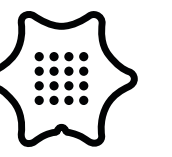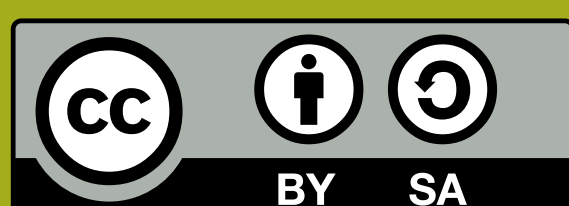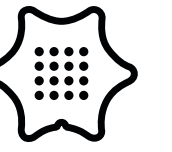# COOKIE ALERT

Do you always have something disappearing from your room? Program a Calliope mini alarm that alerts you if someone is trying to eat your cookies!

By measuring the intensity of ambient light, the Calliope mini can detect when the lights suddenly turn brighter and alert you.

COOKIE ALERT

You need the following categories and blocks:

Action

Sensors

Control

Logic

Math

Variables

⏳ show text ▾ " Hallo "

get value % light sensor

repeat indefinitely
do

✚ if
do
else

Show text
Displays a text on the screen.

Light sensor
Returns the current value of the light sensor in percent.

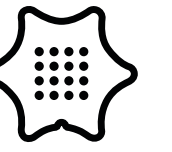**Infinite Loop**
Repeats the action indefinitely.

Condition Loop
If a condition is true, then execute certain commands, else execute other commands.

COOKIE ALERT

You need the following categories and blocks:

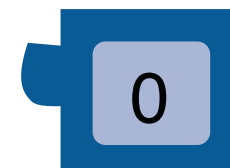| Action |
| --- |

Sensors

Control

Logic

Math

Variables

If/do condition
If a condition is true, then execute specific commands.

Logic comparison
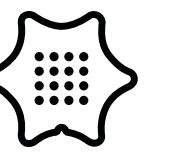Returns true if both inputs are equal.

Value
The input value is a number.

Set item
Assign a value to this variable, for example 0.

