



UNIVERSIDAD
DE GRANADA



Campus Infantil de Software Libre





Campus Infantil de Software Libre

Grupo Prebenjamín

Jornada 9

Docente: Bryan Moreno Picamán

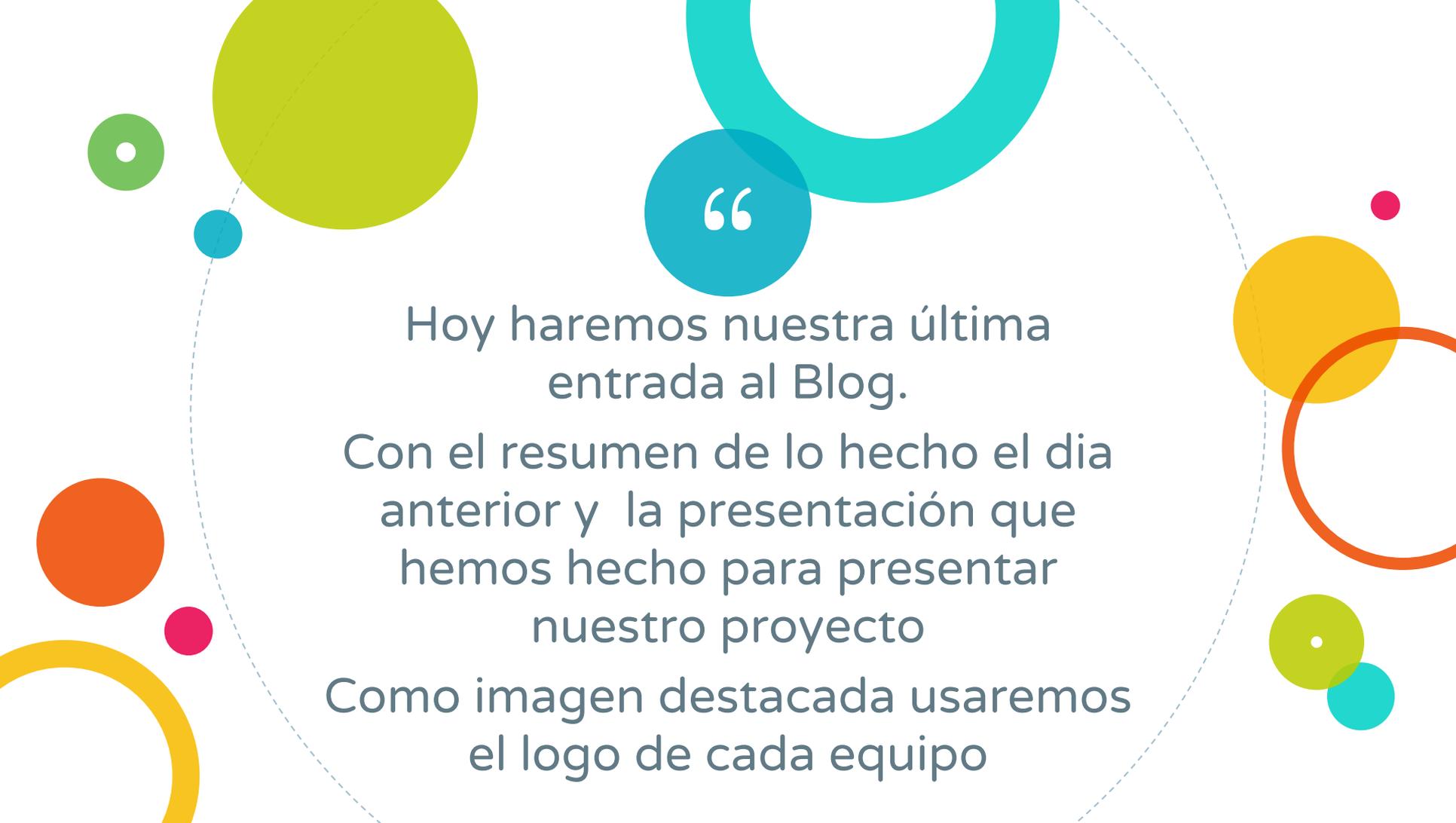
Monitor de Tiempo Libre:

Monitor de aula:

The background is white and features several decorative elements: a large orange ring in the top left, a large teal ring in the bottom right, a large dashed teal circle in the top center containing a teal number '0', and various smaller solid and dashed circles in green, yellow, pink, and teal scattered throughout.

0

Entrada en el blog

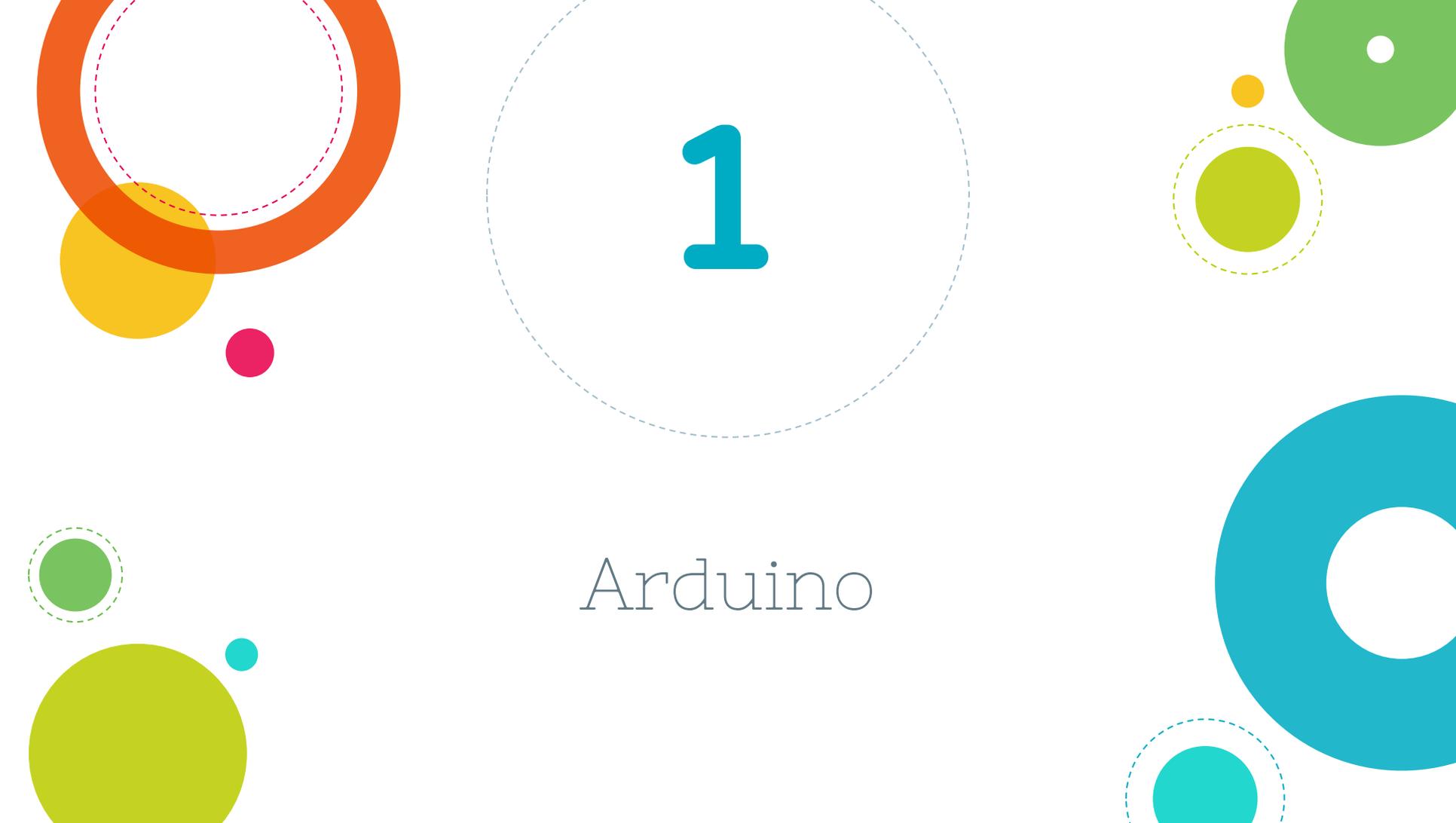
A decorative graphic featuring a large dashed white circle. Inside and outside this circle are various colored shapes: a large green circle at the top left, a large cyan circle at the top center, a large yellow circle at the top right, a large orange circle at the bottom left, and a large yellow circle at the bottom right. Smaller circles in green, blue, orange, and cyan are scattered around the main dashed circle. A blue circle containing the white text "“" is positioned above the main text.

“

Hoy haremos nuestra última
entrada al Blog.

Con el resumen de lo hecho el día
anterior y la presentación que
hemos hecho para presentar
nuestro proyecto

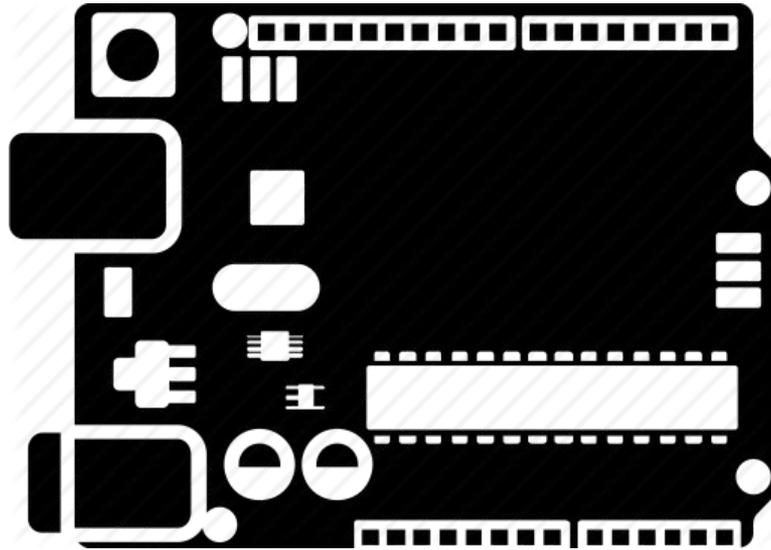
Como imagen destacada usaremos
el logo de cada equipo

The background features a collection of colorful geometric shapes. In the top left, there is a large orange ring with a white dashed inner circle, overlapping a yellow circle and a small pink circle. In the top right, there is a green circle with a white center, a small orange circle, and a lime green circle with a white dashed border. In the bottom left, there is a green circle with a white dashed border, a large lime green circle, and a small cyan circle. In the bottom right, there is a large cyan ring and a cyan circle with a white dashed border. In the center, a large white dashed circle contains the number '1'.

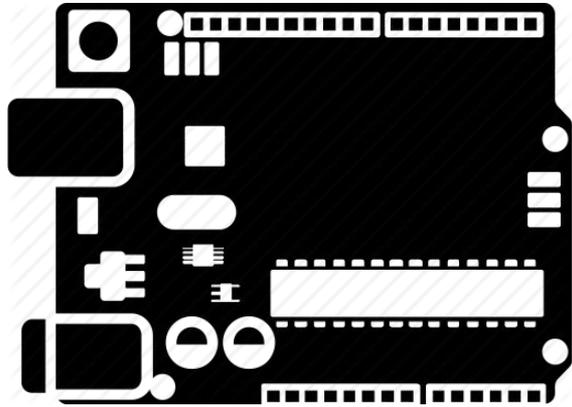
1

Arduino

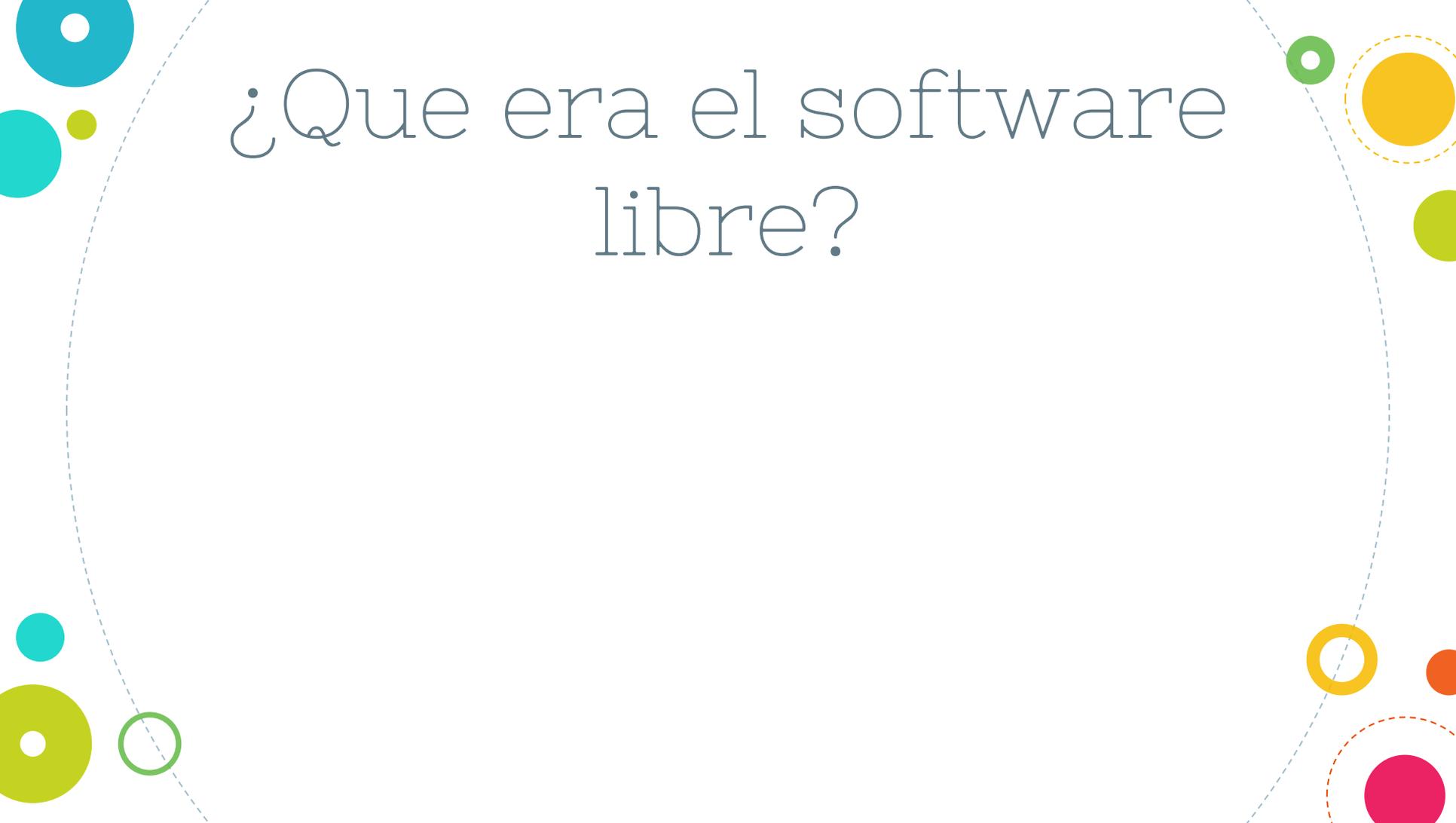
¿Que es un arduino?



¿Que es un arduino?



**Arduino es una placa electrónica y un programa de software libre.
Está pensada para que todo el mundo pueda utilizarla y programarla.**

A decorative border composed of various colored circles (teal, green, yellow, orange, pink) and dashed lines in light blue and green, framing the central text.

¿Que era el software
libre?

¿Que era el software libre?

El software libre es aquel programa que nos permite realizar muchas cosas distintas en los ordenadores, tablets, móviles, etc,

Pero de una forma totalmente gratuita.

A decorative graphic consisting of a large, light blue dashed circle that frames the central text. Various colored circles (teal, green, yellow, orange, pink) are scattered around the perimeter of the dashed circle, some overlapping it. The colors include teal, light green, yellow, orange, and pink.

