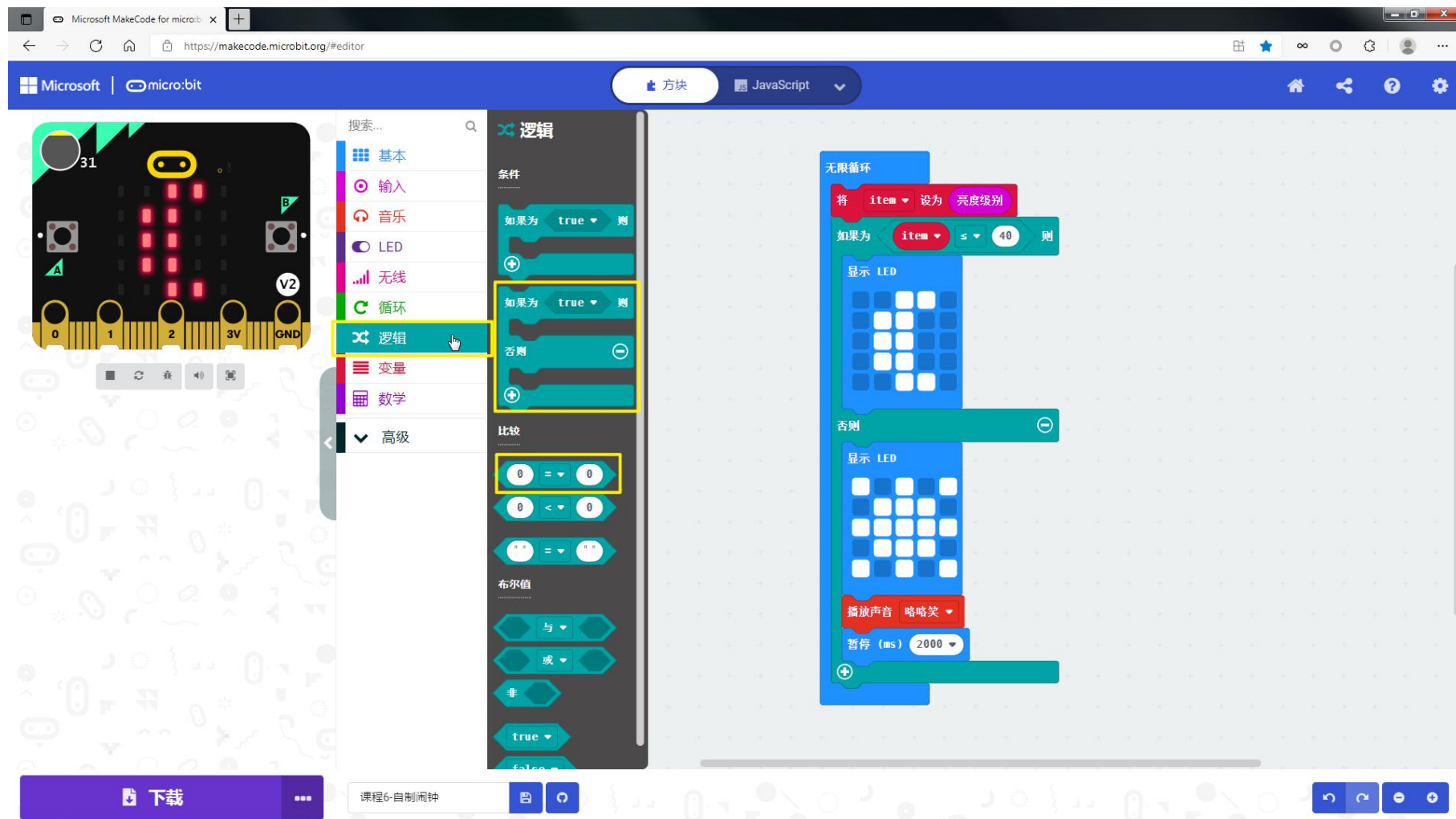
- 无限循环 (Infinite Loop)
- 将 item 设为 亮度级别 (Set item to brightness level)
- 如果为 item ≤ 40 则 (If item ≤ 40 then)
- 显示 LED (Show LED)
- 否则 (Otherwise)
- 显示 LED (Show LED)
- 播放声音 咯咯笑 (Play sound giggles)
- 暂停 (ms) 2000 (Pause (ms) 2000)

At the bottom, there is a '下载' (Download) button and a status bar showing '课程6-自制闹钟' (Course 6 - Custom Alarm Clock).

