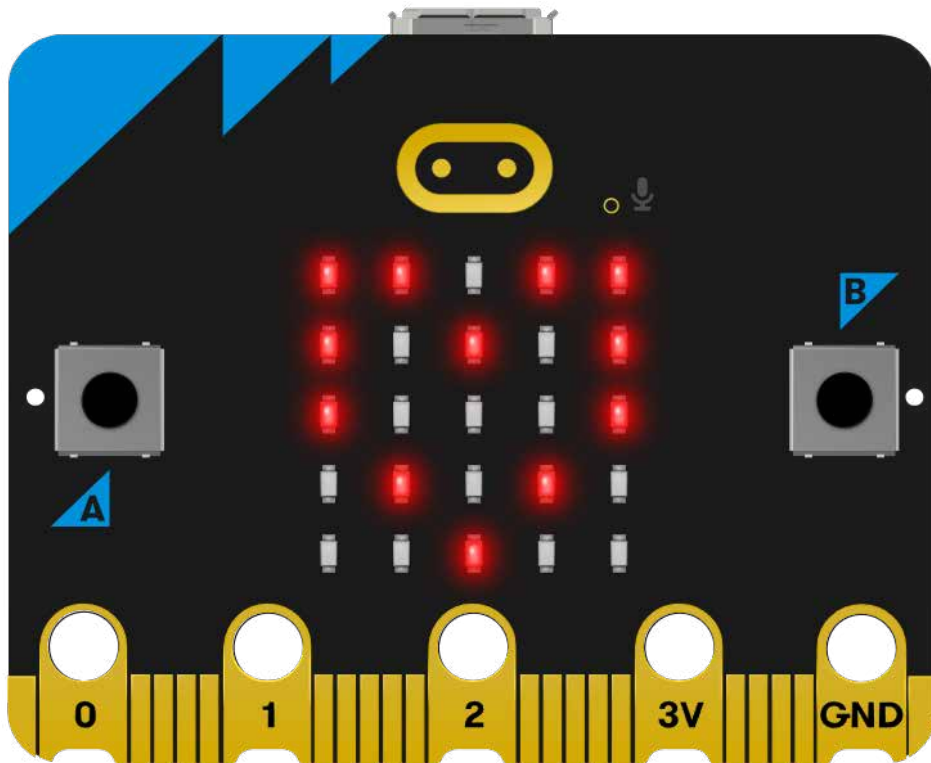


D&T: Navigating the world

advert	A message designed to get attention and persuade people to buy a product, use a service or attend an event.
constraints	A limit or condition when making a product.
design criteria	The important features that a product must have or do to work correctly.
target audience	A person or group of people a product is aimed at.
user	The person a product is made for.

The **constraints** (limits and conditions) for the product are:

- It must be small.
- It must be lightweight.
- It must be waterproof.
- It must be wearable.



A micro:bit is a small computer that can be programmed to respond to inputs by producing outputs.

These can include conditions such as 'If the compass is facing north, then show 'N'.'

Examples of inputs: shaking, pressing button A, changing direction.

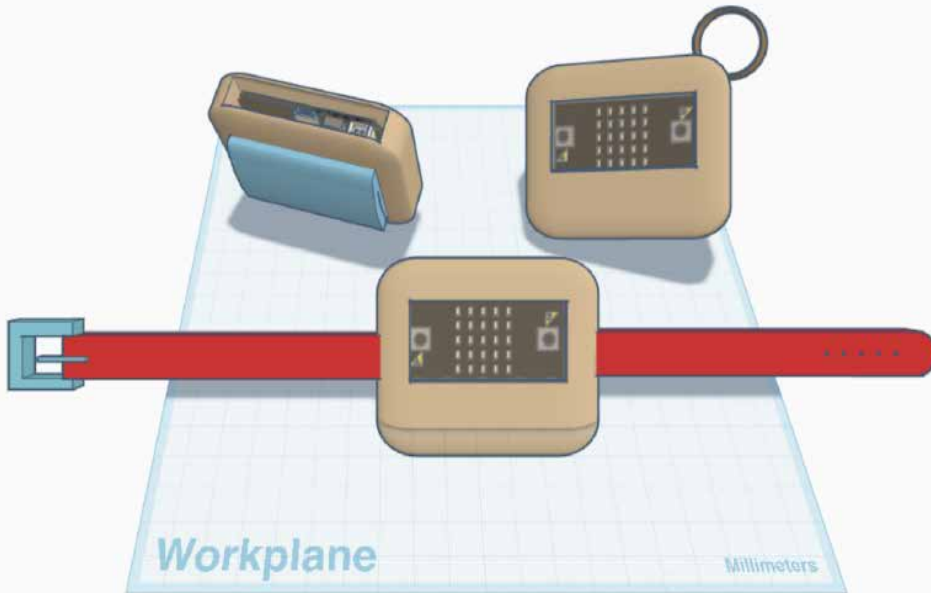
Examples of outputs: changing the number of steps, changing the letter for direction, showing a different screen.



