

# Introduction to Robotics

## What is a robot?

A robot is a machine that does tasks without the help from a human. They are controlled using computers.



Image: Daisy Bristow

Most people probably imagine robots that look and act like people do, but this is not always the case.

## The three main types of robots:

### 1 - Unmanned ground vehicles (on land)

There are lots of uses for robots on the ground. For example, working in warehouses; as pets or humanoids (these are what most people think of); and some are even sent to different planets to explore for us.



Image: Possessed Photography on [Unsplash](#)



Image: Brett Jordan on [Unsplash](#)



Image: 626213723762 on [Unsplash](#)

### 2 - Unmanned aerial vehicles (in the air)

These robots can sometimes look like planes, except that they have no pilot, or passengers inside. Instead, the pilot (or person controlling the robot) will be somewhere on the ground. A common type of UAV is the drone.



Image: Alexandru Manole on [Pixabay](#)



Royal Academy  
of Engineering

Ingenious



### 3 - Unmanned marine vehicles (in water)

These robots can stay bobbing on the surface of the water, or they can go down into the ocean, like submarines. Like with the UAVs the person driving the submarine is not inside, but on dry land.

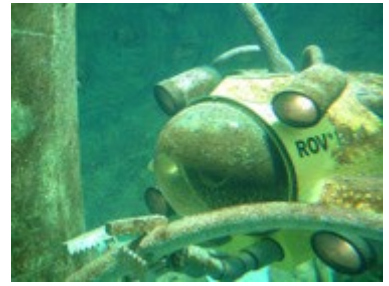
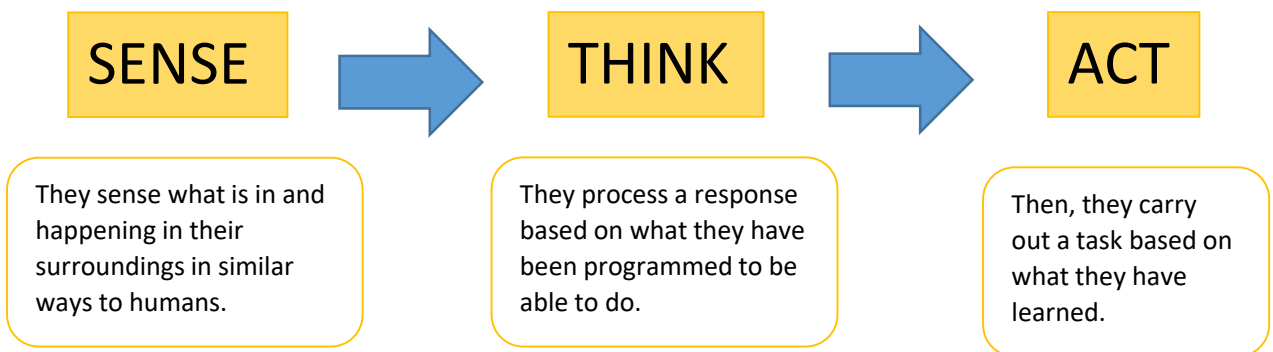


Image: Beeki on Pixabay

## Do robots think?

Robots don't think in the same way as people do, they are programmed to focus on thinking about specific things. However, they do all go through steps to complete different tasks. All robots stick to the same three steps:



## Minecraft challenge

Watch Daisy's [YouTube videos](#) on redstone and try out some of the activities.



Observer and redstone in Minecraft. Image: Daisy Bristow.

Can you make a robot using an Observer? They sense their surroundings and act based on which block is placed in front of them.

Not an official Minecraft resource. This project was supported by the Royal Academy of Engineering under the *Ingenious Awards* scheme. For educational use only. Developed with Daisy Bristow, UWE Bristol.



Royal Academy  
of Engineering

Ingenious

