



## Odd Even

### Computer Science Concepts

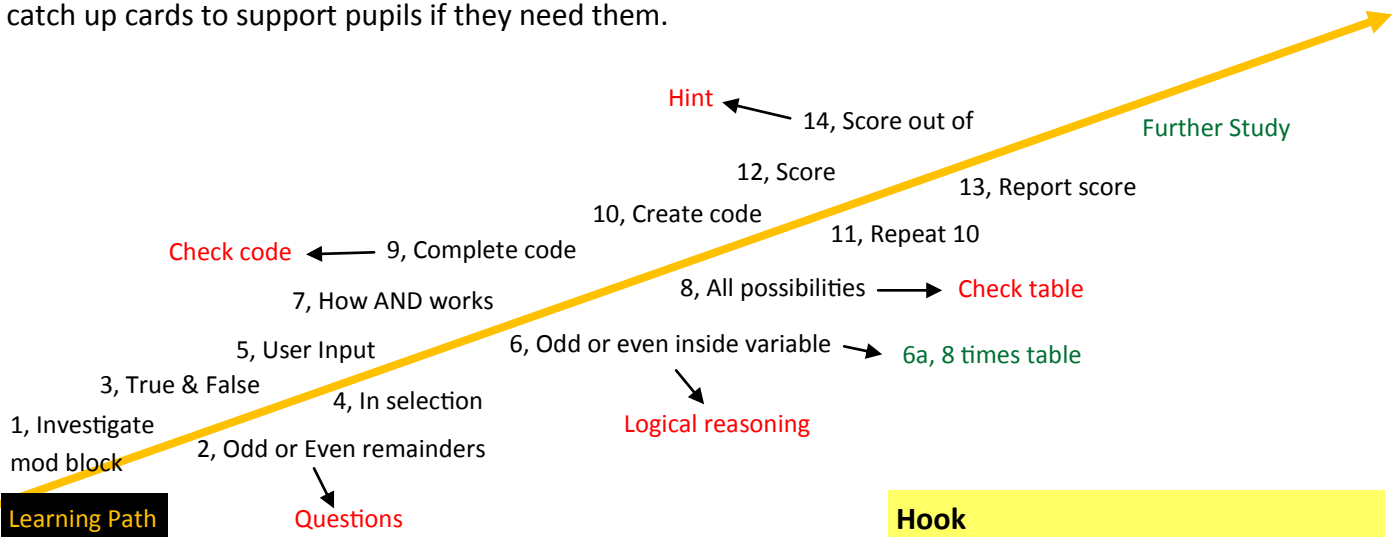
- Conditional selection
- More than one condition can be checked through the use of **and**
- Variables
- Users can input information into a program as text

**Program Aim** Create a program that randomly generates a number and then asks the user if the number is odd or even. The program uses the concept that odd numbers generate a remainder when divided by 2 and even numbers don't

### Maths Concepts

- When two numbers are divided they might leave a remainder
- Odd numbers when divided by 2 always leave a remainder of 1
- Equals means the same as

**Differentiation and Assessment for Learning** This planning should be used alongside the **odd & even pupil booklet** which you can find on the code-it.co.uk website. Pupils work through the booklet in pairs or individually. At points in the booklet they need to check their progress with you. There are also some opportunities to ask the teacher for hints which are provided in this planning. There are also a couple of catch up cards to support pupils if they need them.



**Computing Program of Study**

- design, write and debug programs that accomplish specific goals
- use sequence, selection, and repetition in programs; work with variables
- detect and correct errors in programs

**Hook**

Year one and Year two pupils have been learning about odd and even numbers can you create an automatic test so that their teacher can see if they have understood this?

### Things to do before you use this planning

Work your way through the pupil booklet yourself.

Check out the answers and hints you will need as a teacher supporting your pupils that you can find on the next pages.



Junior

omputer



code-it.co.uk

cience

## Odd Even P2

### Step 2 Answers

Left Number	Right Number	Speech Bubble
4	2	0
8	2	0
10	2	0
3	2	1
5	2	1

What remainder do all of the even numbers leave when divided by 2?

0

What remainder do all the odd numbers leave when divided by 2?