COOKIE ALERT

1 First of all, you create two variables. To do so, click on the + symbol in the start block. Then you name one variable "countdown" and the other "light".
Now you set the start value of "countdown" to 10. For the start value of "light" you use the value of the ambient light.
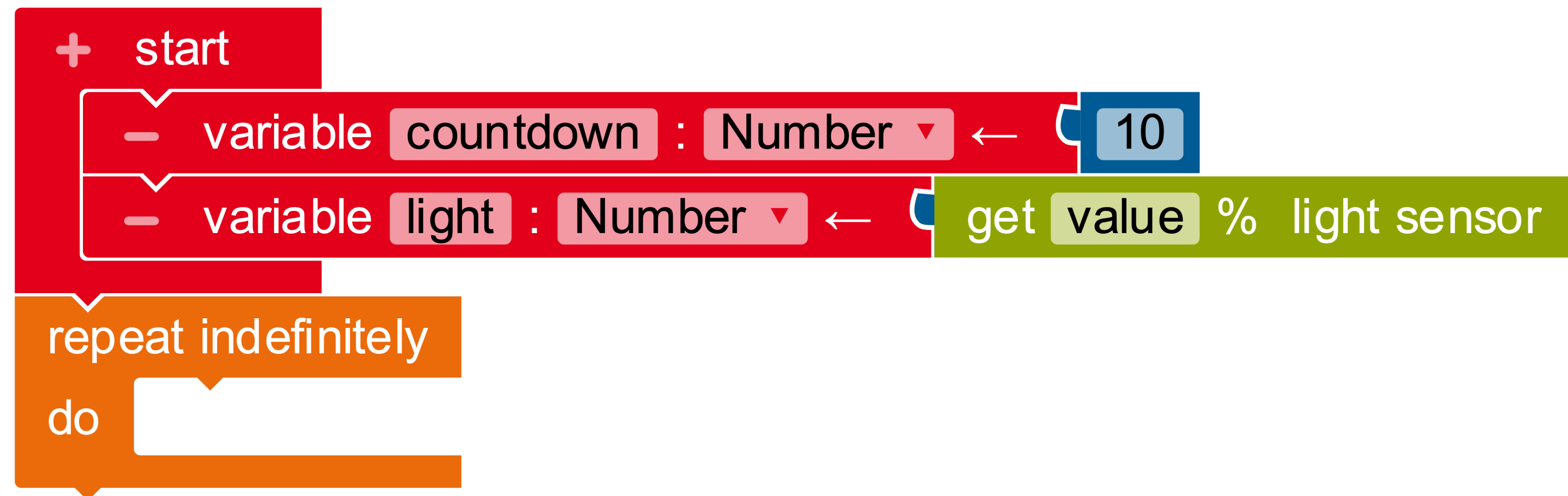
Sensors

```
+ start
    – variable  countdown : Number ▾  ←  10
    – variable  light : Number ▾  ←  get value % light sensor
```
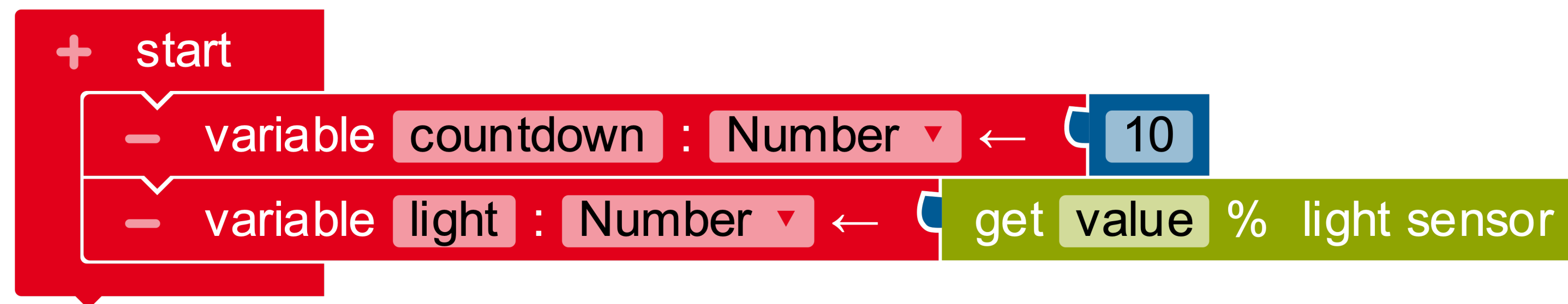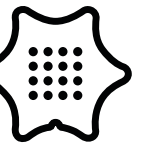
COOKIE ALERT

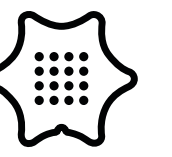**2**   In the control category, select the repeat indefinitely block to play your following code in an endless loop.