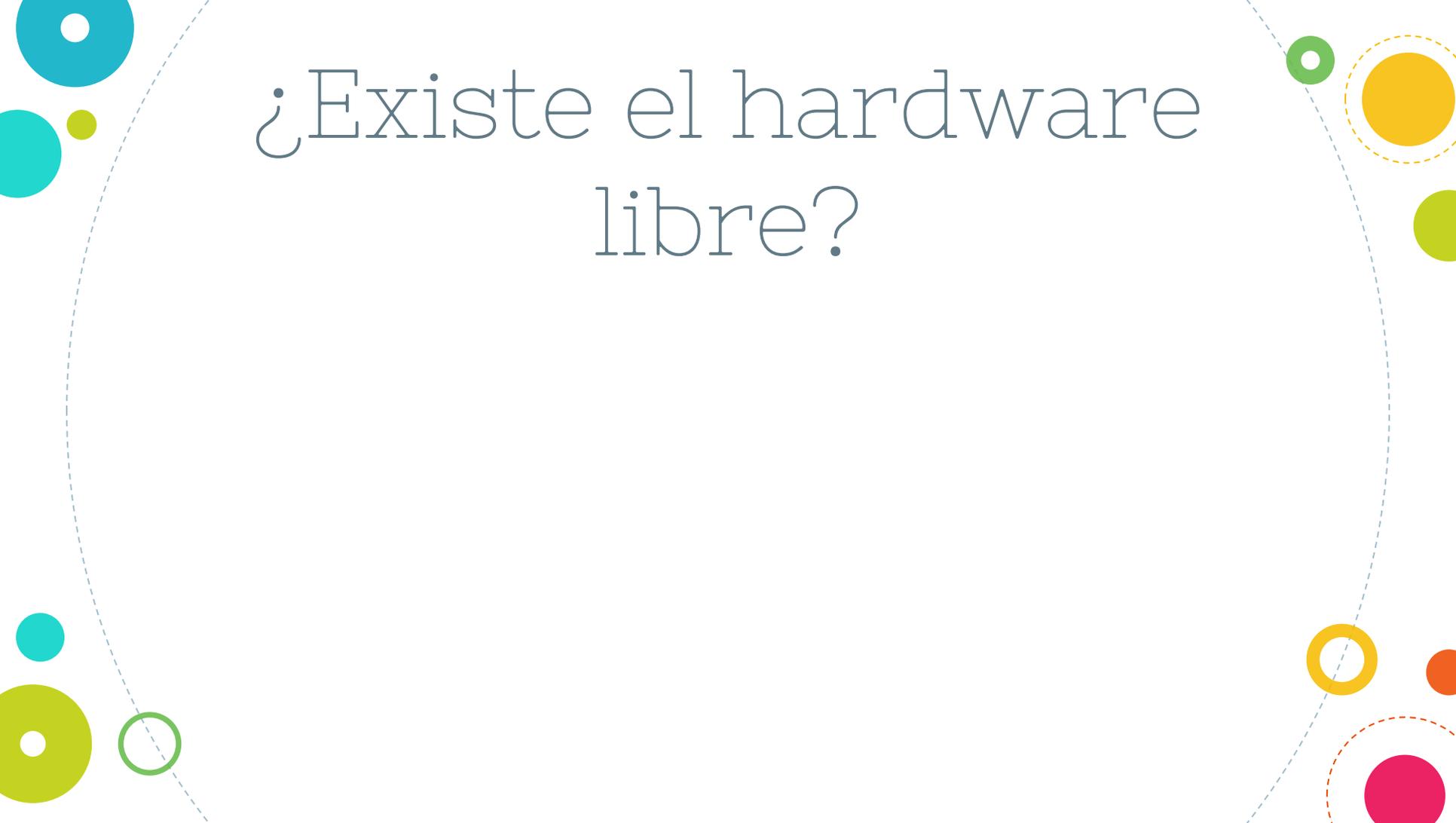
¿Que era el hardware?

A decorative border composed of a dashed light blue line that forms a large, irregular shape. Inside and outside this shape are various colored circles in shades of teal, green, yellow, orange, and pink. Some circles are solid, some are hollow, and some have dashed outlines.

¿Que era el hardware?

La parte física del ordenador, lo que se puede tocar.

Torre, pantalla, teclado, ratón, impresora, etc...

A decorative border composed of various colored circles (teal, yellow, green, orange, pink) and dashed lines in light blue and green, framing the central text.

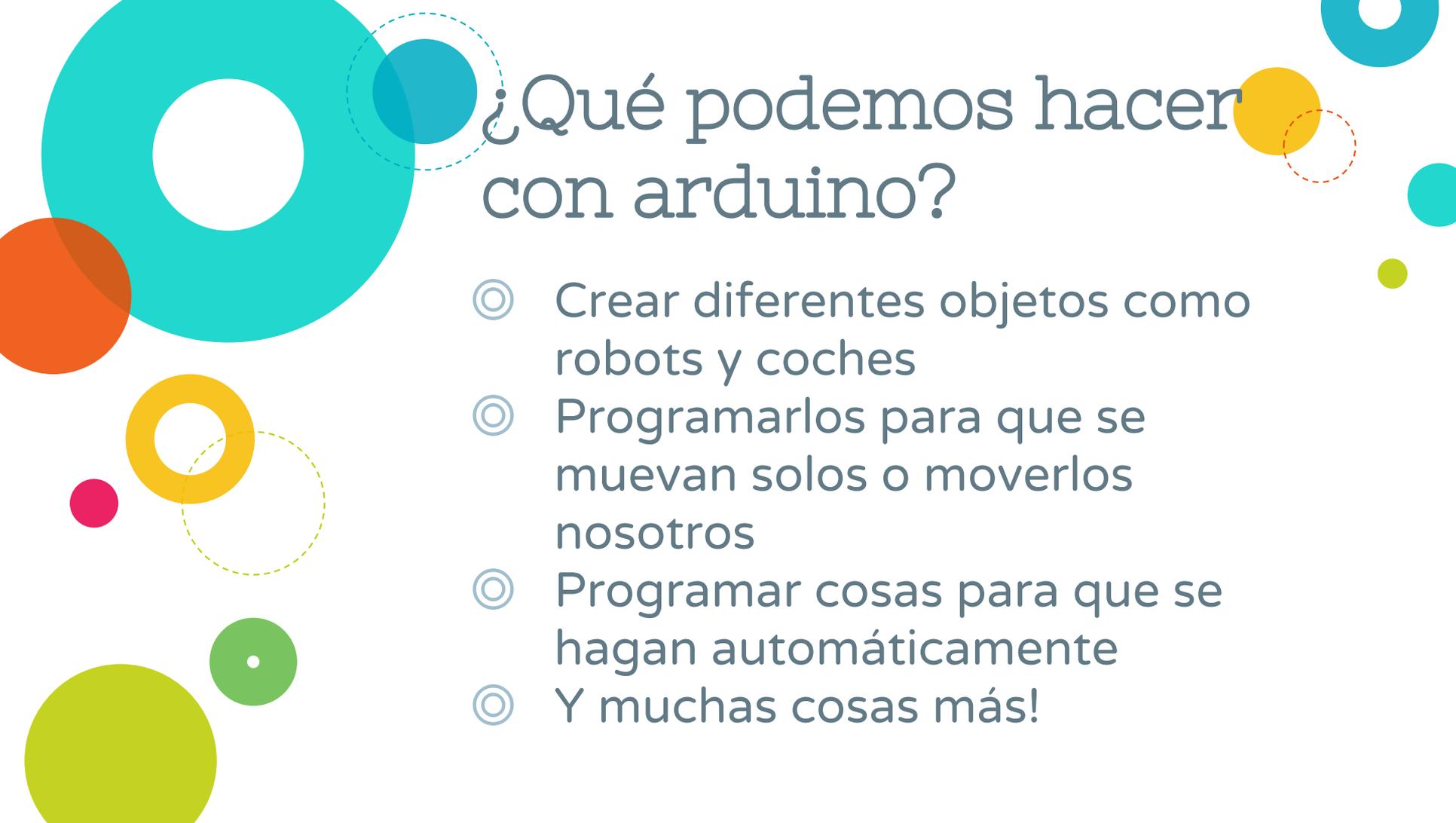
¿Existe el hardware
libre?

¿Existe el hardware libre?



¡SI!

Arduino es hardware libre y también tiene su propio software libre para usarlo

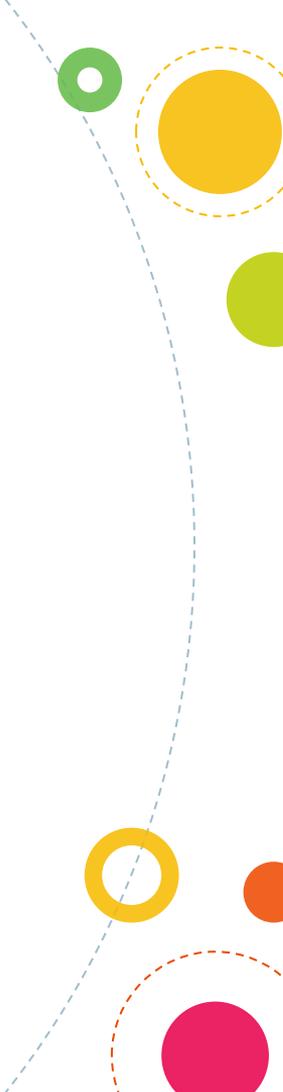
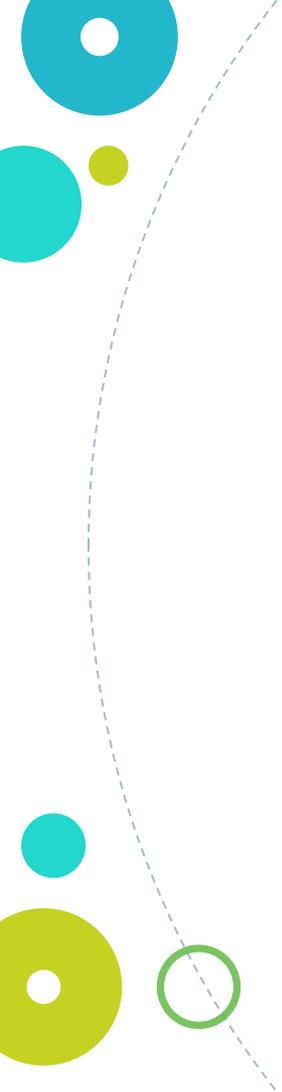
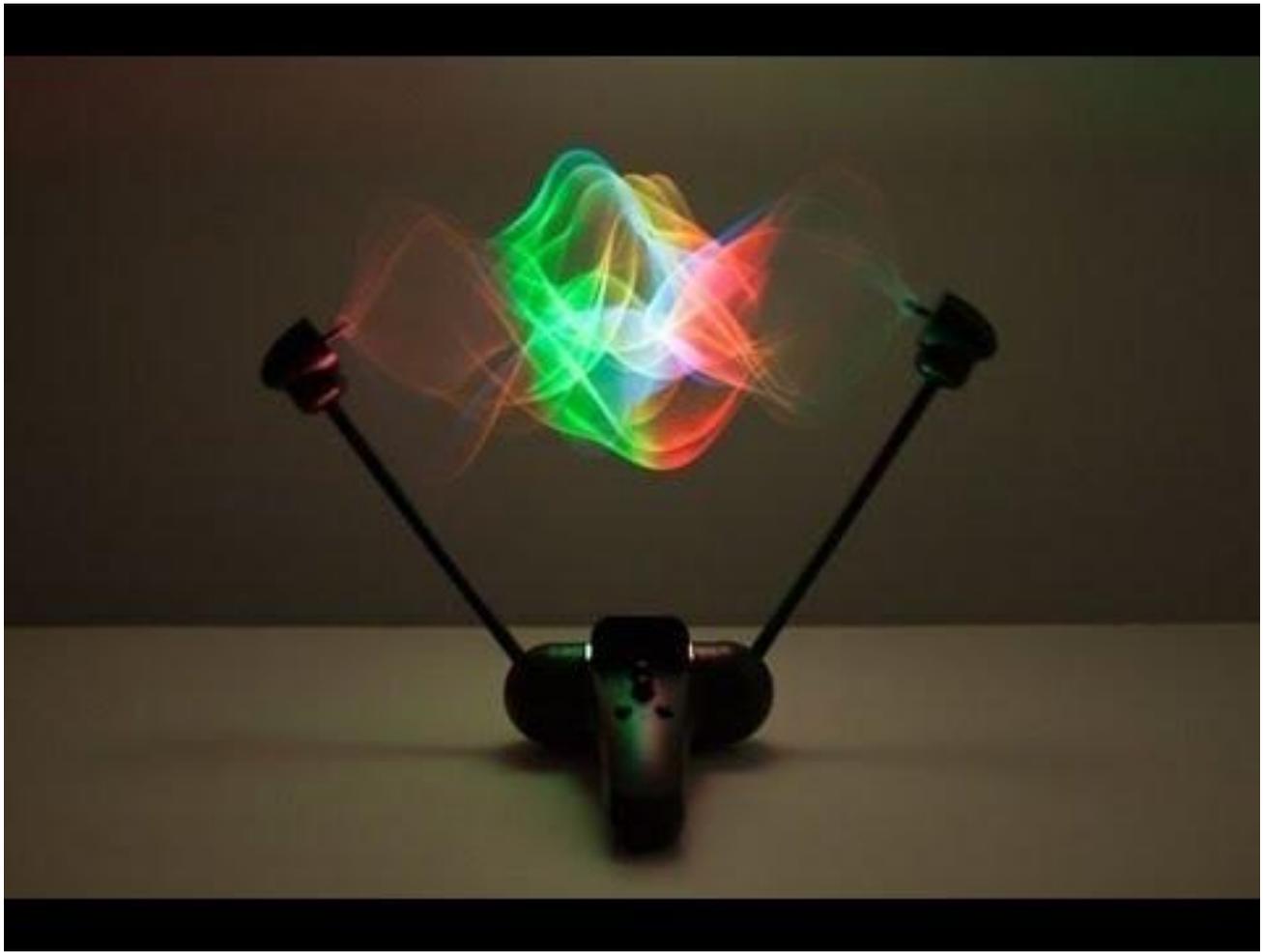


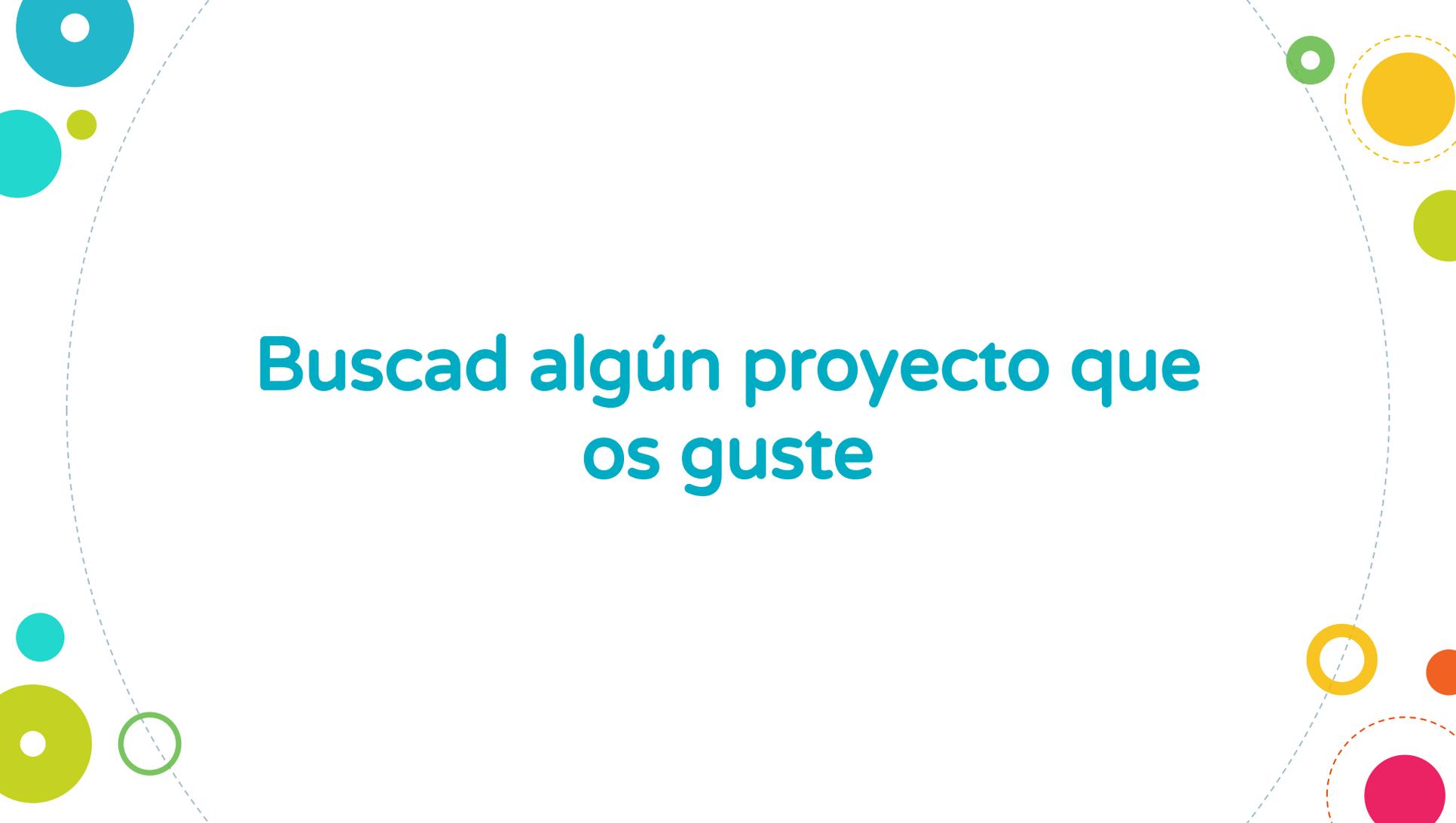
¿Qué podemos hacer con arduino?

