

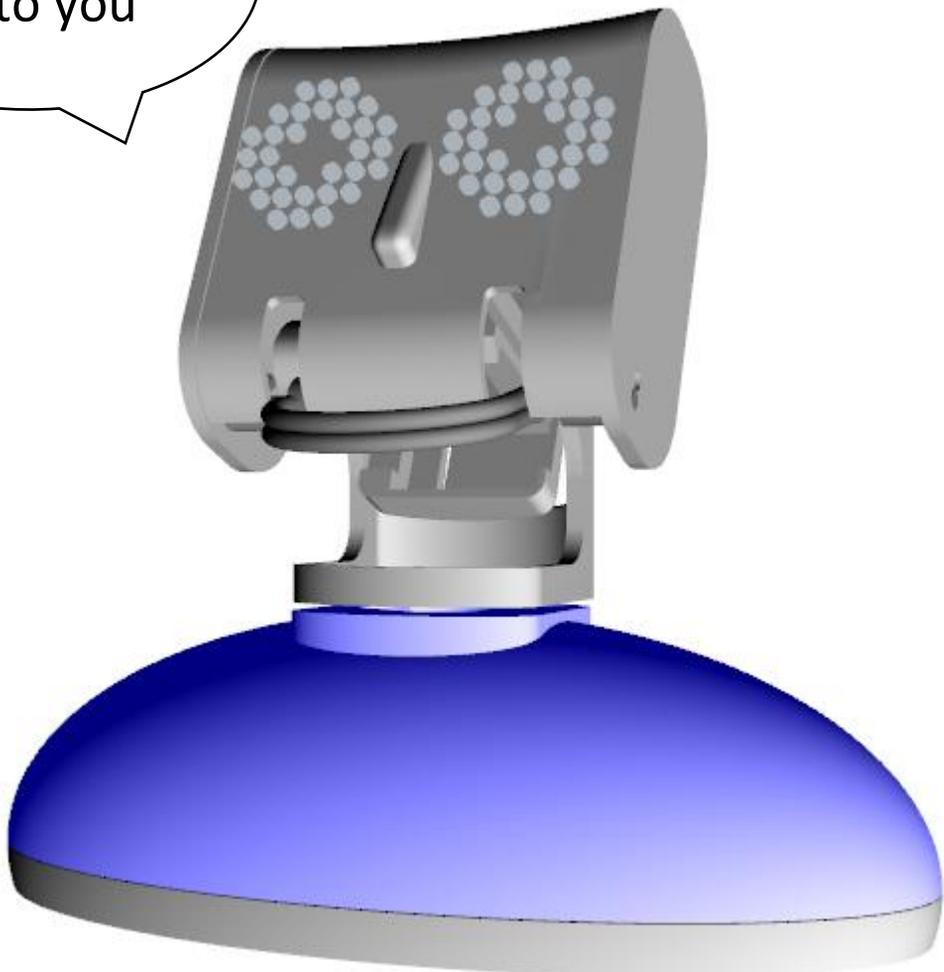
Keep your
chin up

Help a robot learn to keep their chin up

The robot can move their head from position 0, which is tilted all the way down, to position 10 which is all the way up.

Which positions, from 0 to 10, tell the robot to tilt their head up?

I really look
up to you



These blocks tell the robot to move his head when the green flag is clicked.