Control

```
+ start
    - variable  countdown  :  Number ▾  ←  10
    - variable  light  :  Number ▾  ←  get  value  %  light sensor

repeat indefinitely
do
```
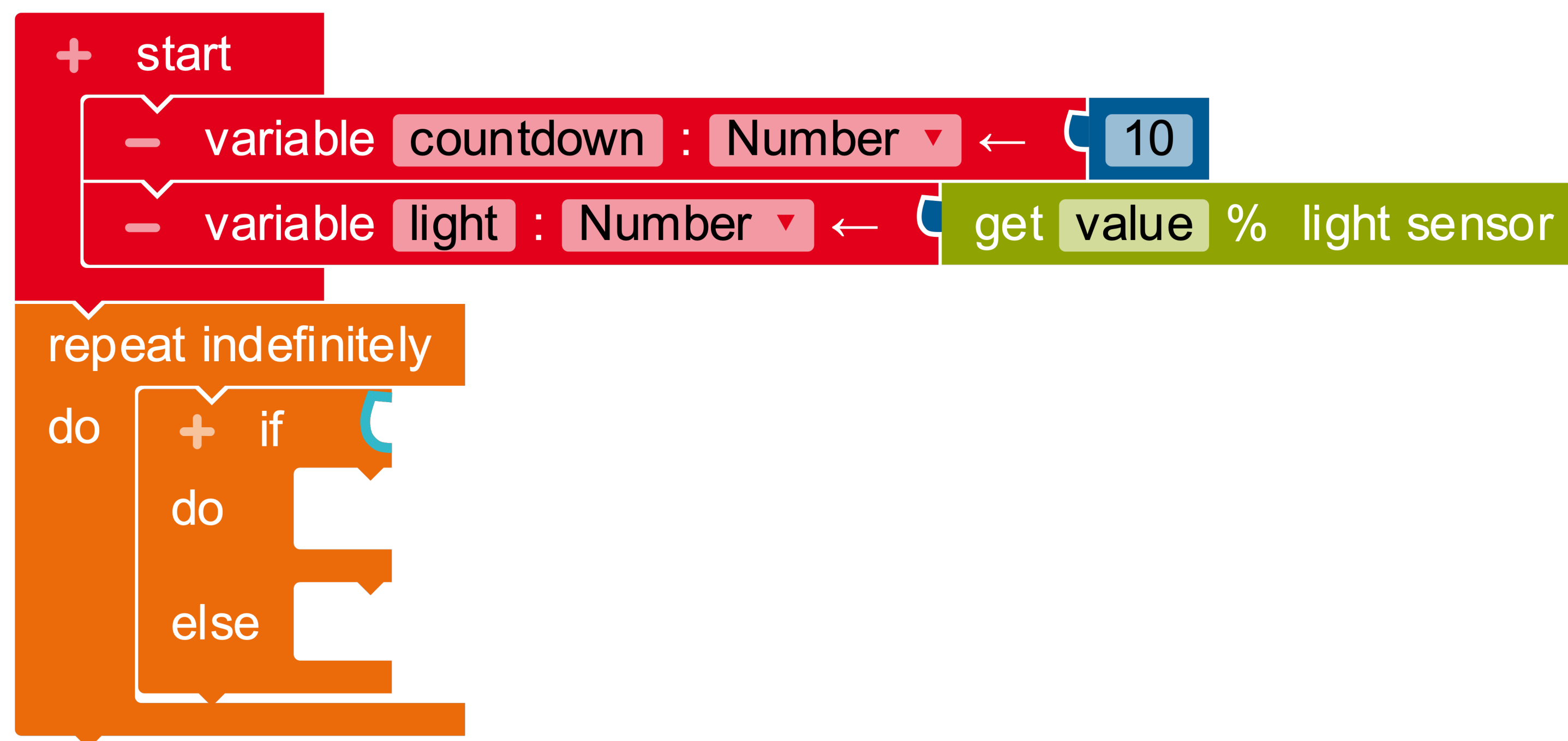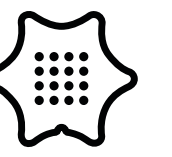
3 In this section you define what should happen if the variable "countdown" has not yet reached 0. First select the if/do/else block in the control menu to set the condition.