Part 3

编程实验

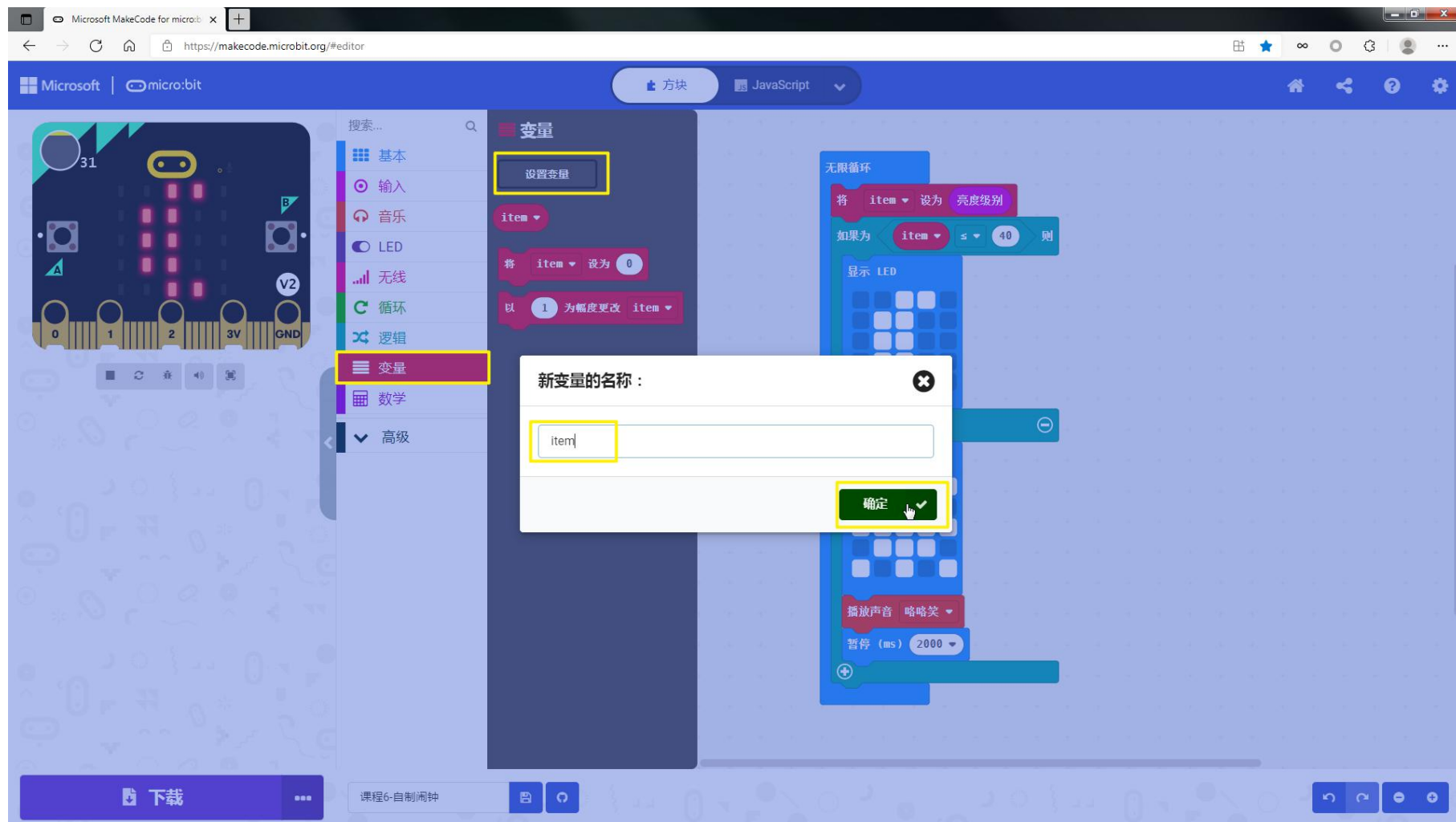
逻辑栏
条件判断、比
较程序块



Part 3

编程实验

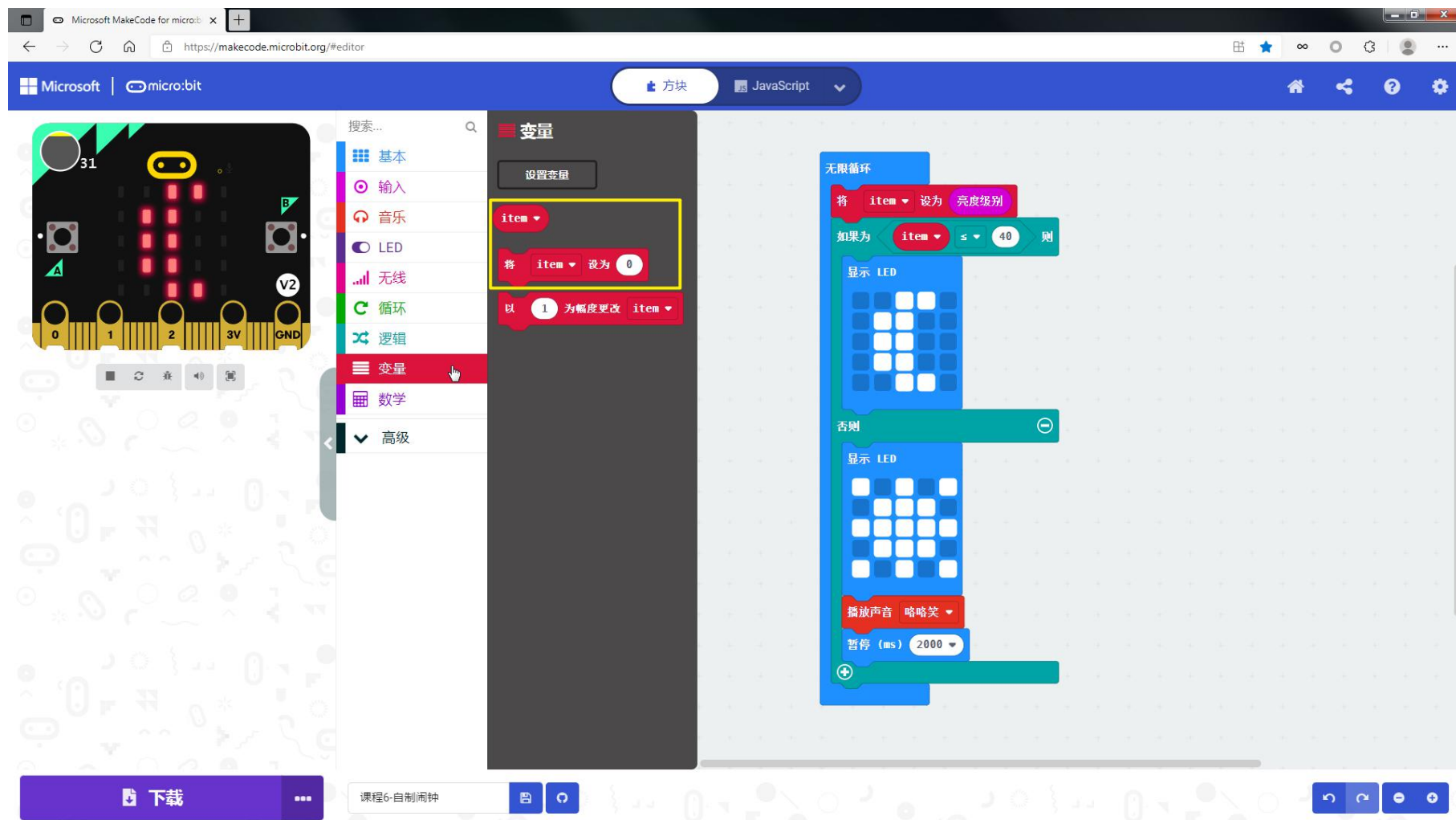
变量栏
新建变量：
item



Part 3

编程实验

变量栏
变量item、设
置item程序块



Part 3

编程实验

组合程序

<https://makecode.microbit.org/UAJ7LFEjDDxi>

Microsoft MakeCode for micro:bit

https://makecode.microbit.org/#editor

Microsoft | micro:bit

方块 JavaScript

搜索...

- 基本
- 输入
- 音乐
- LED
- 无线
- 循环
- 逻辑
- 变量
- 数学
- 高级

无限循环

将 item 设为 亮度级别

如果为 item ≤ 40 则

显示 LED

否则

显示 LED

播放声音 咯咯笑

暂停 (ms) 2000

下载

课程6-自制闹钟



Part 4 “

拓展思考

本次课实现当检测环境光照强度超过一定值时，蜂鸣器发声报警并显示太阳图标，表示天亮。

今天的课程你学会了吗？
如果学会了就给自己一个顶呱呱吧~
现在布置一个课后作业给你哦~

熟练应用蜂鸣器程序块~~





谢谢观看!

Micro:Bit 基础课程