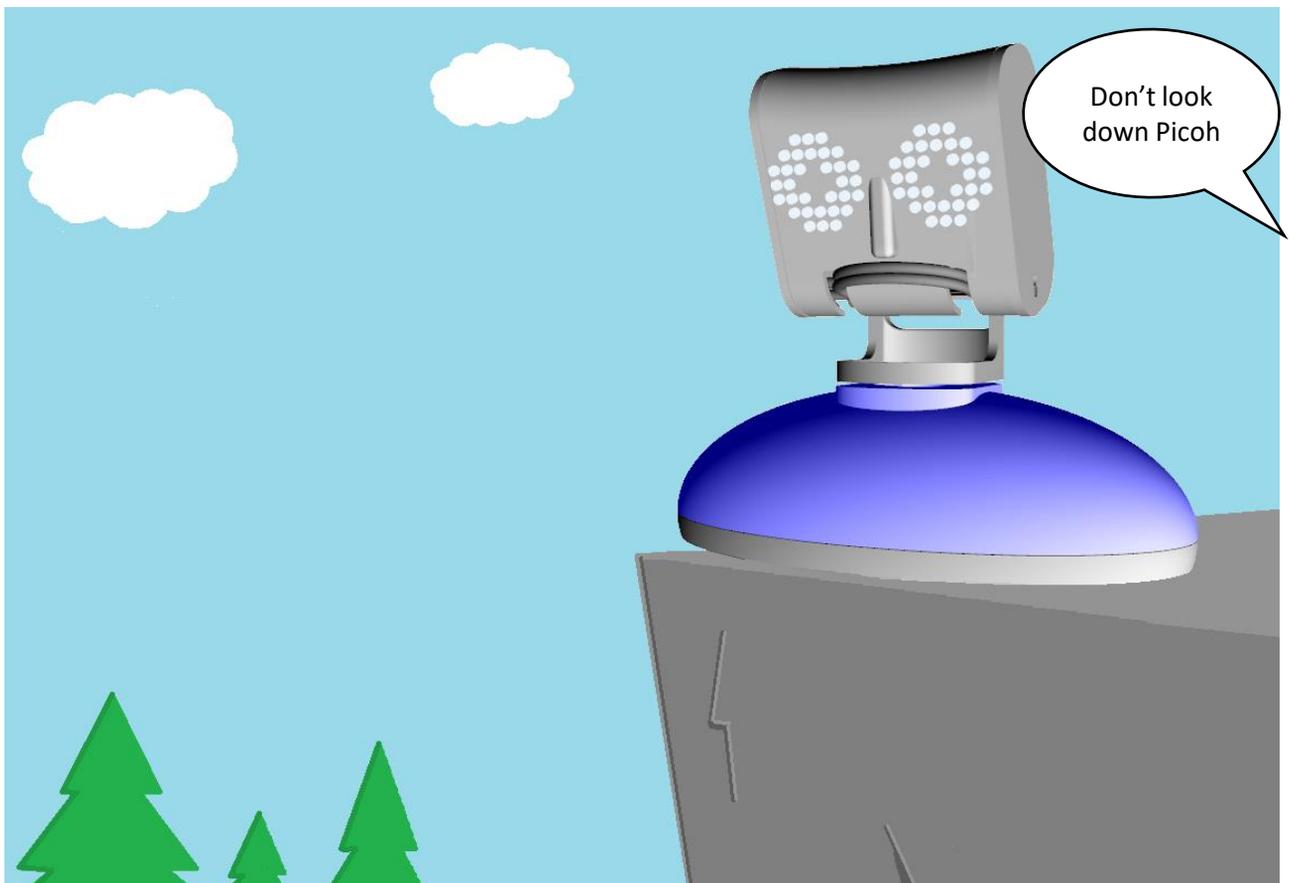
The HeadNod position will be chosen at random.

Try running the program and see what happens.

Remember we want the robot to only tilt their head up.

After running that program you will have noticed that sometimes the robot looked up and sometimes they looked down.

We need a way to tell the robot that only tilting their head up is good.



```

when clicked
set random position to round pick random 0 to 10
set HeadNod to random position
say random position until done
ask Is this good? and wait
if answer contains yes then
add random position to GoodPositions

```

These new blocks make the robot ask if their head is in a good position. Answer with yes or No.

Any HeadNod position between 6 and 10 will make the robot look up so they are considered good positions.



Click on the Data Block Palette and tick GoodPositions to see your responses stored as a list.

```

when clicked
repeat 10
set random position to round pick random 0 to 10
set HeadNod to random position
say random position until done
ask Is this good? and wait
if answer contains yes then
add random position to GoodPositions

```

Use a repeat block to repeat the program and collect multiple responses

Now that you have a list of good positions, it is time for the robot to use that data.

We need to use this block to help the robot retrieve data from the list.



This dropdown is used to retrieve an item from the list. Either by position in the list or at random.

This dropdown lets you choose which list the item is being retrieved from.

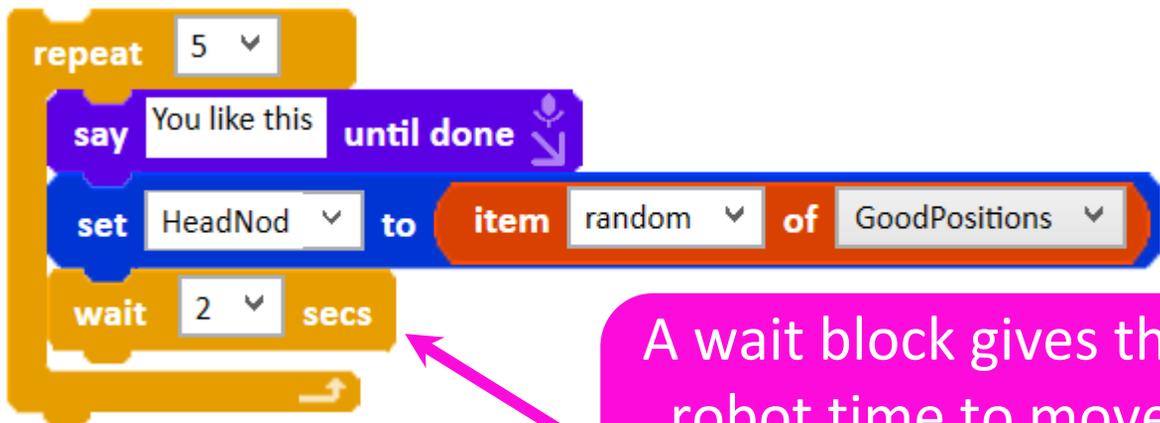
Let's get the robot to move their head to a random good position.