- ⦿ Crear diferentes objetos como robots y coches
- ⦿ Programarlos para que se muevan solos o moverlos nosotros
- ⦿ Programar cosas para que se hagan automáticamente
- ⦿ Y muchas cosas más!

A decorative graphic consisting of a large, light blue dashed circle that frames the central text. Various colored circles of different sizes are scattered around the perimeter of the dashed circle. The colors include teal, light blue, yellow, green, orange, and pink. Some circles are solid, while others are hollow or have a dashed outline.

**Vamos a ver algunos
proyectos**



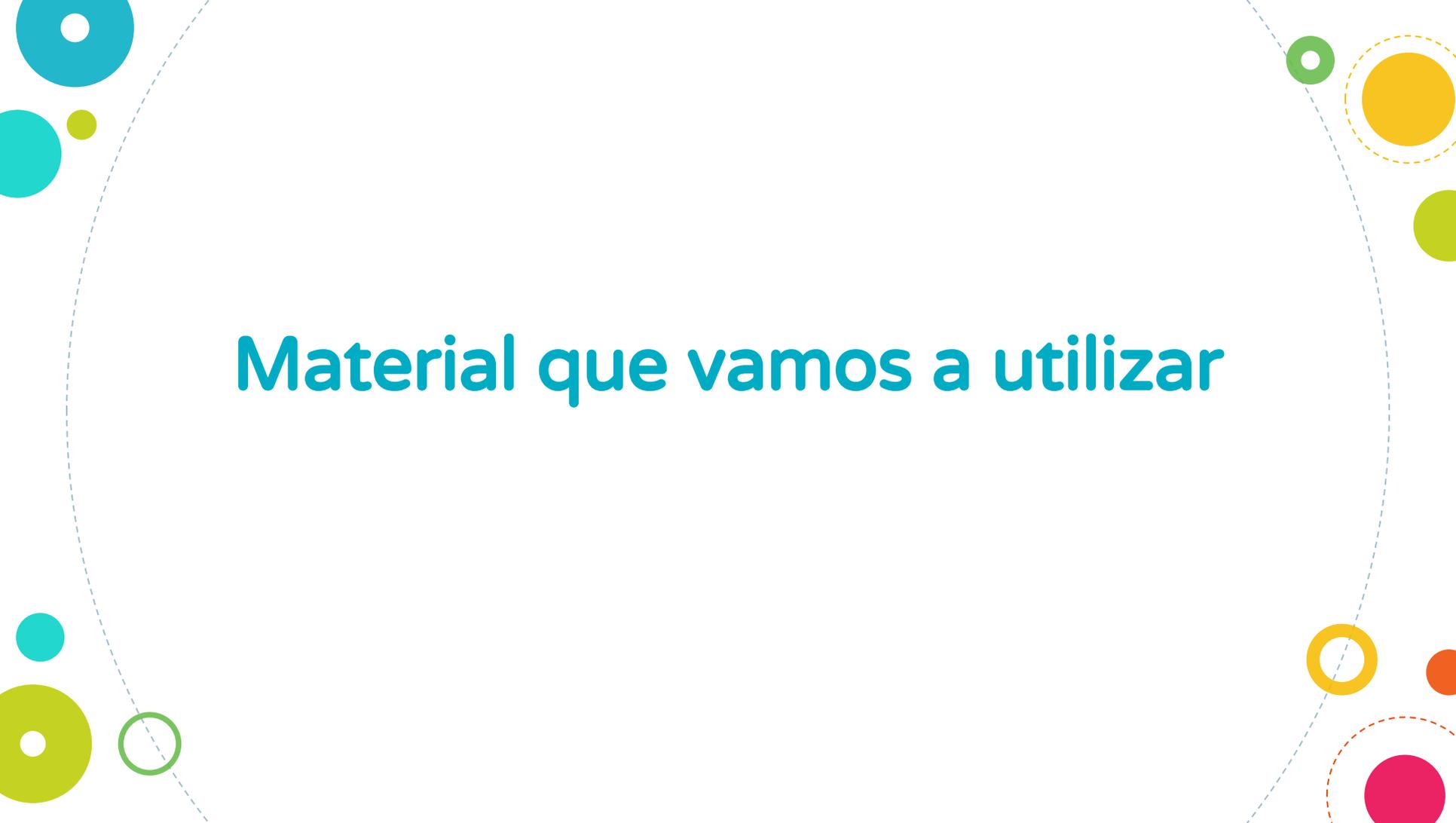
A decorative graphic consisting of a large, light blue dashed circle that frames the central text. Various colored circles (teal, green, yellow, orange, pink) are scattered around the perimeter of the dashed circle, some solid and some hollow.

**Buscad algún proyecto que
os guste**

The background features a collection of colorful circles and dashed lines in shades of orange, yellow, green, and teal. A large teal number '2' is centered within a large dashed circle. The text 'Encender un LED con arduino' is positioned below the number.

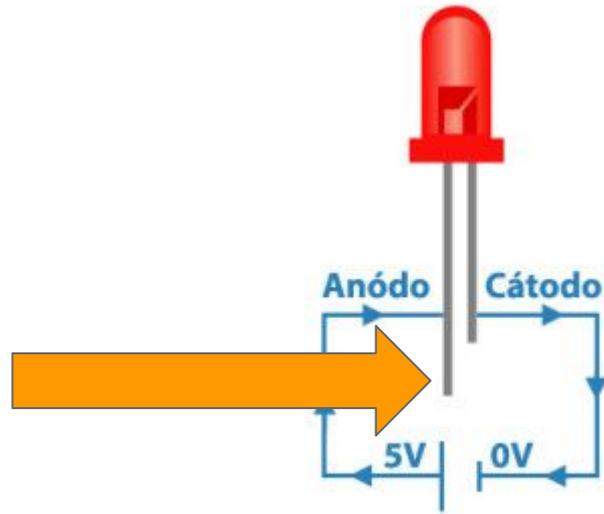
2

Encender un LED con
arduino

A decorative graphic consisting of a dashed light blue line forming a large circle. Various colored circles (teal, yellow, green, orange, pink) are scattered around the perimeter, some solid and some hollow. The text "Material que vamos a utilizar" is centered within the circle.

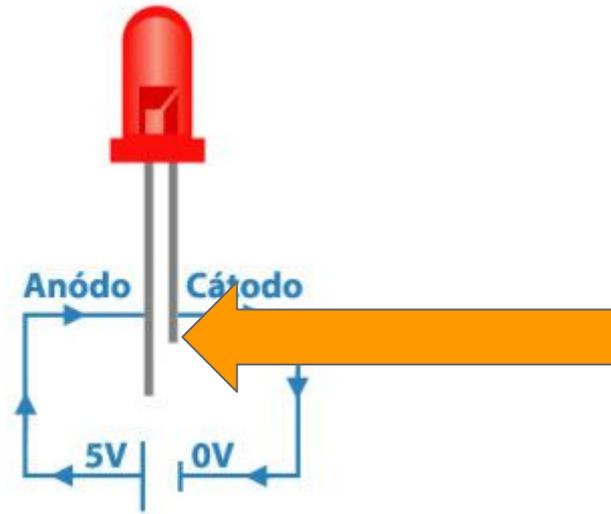
Material que vamos a utilizar

Led



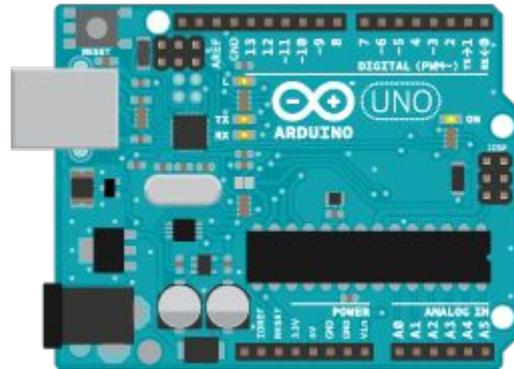
Pata larga POSITIVO

Led



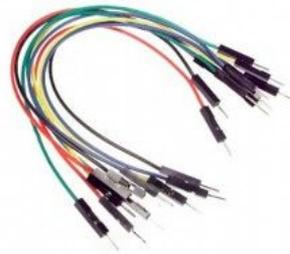
Pata corta TIERRA

Placa arduino



Se conecta a los distintos dispositivos y al ordenador

Cables



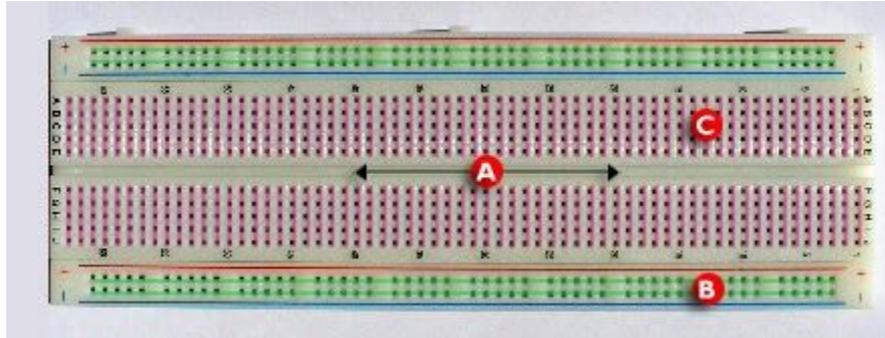
De distintos colores y tamaños

Resistencias

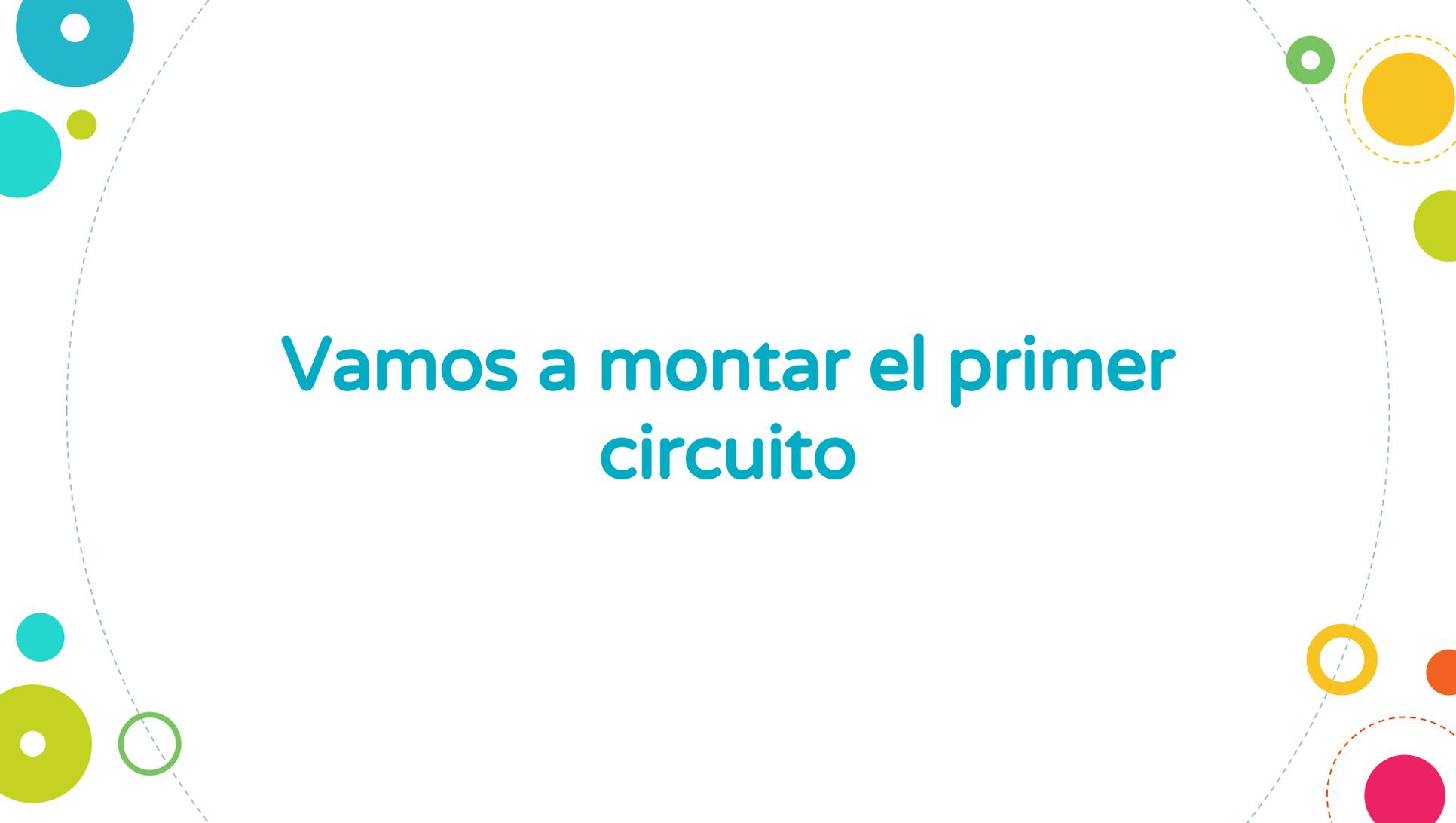


Son muy importantes, no las olvidéis!