Control

+ start
  − variable countdown : Number ▾ ← 10
  − variable light : Number ▾ ← get value % light sensor
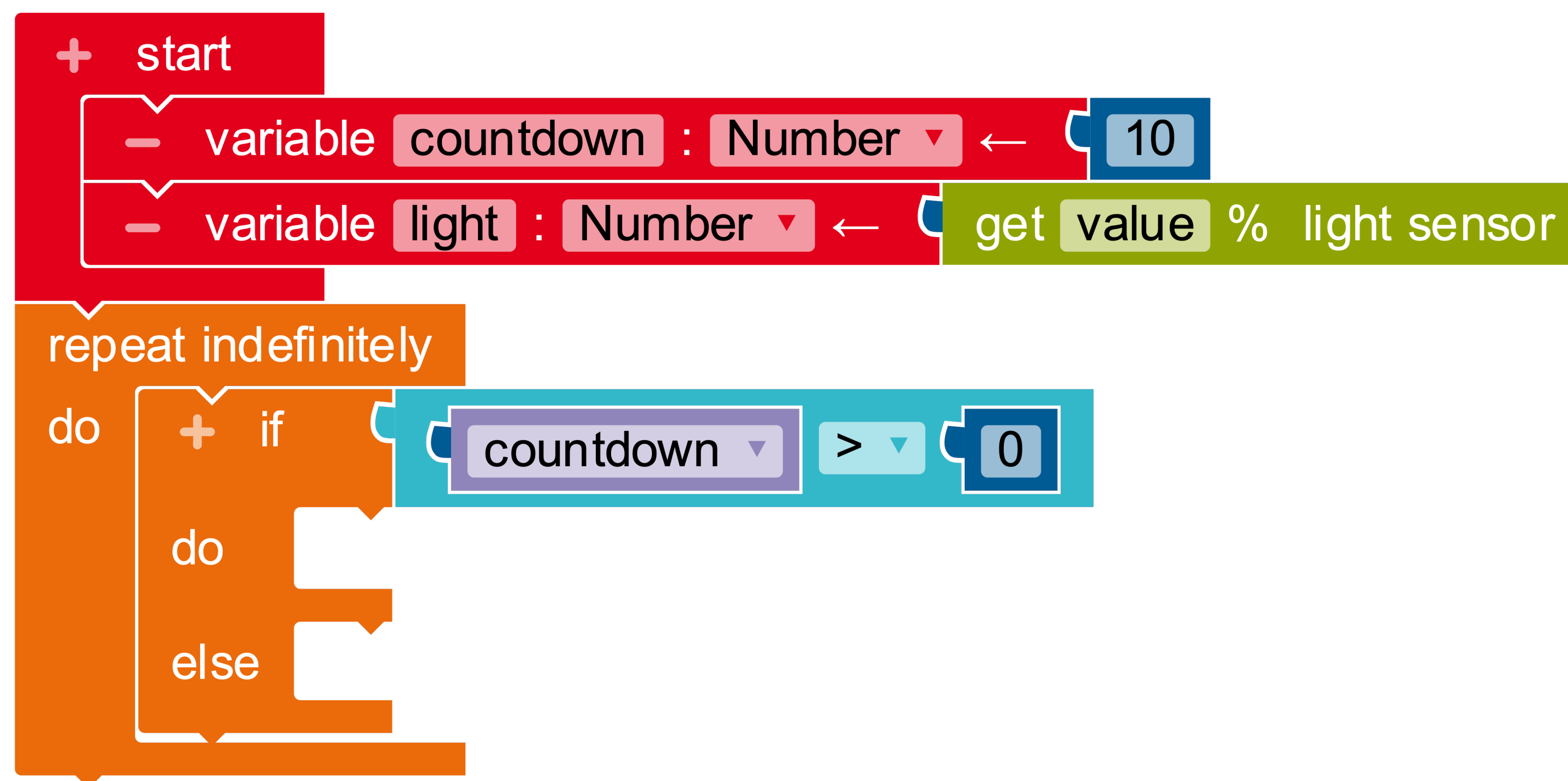
repeat indefinitely
do
+ if
do

else

COOKIE ALERT

4 Now add the "=" block from the logic menu and change the equal sign to a greater-than sign. Then you fill the block with the "countdown" variable and a "0" from the math menu.
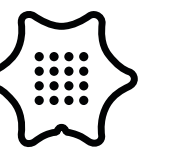
Logic

Variables

Math

```
+ start
    - variable countdown : Number ▼ ← 10
    - variable light : Number ▼ ← get value % light sensor
  repeat indefinitely
  do    + if      countdown ▼ > ▼ 0
        do
        else
```