Once you have a random item being selected from the GoodPositions list, you need to combine that block with a motion block to make the robot move their head.



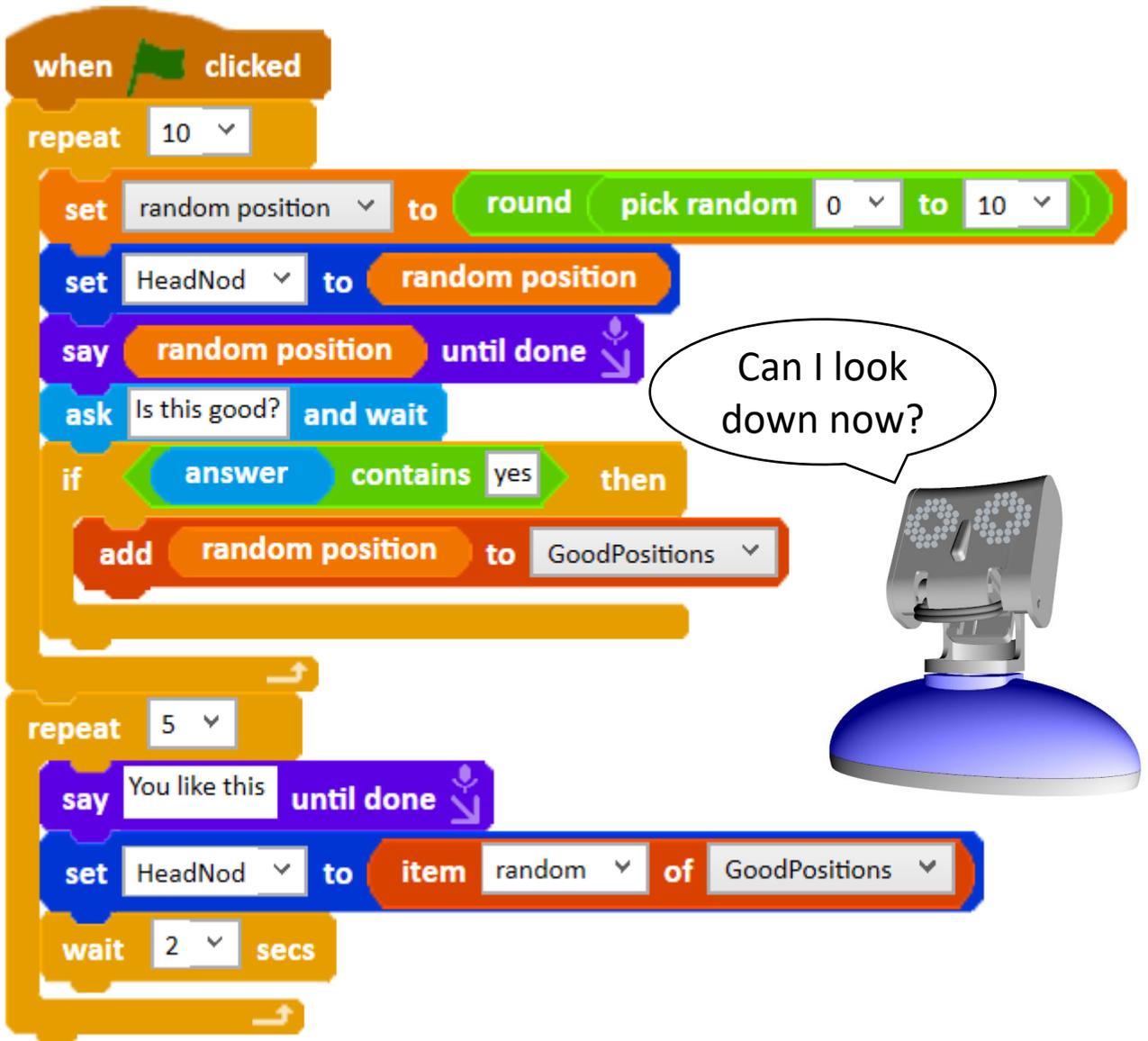
A speech block can be used to make the robot talk.

Use a repeat block to make the robot move through multiple random positions from the list.



A wait block gives the robot time to move his head from one position to the next.

All together the program should look like this.



The robot will ask if their HeadNod position is good 10 times and add your answers to a list. Then the robot will move their head to 5 positions from the list, chosen at random but always up!