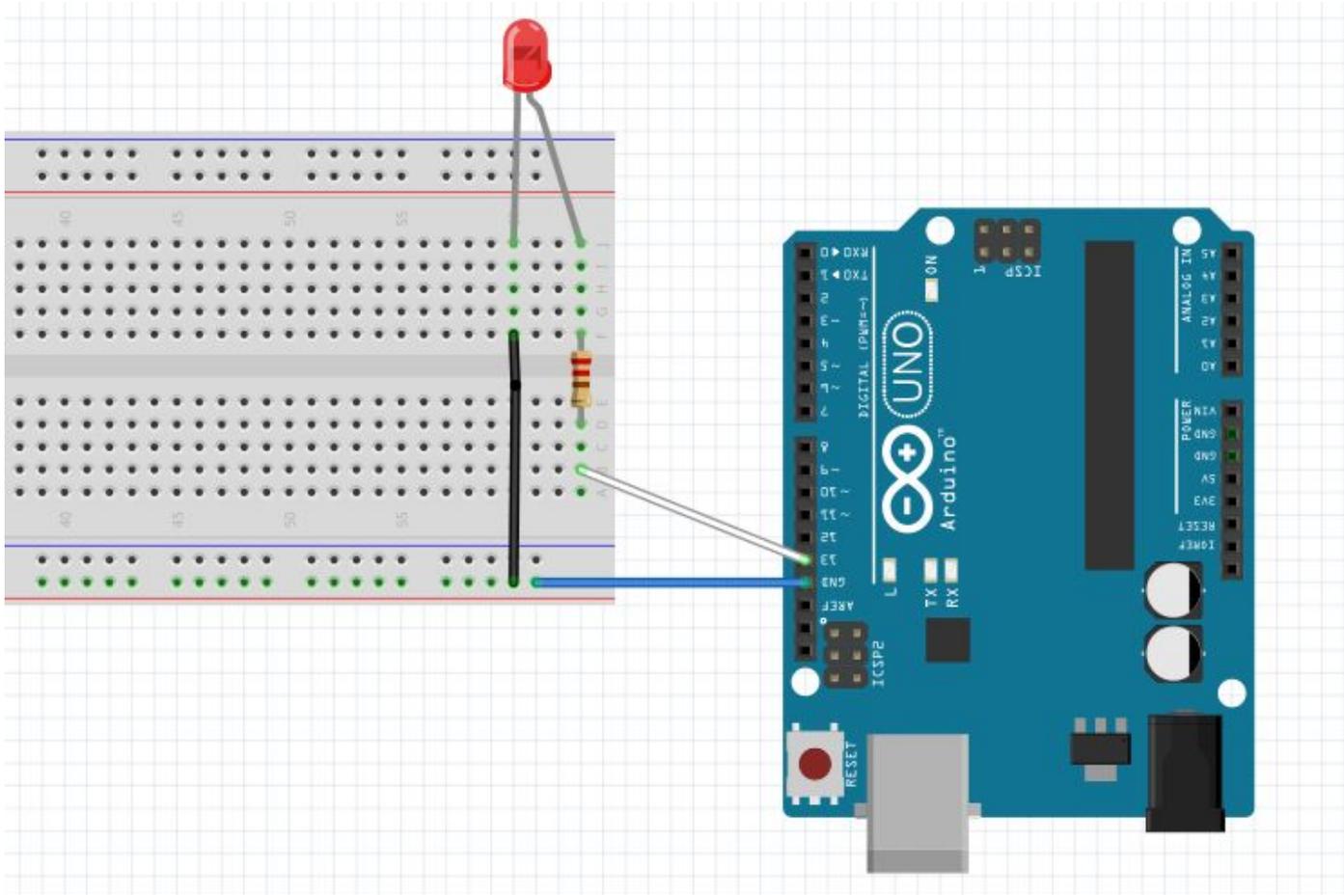
Protoboard

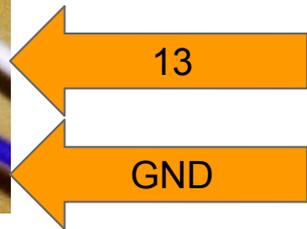
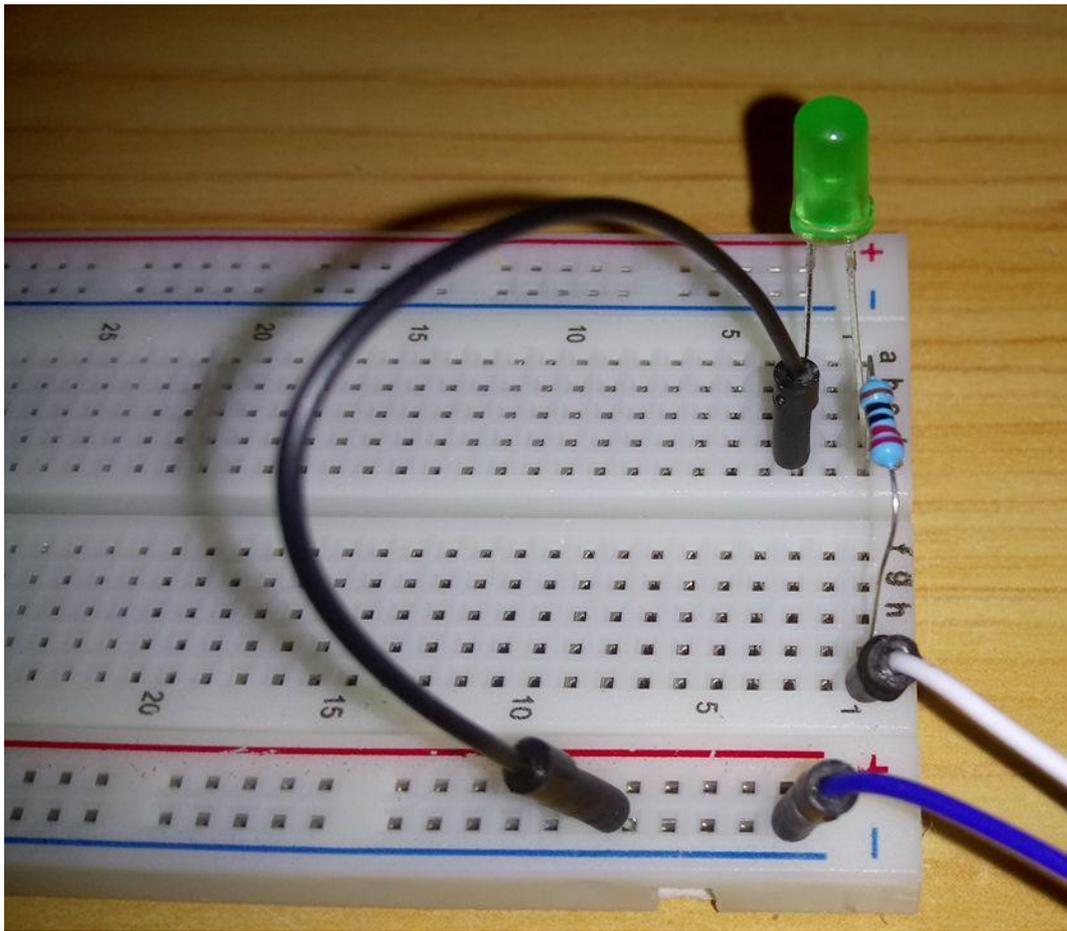


Aquí conectaremos muchas cosas

A decorative graphic consisting of a large, light blue dashed circle that frames the central text. Various colored circles of different sizes are scattered around the perimeter of this dashed circle. The colors include teal, light blue, yellow, green, orange, and pink. Some circles are solid, while others are hollow or have a dashed outline.

**Vamos a montar el primer
circuito**





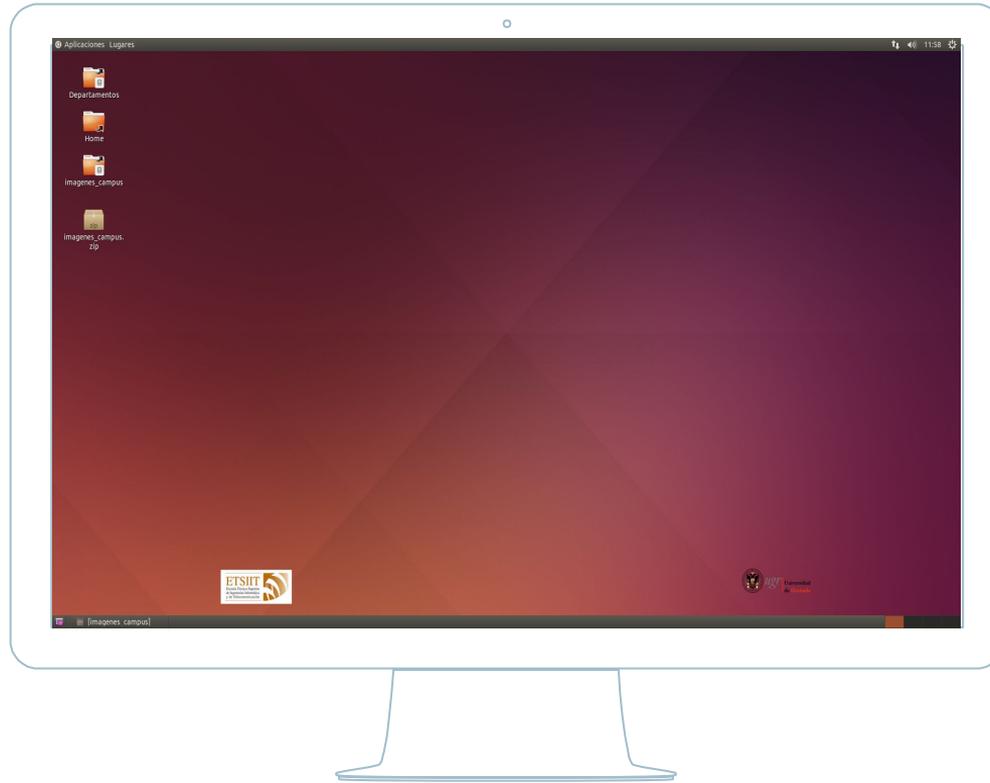
GND

13



A decorative graphic consisting of a large, light blue dashed circle that frames the central text. Various colored circles (teal, yellow, green, orange, pink) are scattered around the perimeter of the dashed circle, some solid and some hollow.

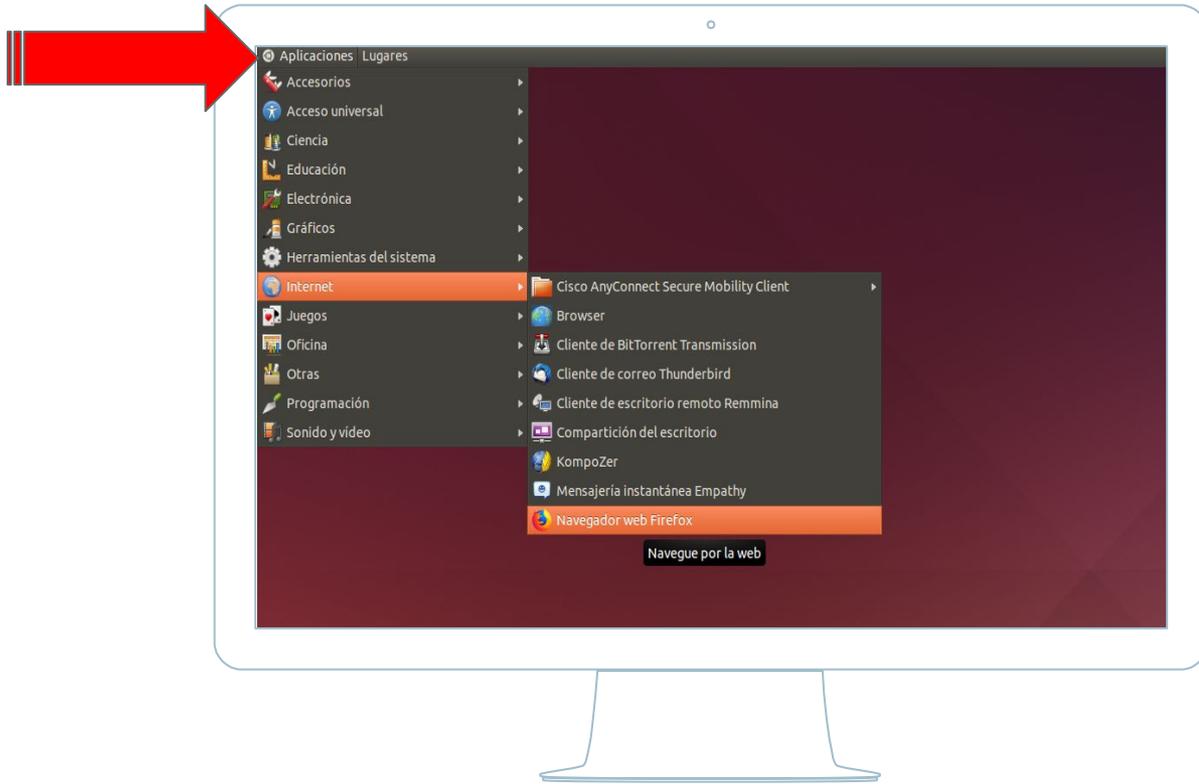
**Hora de abrir nuestro
programa y hacerlo
funcionar**



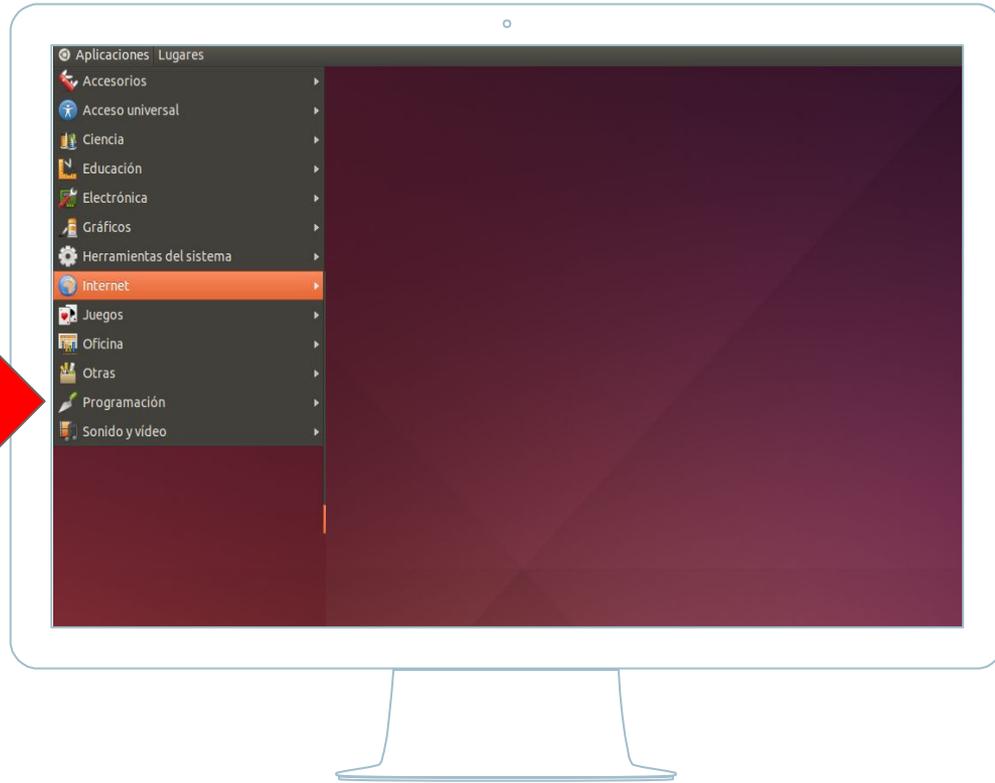
Ahora vamos a entrar al
programa que usaremos



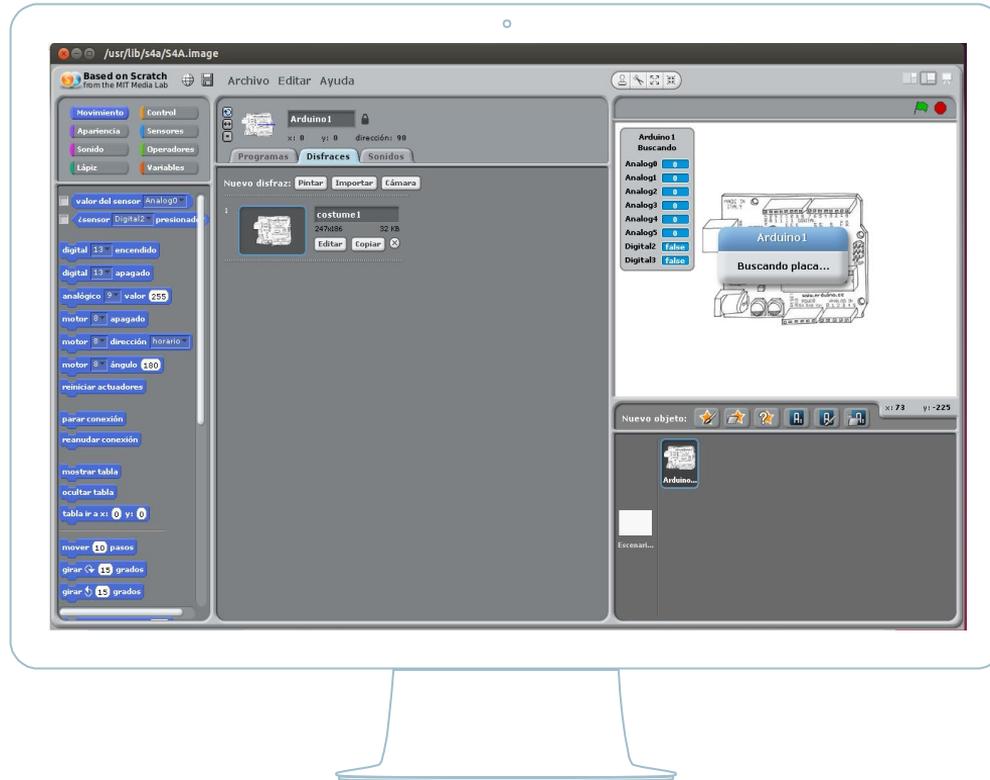
Buscamos este dibujo donde
pone “Aplicaciones”



Y pinchamos una vez con el
ratón



Seleccionamos “Programación”



Y por ultimo le damos a la opción "S4A"

