



F3.7 Random numbers

Strings, lists and records · GCSE · OCR J277 2.2.3, AQA 8525 3.2.9, Edexcel

1CP2 6.6.1 · about 12 min

Name _____

Class _____

Date _____

What this lesson is about

randint, choice and seeds: dice, random tunes and a robot that wanders.

- randint
- Other random choices
- A robot that wanders
- Checking your odds
- Random, but the same every time

Questions

5 marks in all

- Which values can `random.randint(1, 6)` give? [1 mark]
 - ☐ A 1, 2, 3, 4, 5 or 6
 - ☐ B 1 to 5
 - ☐ C 0 to 6
 - ☐ D Any real number from 1 to 6
- What does `random.choice(["red", "green", "blue"])` give? [1 mark]
 - ☐ A One of the three colours, picked at random
 - ☐ B All three in a random order
 - ☐ C The number 3
 - ☐ D Always red
- What does setting `random.seed(42)` before generating numbers do? [1 mark]
 - ☐ A Makes the same sequence of numbers come out every run
 - ☐ B Makes the numbers more random
 - ☐ C Limits numbers to 42
 - ☐ D Stops random numbers
- Write the AQA pseudo-code call for a random whole number from 1 to 10. [1 mark]

- A dice program counts 600 rolls. About how many sixes should it see? [1 mark]
 - ☐ A About 100, but rarely exactly 100
 - ☐ B Exactly 100
 - ☐ C About 600
 - ☐ D About 6

The task: dice drive

Roll a dice three times with `random.randint(1, 6)`. For each roll, print `roll: <n>` and drive forward `<n> * 5` cm. At the end print `total: <cm>` with the total distance, worked out from the rolls. This task fixes its random numbers, so you get the same rolls each run.

```
# the two lines every program starts with: the commands, then the robot
from bugbot import *
connect()

import random

total = 0
```

Plan your program here, then type it in and press Run.



Do it on the robot

www.bugbotlab.com/learn/f3-7-random-numbers/

The simulator checks it and tells you when it passes. Nothing to install, no account.

Challenges

1. Flash the LED a random number of times, from 3 to 8, and ask the user to count the flashes.
2. Play ten notes chosen at random from a list of notes: a random tune.
3. Make the wandering robot turn a random whole number of degrees between 90 and 180, either way.