5

Next, look for the set countdown to block from the variables menu. Add the + block from the Math menu, change the + to a - symbol and fill it with the countdown variable and a "1".
To display the countdown every time it counts down, take the show text block from the action menu. Change "text" to "character" to display each number one by one and add the countdown variable.
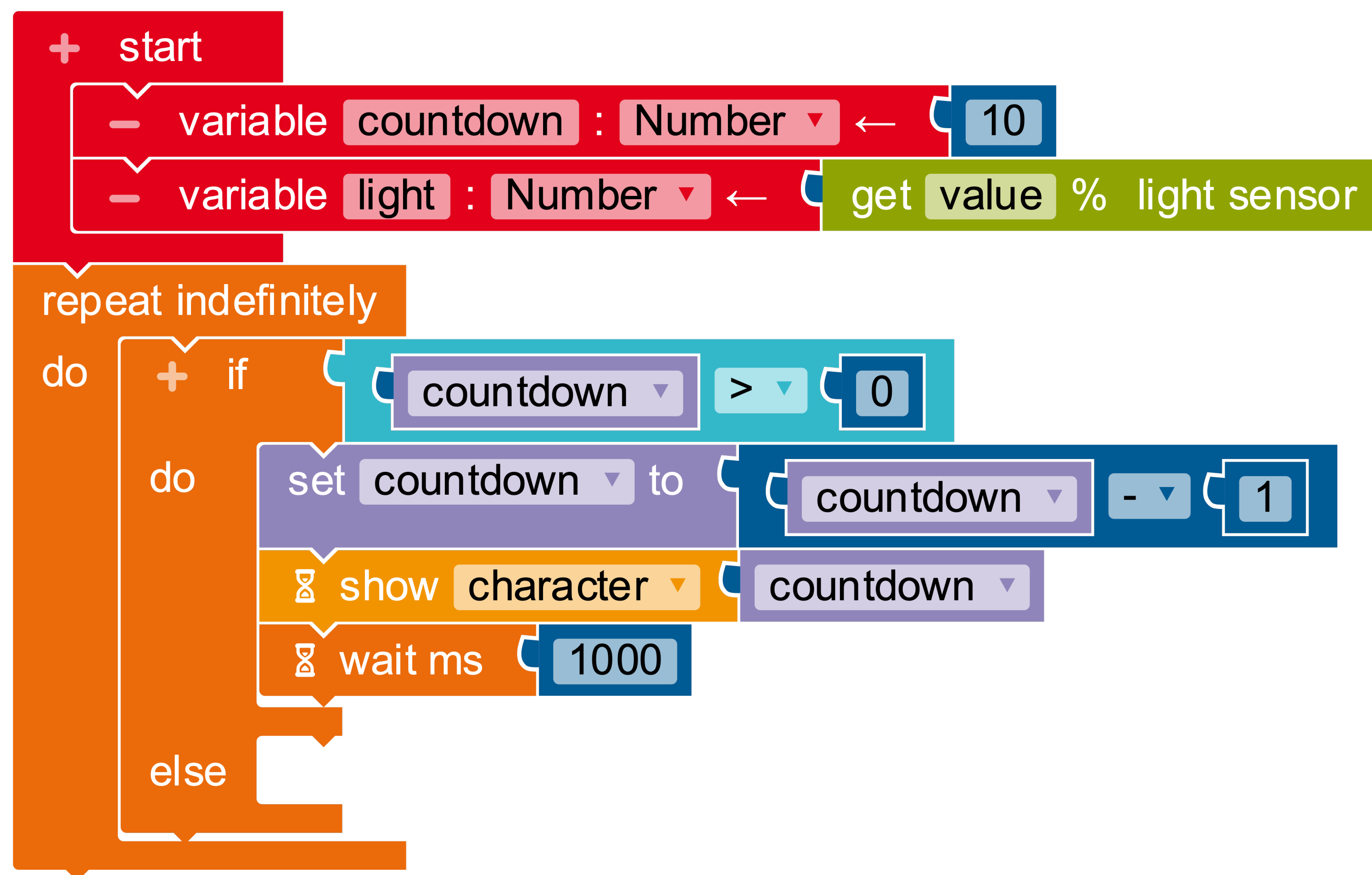With the wait ms block from the control category you can set how fast the countdown should count down.
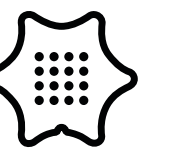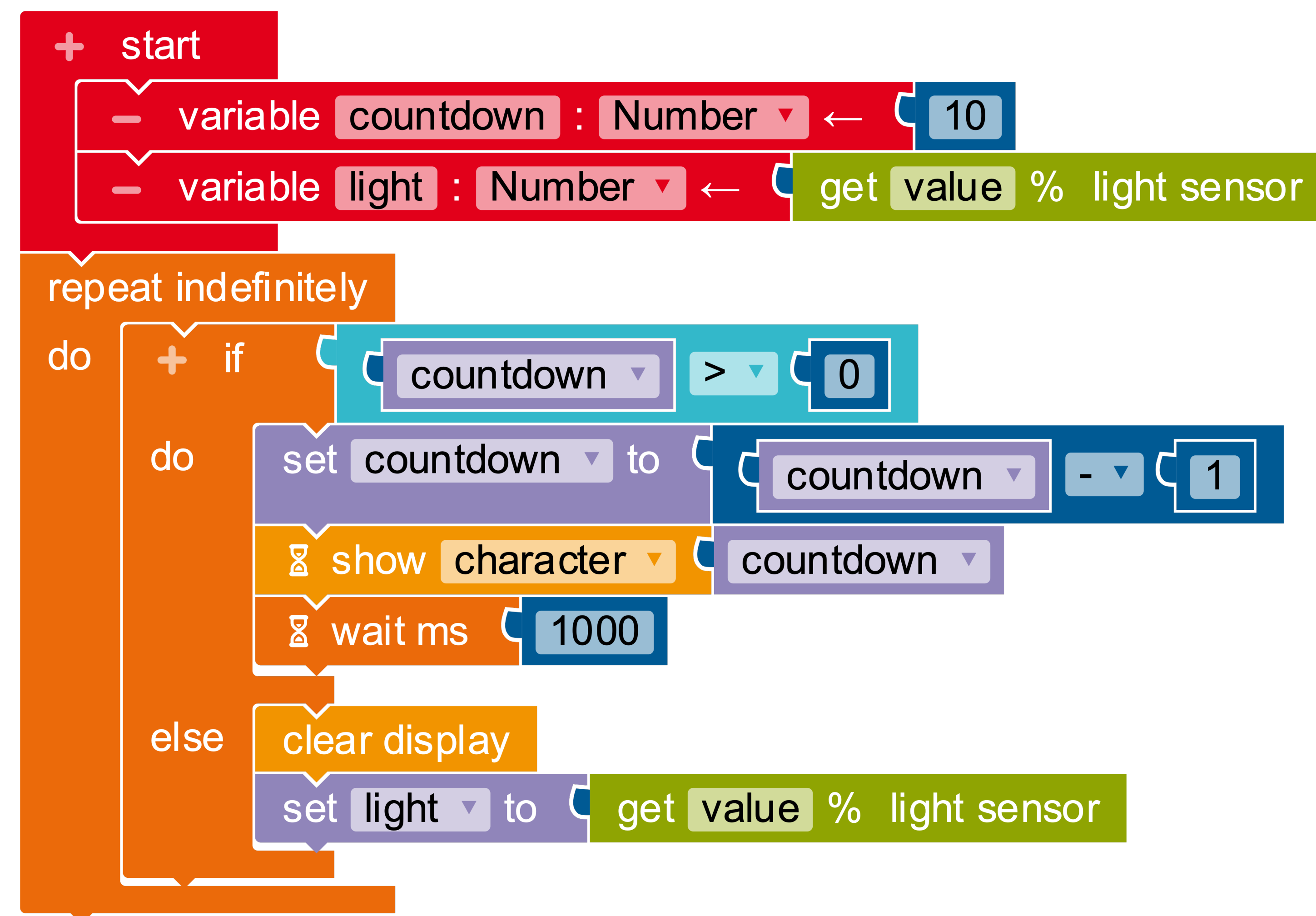
Variables

Math

Action

Control

COOKIE ALERT

6 Now you enter what should happen when the countdown reaches 0. To prevent the display from displaying continuously, add the block clear display from the action menu.
Now control the brightness sensor and read the value for the ambient light.
To do this, select the set light to block from the variables menu and add the get value light sensor block from the sensors category.

Action
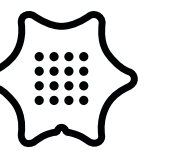
Sensors

Variables

```
+ start
  − variable  countdown  :  Number ▼  ←   10
  − variable  light  :  Number ▼  ←   get  value  %  light sensor

repeat indefinitely
do    + if   countdown ▼  > ▼   0
      do    set  countdown ▼  to    countdown ▼  - ▼   1
            ⧗ show  character ▼   countdown ▼
            ⧗ wait ms   1000

      else  clear display
            set  light ▼  to   get  value  %  light sensor
```

7

To make sure the alarm only goes off when the mini is in the light, add another condition and take the = block from the logic menu and change the equal sign to a greater-than sign. Then add the "light" variable and a suitable value. The value must be between 0 (dark) and 100 (bright).
Now you can insert different blocks for the alarm. Let the LED light up, play sounds or display the text "Alert".

Control

Logic

Variablen

Math

Aktion