Vamos a encender nuestro led

Archivo Editar Ayuda

Arduino1

x: 0 y: 0 dirección: 90

Programas Disfraces Sonidos

al presionar 

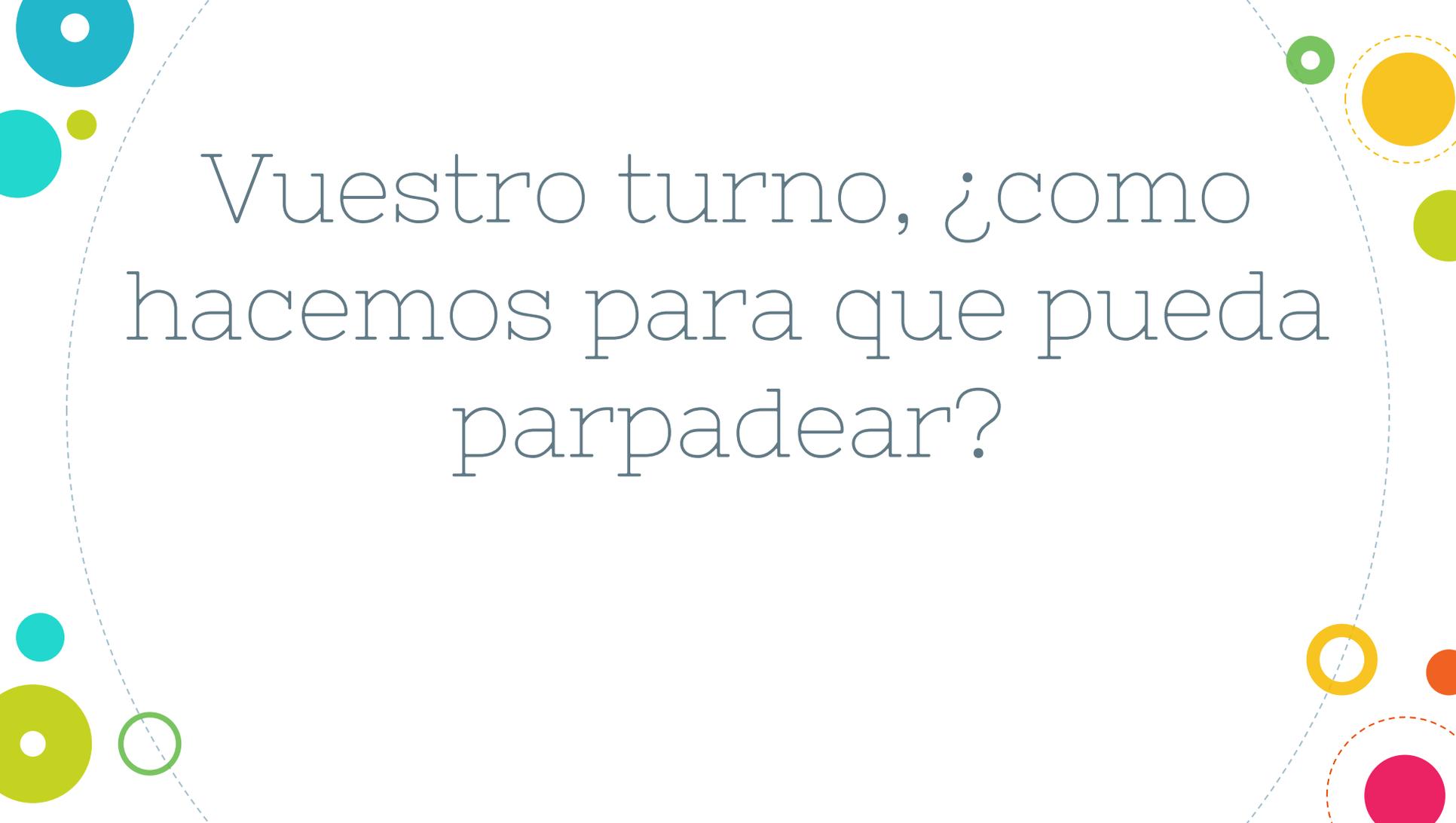
digital 13 encendido

Arduino 1
puerto: COM3

Analog0	95
Analog1	111
Analog2	117
Analog3	108
Analog4	46
Analog5	11
Digital2	false
Digital3	false

Arduino Duemilanove

www.arduino.cc



Vuestro turno, ¿como
hacemos para que pueda
parpadear?

¿Vuestro turno, como
hacemos para que pueda
parpadear?

Pista:



¿Habéis puesto esto?



¿Habéis puesto esto?



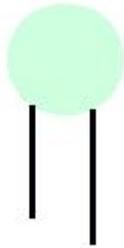
¿Por que asi no funciona?

SOLUCIÓN

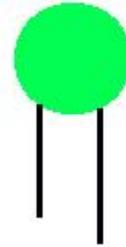


Que el dibujo coincida con
nuestro led en la placa

Encendido



Apagado

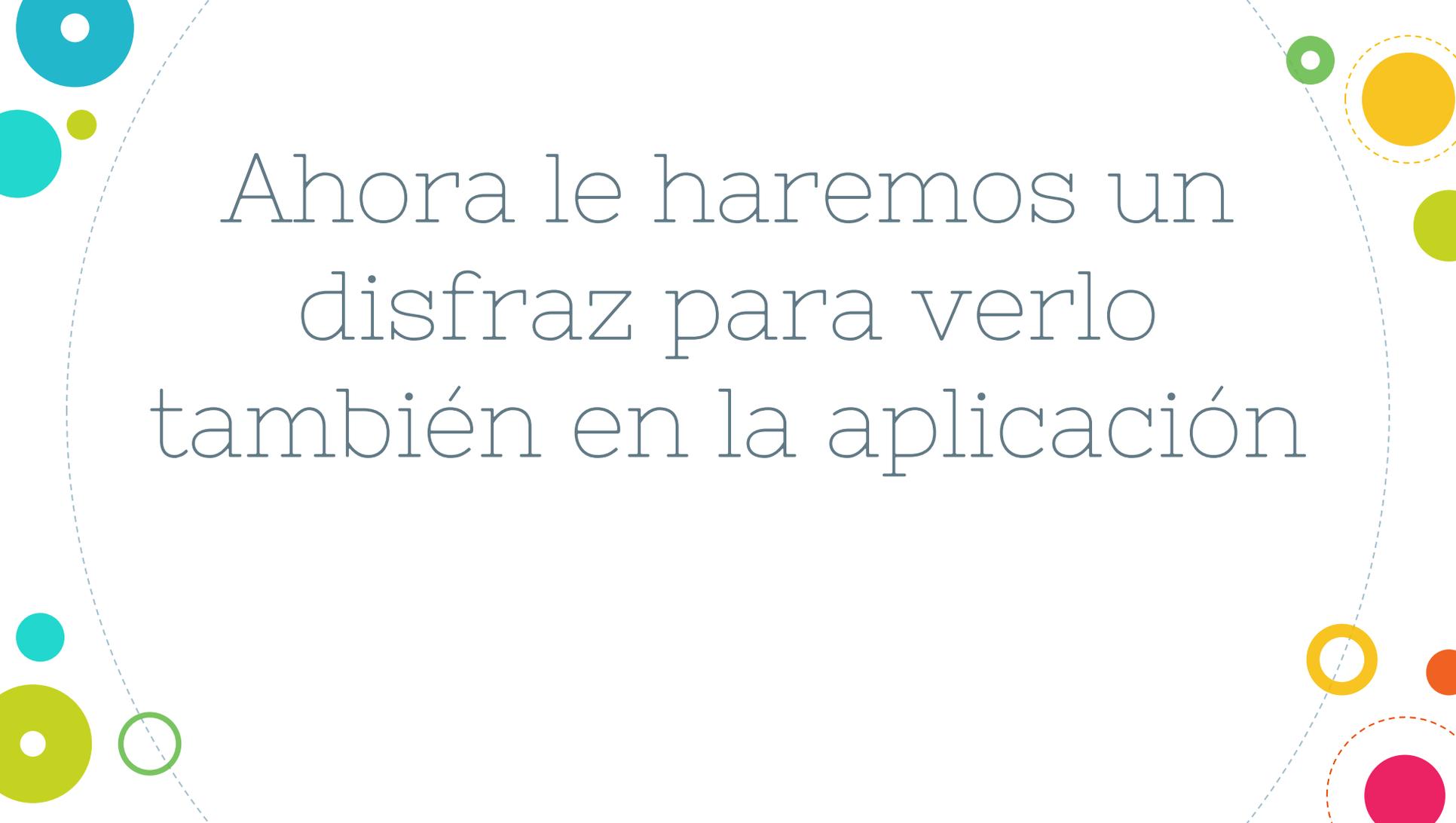


SOLUCIÓN



SOLUCIÓN





Ahora le haremos un
disfraz para verlo
también en la aplicación

The background features several decorative elements: a large orange ring with a dashed white inner circle in the top left; a large yellow circle overlapping the orange ring; a small pink circle below the yellow one; a large teal ring in the bottom right; a large green circle with a white dot in the top right; a large teal circle with a white dot in the bottom right; a large green circle with a dashed white border in the middle right; a large yellow circle with a dashed white border in the middle right; a small orange circle above the middle right green circle; a small teal circle in the bottom right; a large green circle with a dashed white border in the bottom left; a small teal circle above the bottom left green circle; and a large yellow circle in the bottom left.

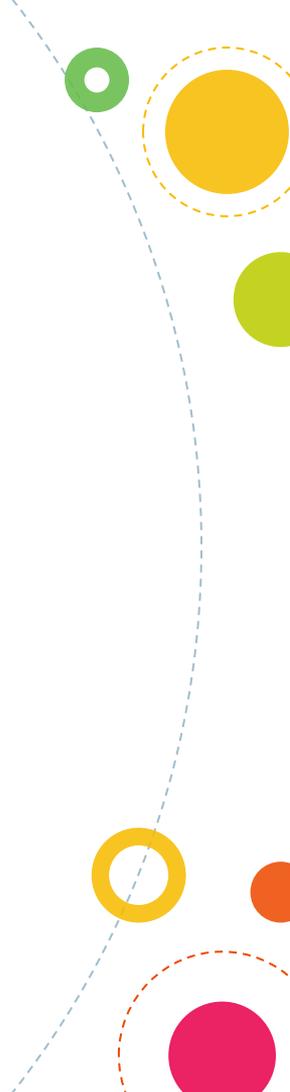
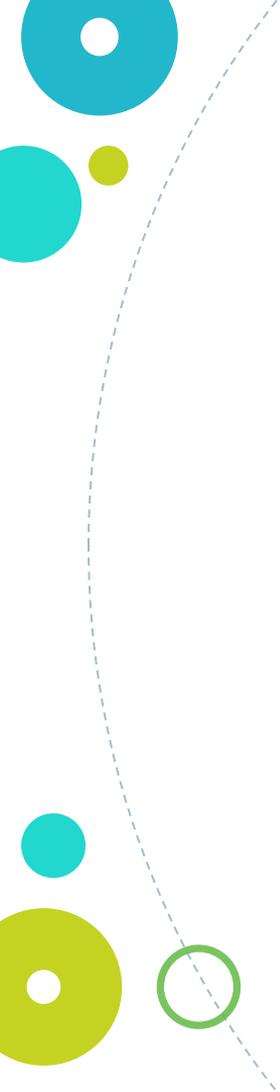
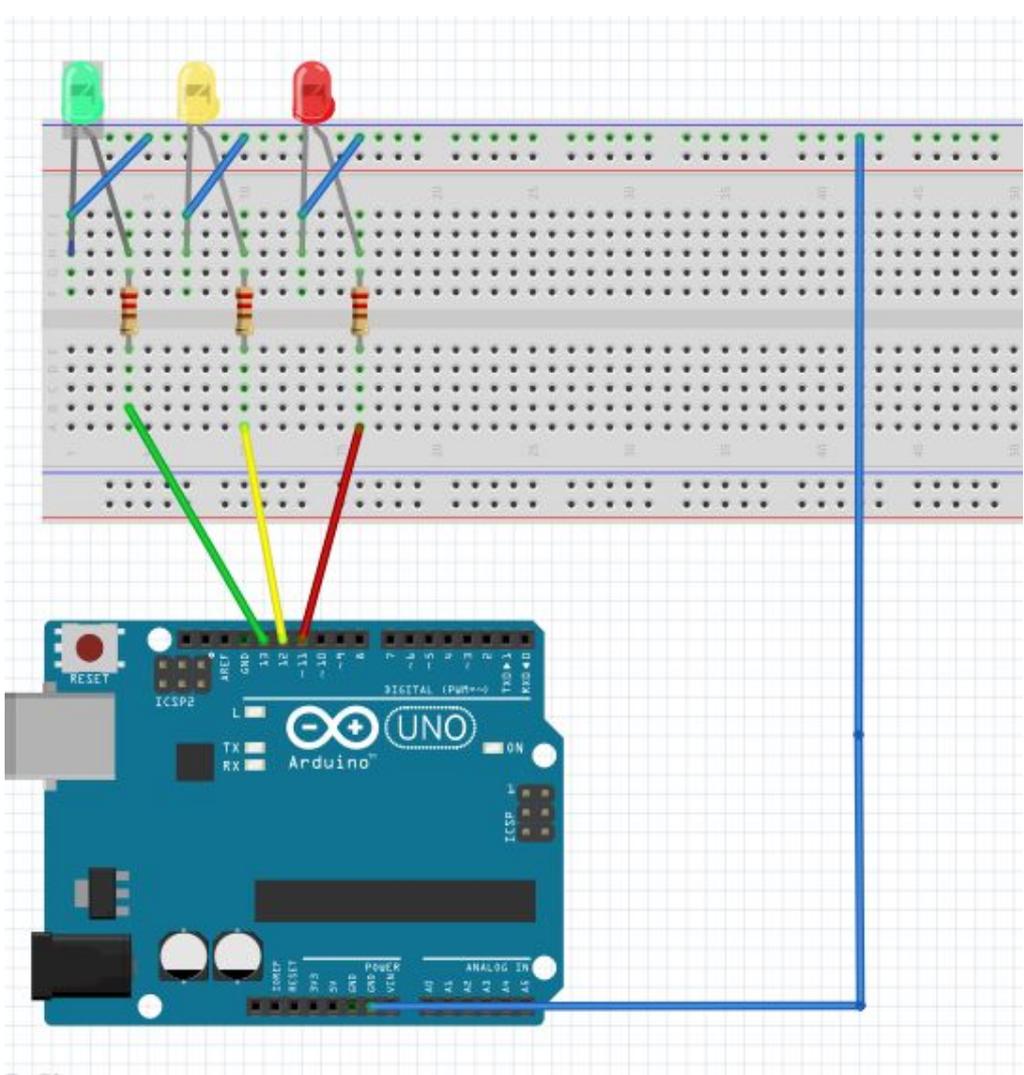
3

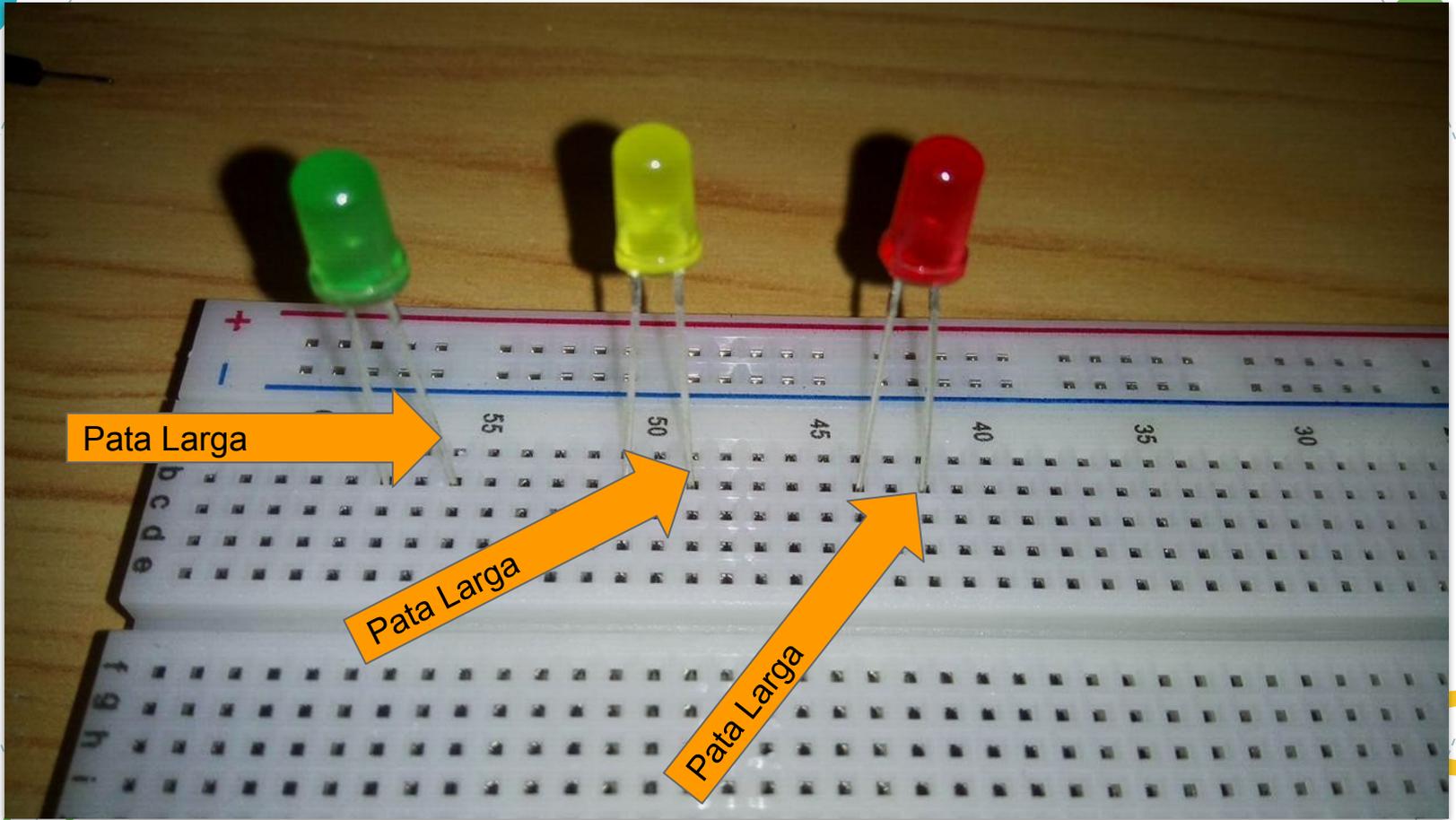
Semaforo con arduino

A decorative border consisting of various colored circles (teal, green, yellow, orange, pink) and dashed lines in light blue and grey, framing the central text.