A compass gives directions by showing how many degrees from north we are facing.



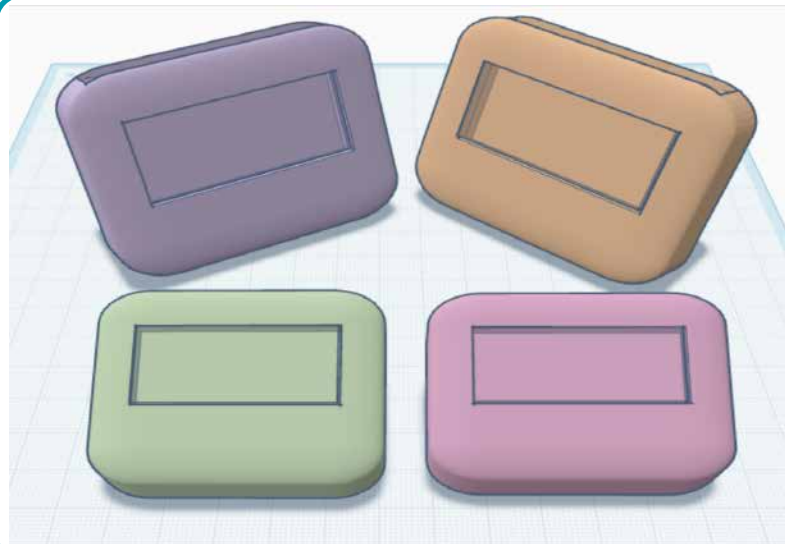
A pedometer counts steps.



Tinkercad is software that designers can use to design their products.

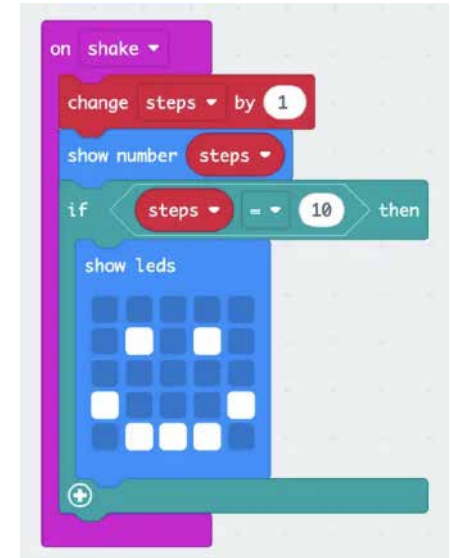
The original designs can be copied and edited to make **alternative** versions.

Designers use software like Tinkercad to develop **innovative** ideas. This means that they think of new and creative designs that are different from what people have done before.



Designers may change their designs many times or edit alternative versions. This process is called **iteration**. They do this to ensure that they are making the best possible version.

The changes made to the design could be to make it more user-friendly, more comfortable to wear or improve its **aesthetic** (how it looks, e.g. colour and shape).



The coding is done in blocks like this on MakeCode. If the output is not accurate, the code will need to be debugged to check where the errors are and fix them.

The design criteria (important features) are:

- It must tell the direction accurately.
- It must count steps accurately.
- It must be comfortable.
- It must be wearable.