Vamos el circuito.

**Este es un poco más
complicado**

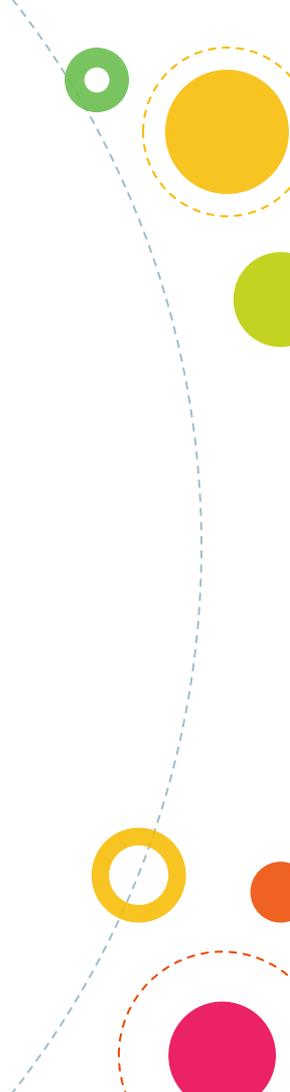
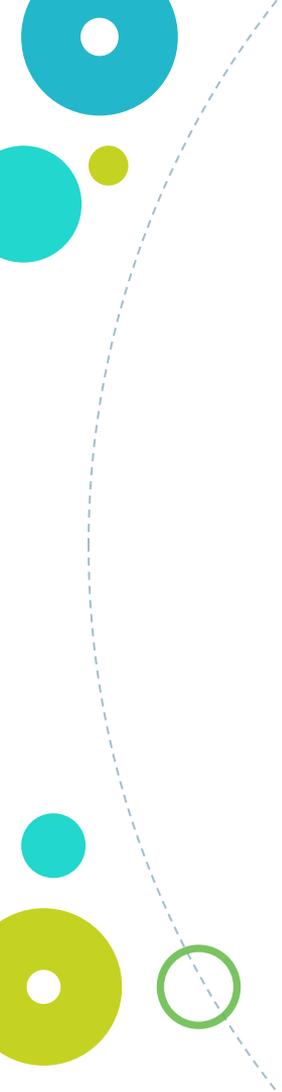
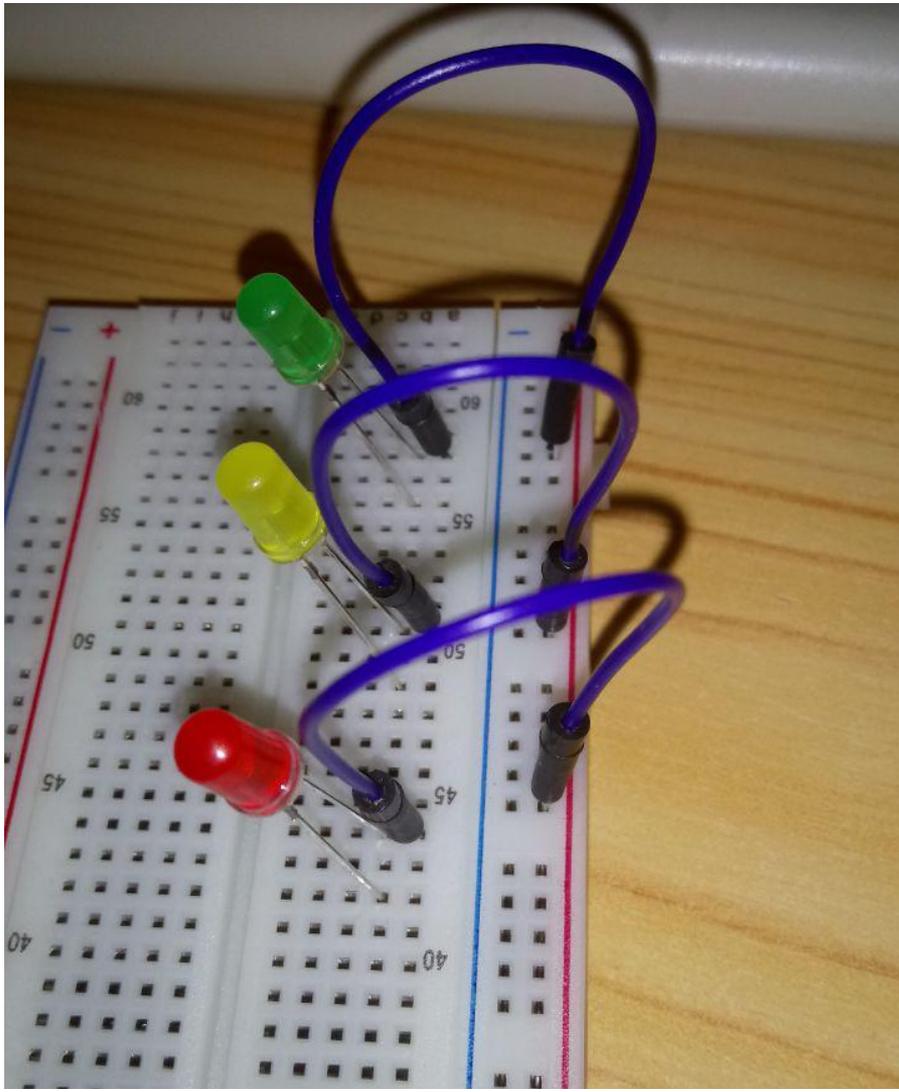


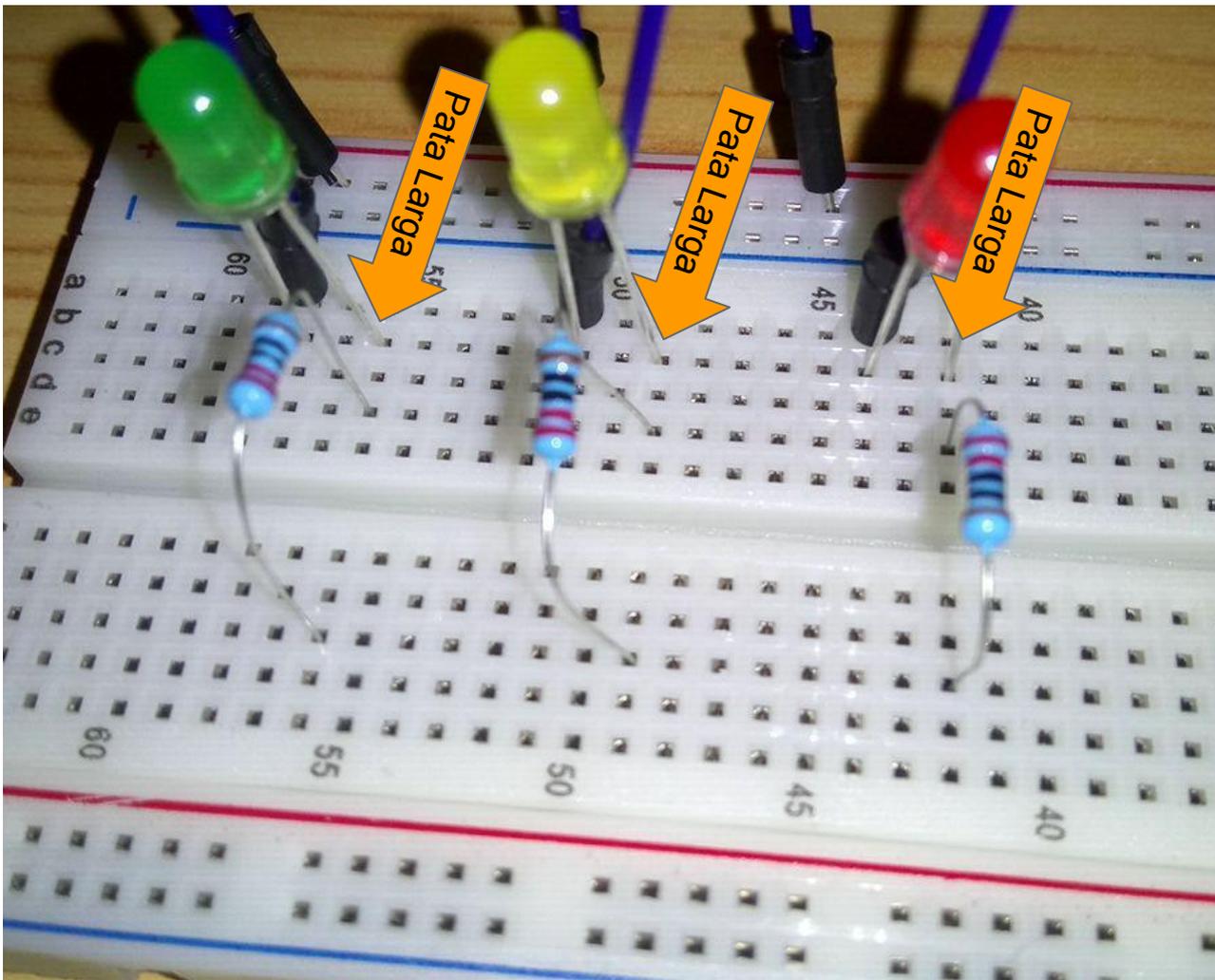


Pata Larga

Pata Larga

Pata Larga

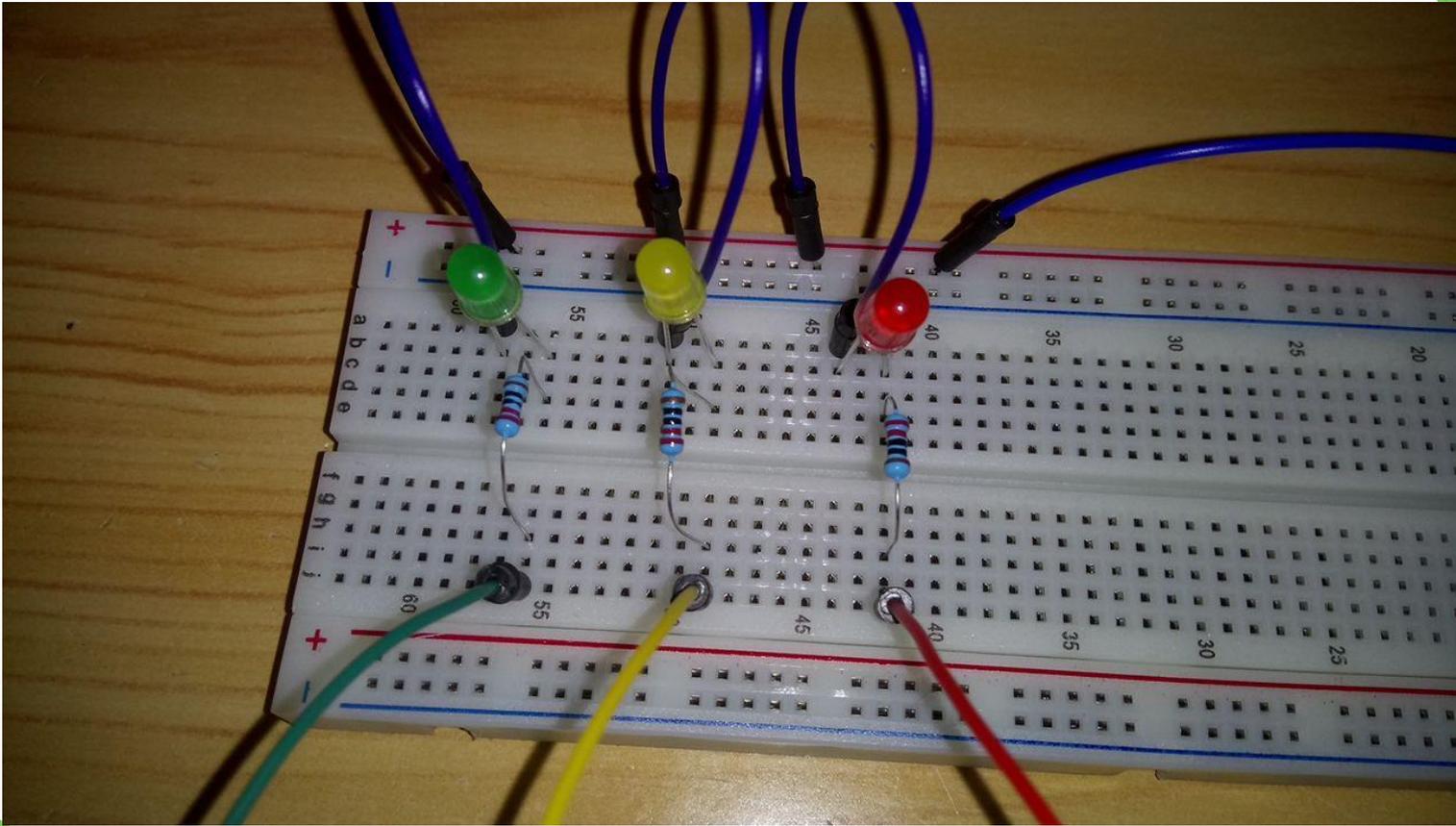


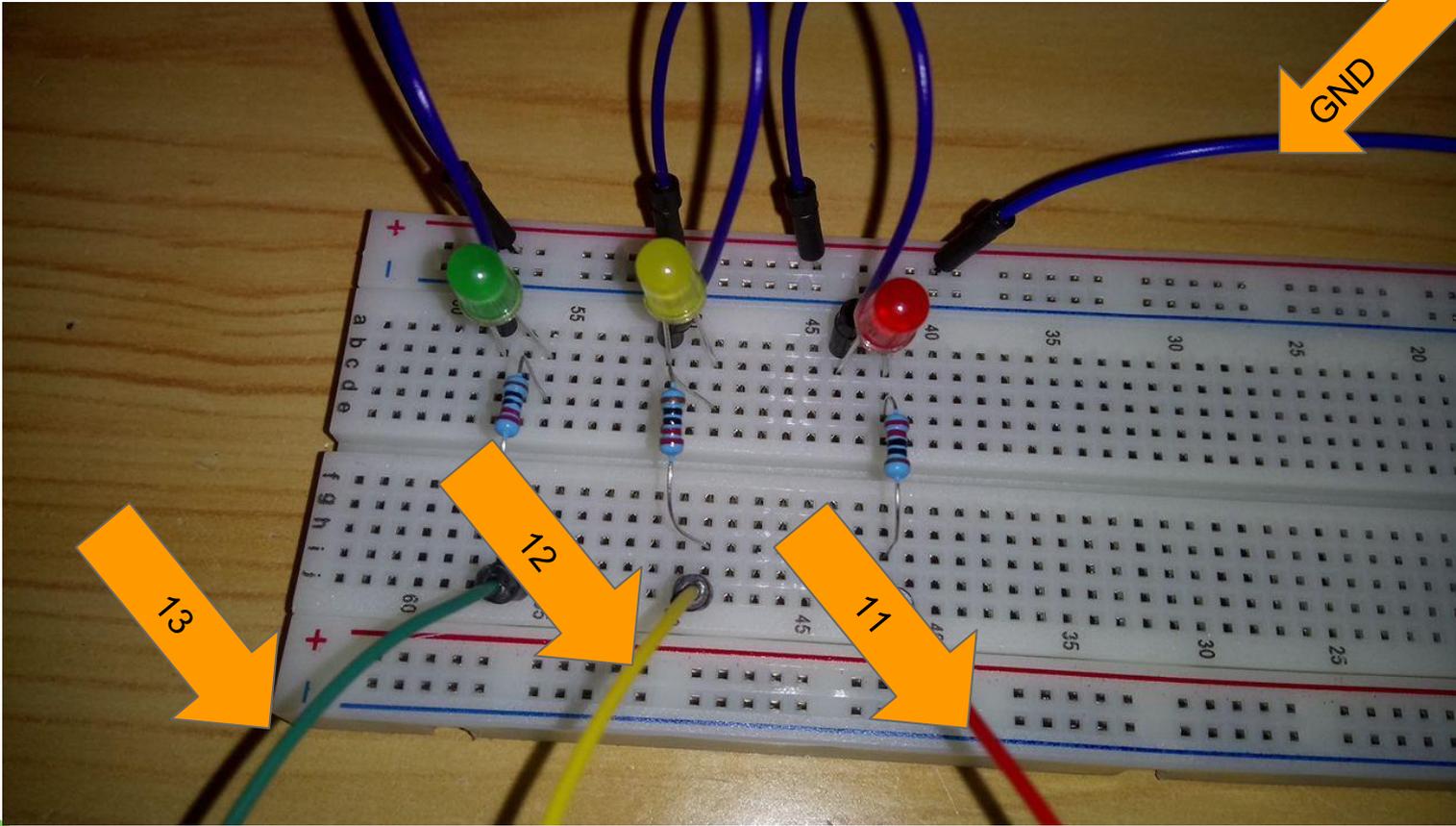


Pata Larga

Pata Larga

Pata Larga





A decorative graphic consisting of a large, light blue dashed circle that frames the central text. Various colored circles are scattered around the perimeter of this dashed circle. On the left side, there are teal, light blue, and lime green circles. On the right side, there are yellow, orange, and pink circles. Some circles are solid, while others are hollow or have a dashed outline. The overall style is modern and vibrant.

**Hora de abrir nuestro
programa y hacerlo
funcionar**

SOLUCIÓN

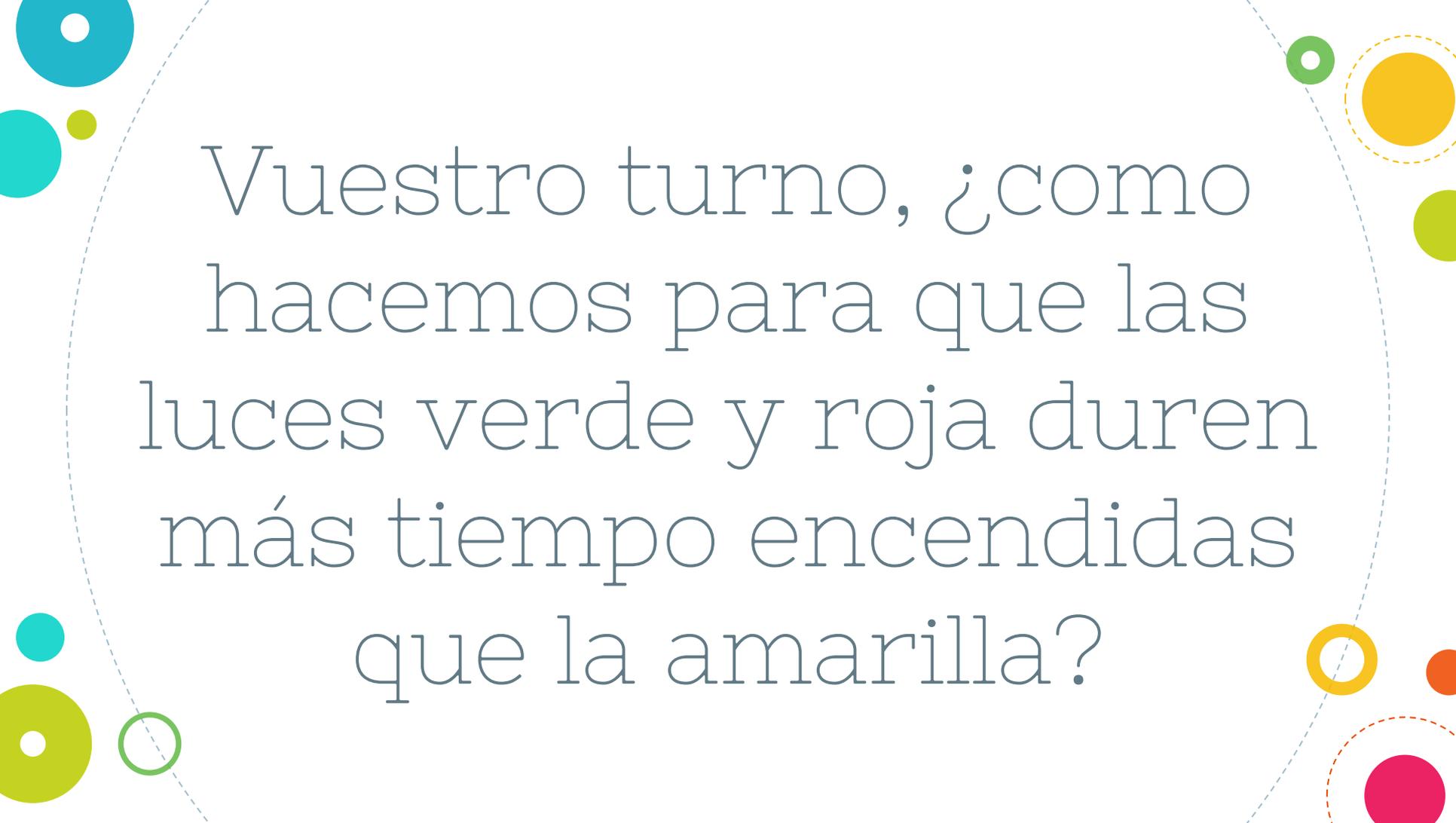


SOLUCIÓN



```
al presionar   
por siempre  
  digital 13 encendido  
  esperar 1 segundos  
  digital 13 apagado  
  esperar 1 segundos  
  digital 12 encendido  
  esperar 1 segundos  
  digital 12 apagado  
  esperar 1 segundos  
  digital 11 encendido  
  esperar 1 segundos  
  digital 11 apagado  
  esperar 1 segundos
```

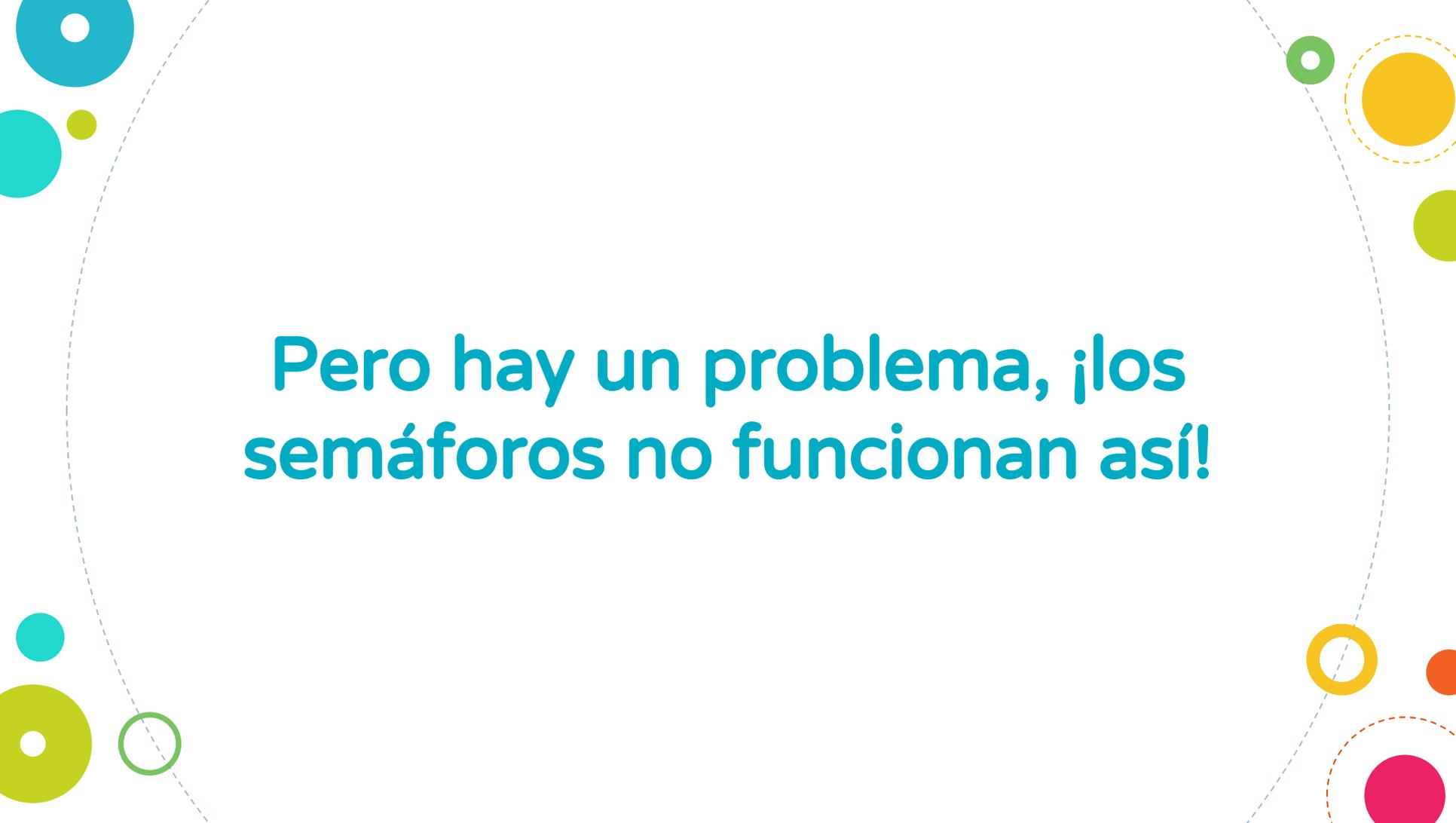
The image shows a Scratch code block for a sequence of digital pin operations. It starts with an 'al presionar' (when clicked) event block, followed by a 'por siempre' (forever) loop. Inside the loop, there are three identical sequences of operations: first, setting digital pin 13 to 'encendido' (on), then waiting for 1 second, then setting it to 'apagado' (off), and finally waiting for another 1 second. This sequence is repeated for digital pins 12 and 11. The code block is set against a dark grey background.



Vuestro turno, ¿como
hacemos para que las
luces verde y roja duren
más tiempo encendidas
que la amarilla?

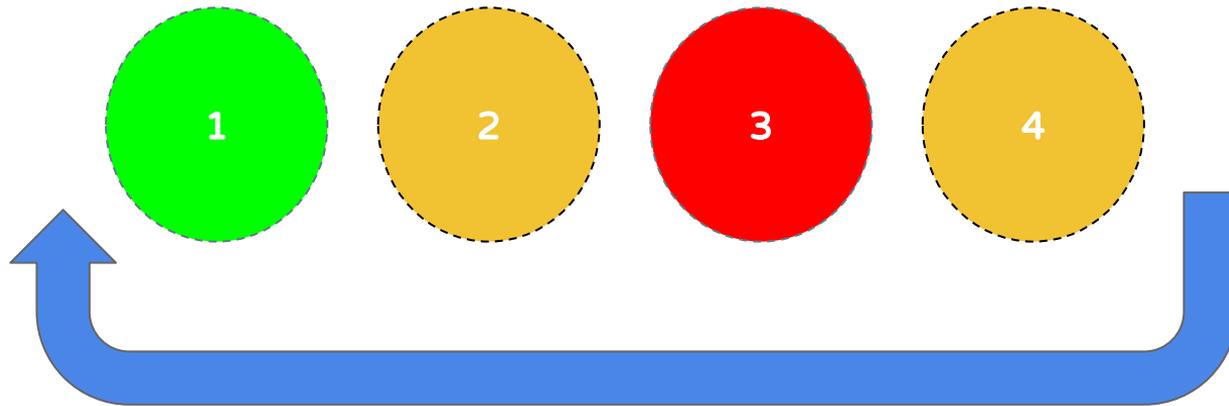
SOLUCIÓN

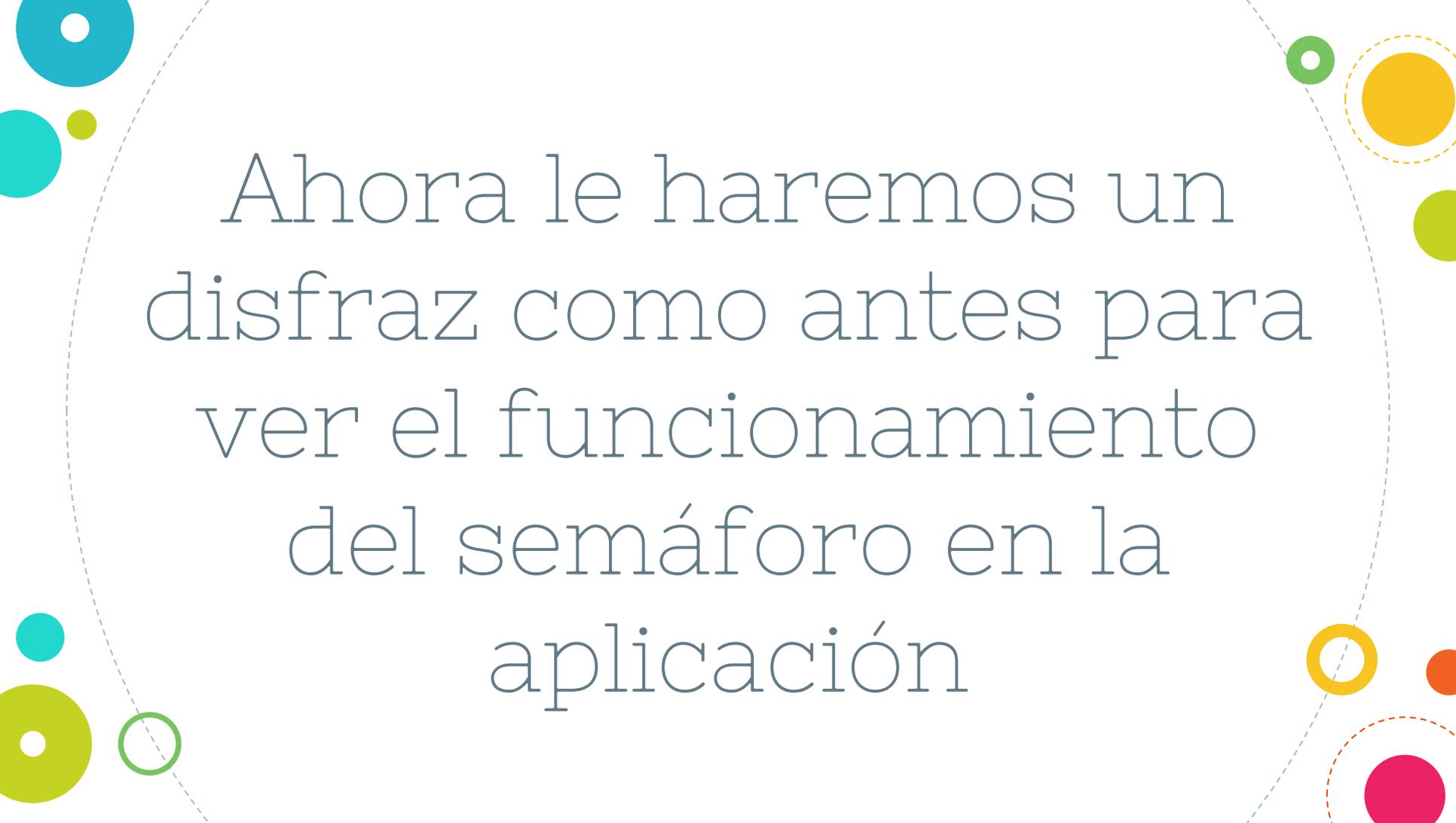




**Pero hay un problema, ¡los
semáforos no funcionan así!**

A ver quien lo hace
primero



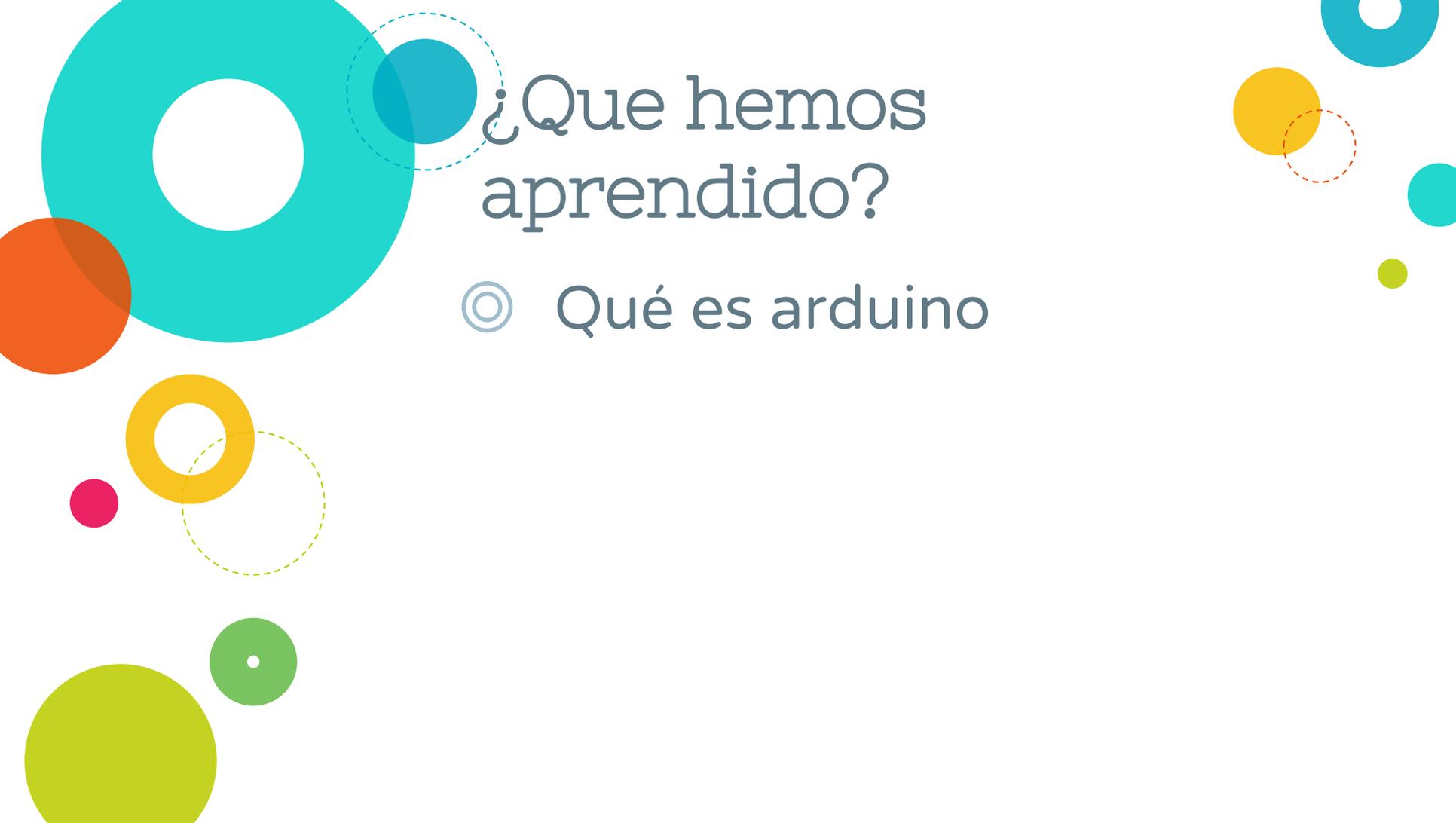
A decorative graphic featuring a large, light blue dashed circle that frames the text. The background is white. Scattered around the circle are various colored circles: teal, yellow, green, orange, and pink. Some are solid, some are hollow, and some have dashed outlines. The text is centered within the dashed circle.

Ahora le haremos un
disfraz como antes para
ver el funcionamiento
del semáforo en la
aplicación

1  Verde
67x218 3 KB
[Editar] [Copiar] [X]

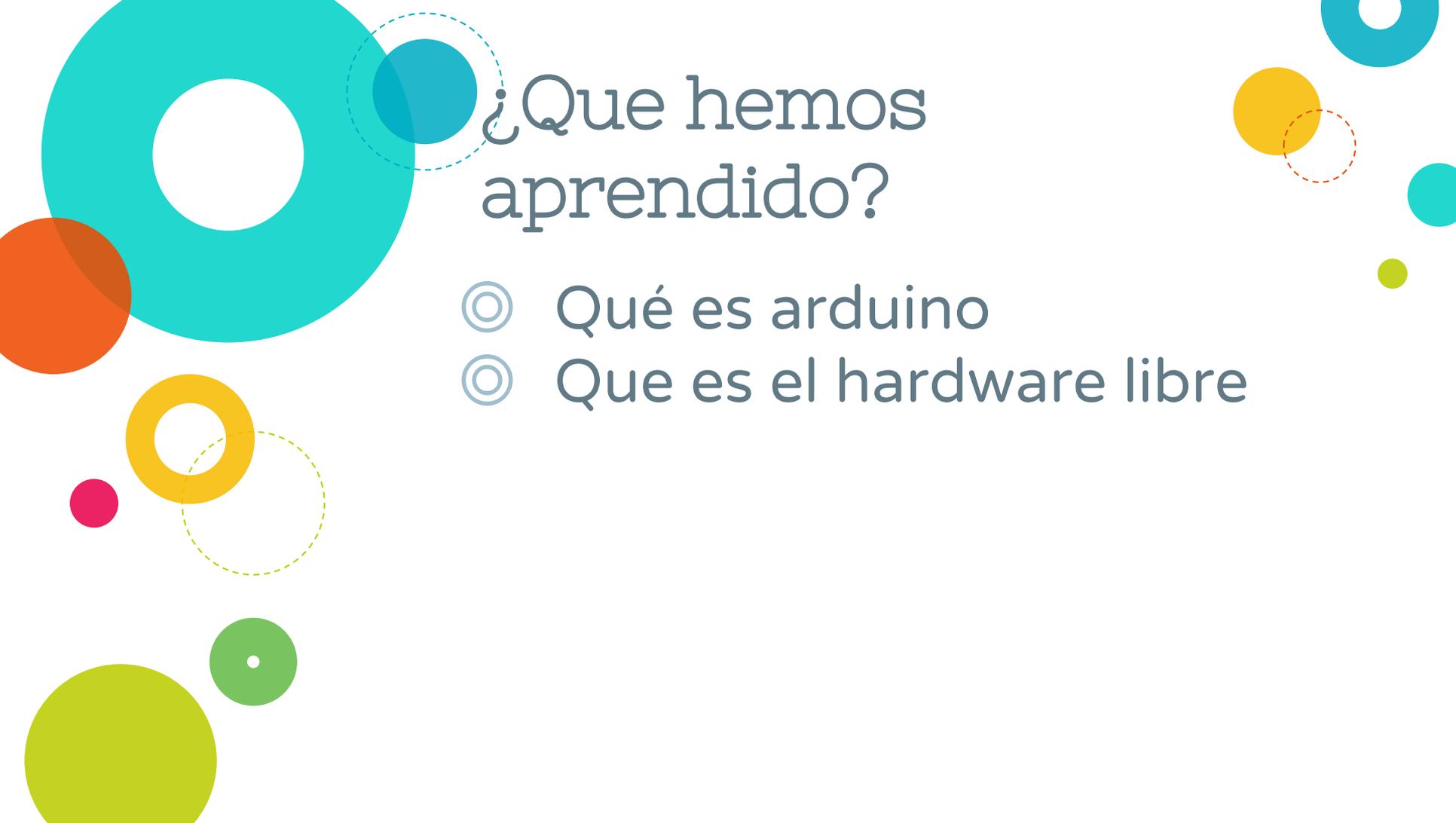
2  Naranja
67x218 3 KB
[Editar] [Copiar] [X]

3  Rojo
67x218 3 KB
[Editar] [Copiar] [X]



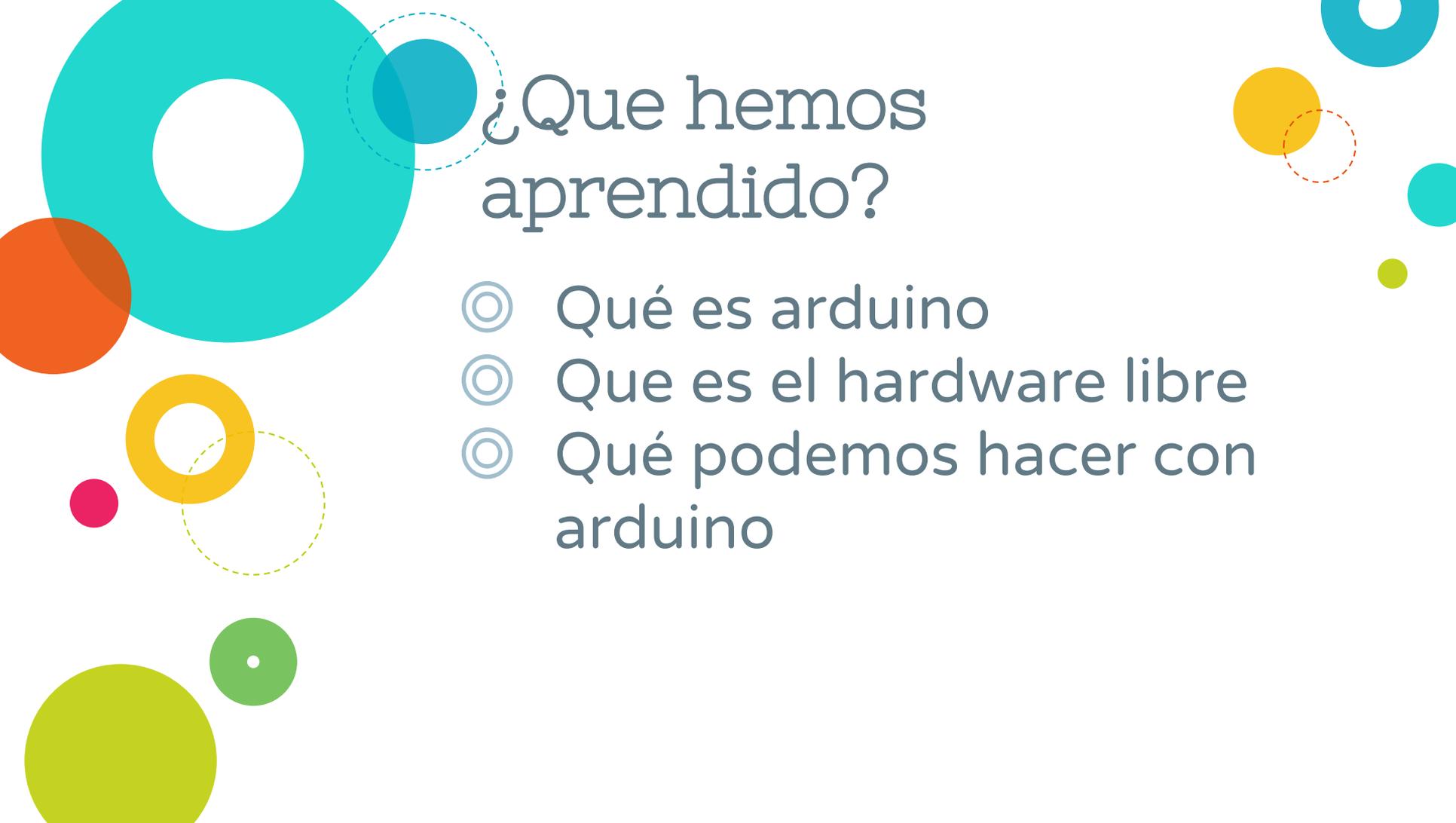
¿Que hemos
aprendido?

© Qué es arduino



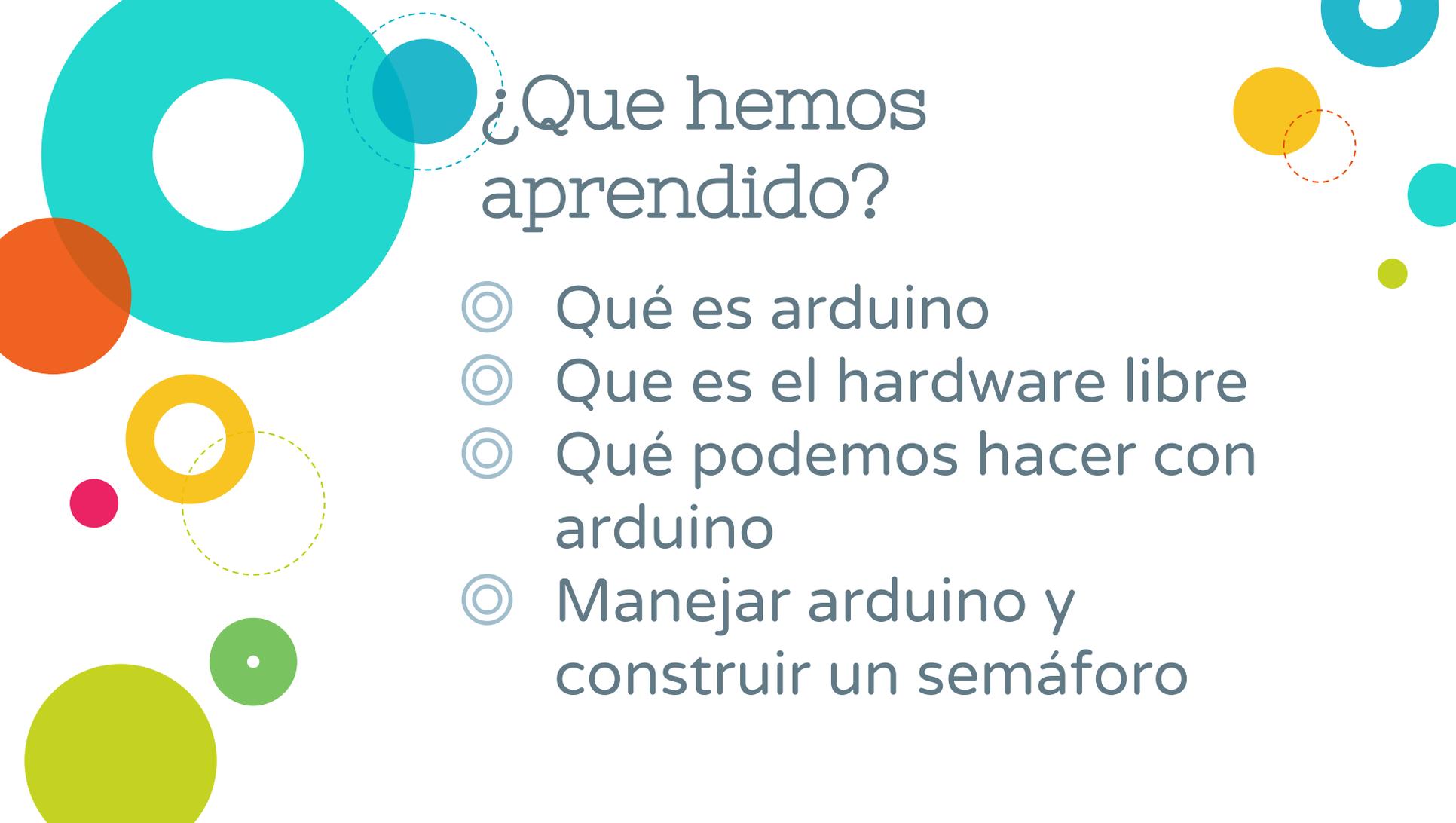
¿Que hemos aprendido?

- ◎ Qué es arduino
- ◎ Que es el hardware libre



¿Que hemos aprendido?

- ◎ Qué es arduino
- ◎ Que es el hardware libre
- ◎ Qué podemos hacer con arduino



¿Que hemos aprendido?

- ◎ Qué es arduino
- ◎ Que es el hardware libre
- ◎ Qué podemos hacer con arduino
- ◎ Manejar arduino y construir un semáforo

Eso es todo!



Nos vemos mañana