1

### Step 4 Answers

```
if 8 mod 2 = 0
  say Even for 2 secs
else
  say odd for 2 secs
```

### Step 5 Answers

```
ask Enter number and wait
if answer mod 2 = 0
  say Even for 2 secs
else
  say odd for 2 secs
```



Junior

code-it.co.uk

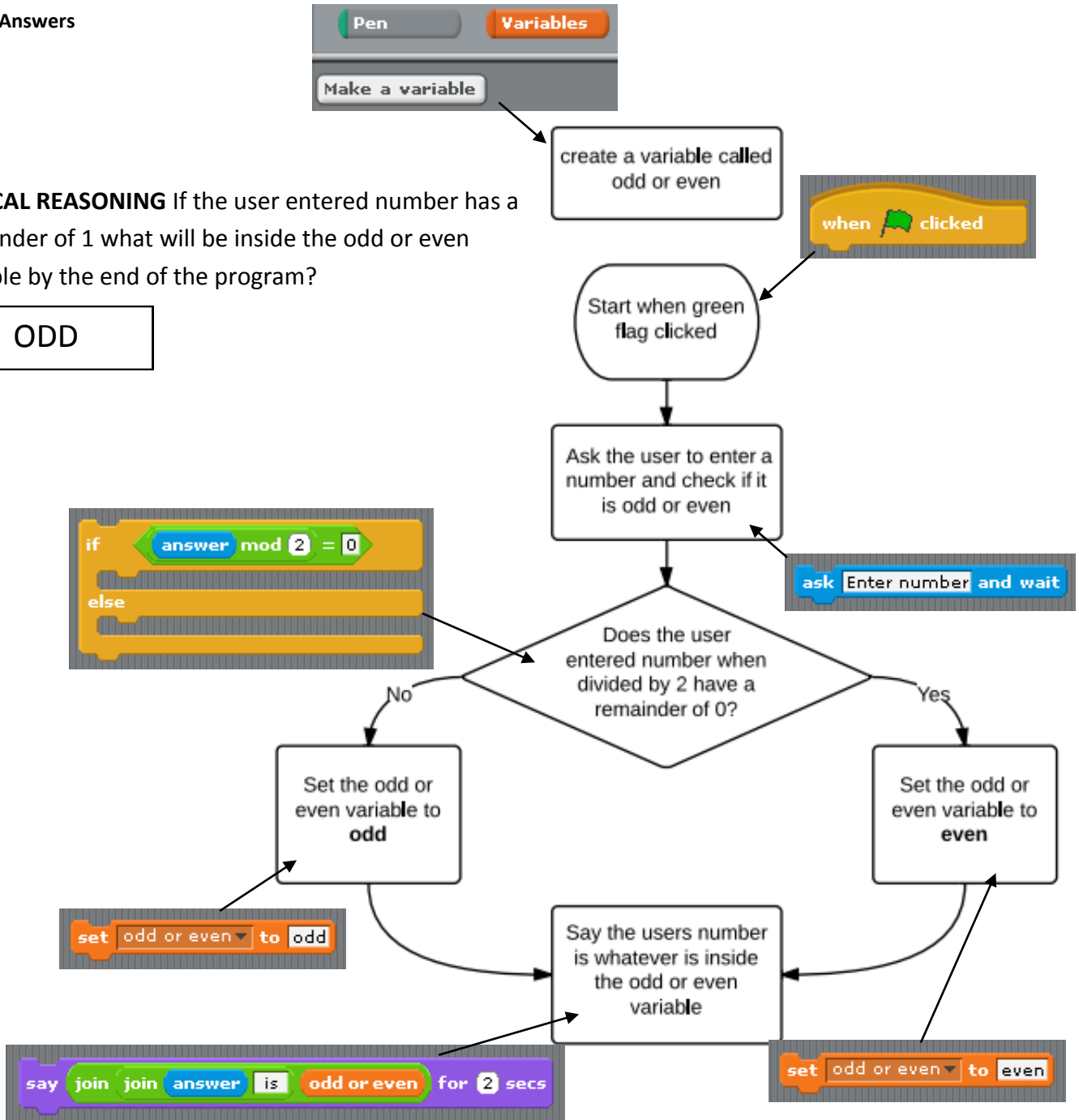
# omputer science

## Odd Even P3

### Step 6 Answers

**LOGICAL REASONING** If the user entered number has a remainder of 1 what will be inside the odd or even variable by the end of the program?

ODD





Junior

omputer



code-it.co.uk

cience

## Odd Even P4

### Step 7 Answers

Can you score a goal if you are **only** not offside **NO**

Can you swim breaststroke if you meet both conditions? **YES**

Bring a dice with you to help explain Step 8 to pupils. Use the die to create the random number.



### Step 8 Answers

Random Number ODD or EVEN		User Choice ODD or EVEN	Triggered Code CORRECT or WRONG
EVEN	AND	EVEN	CORRECT
ODD	AND	ODD	CORRECT
ODD	AND	EVEN	WRONG
EVEN	AND	ODD	WRONG

The row order doesn't matter as long as all the options are found



Junior

omputer



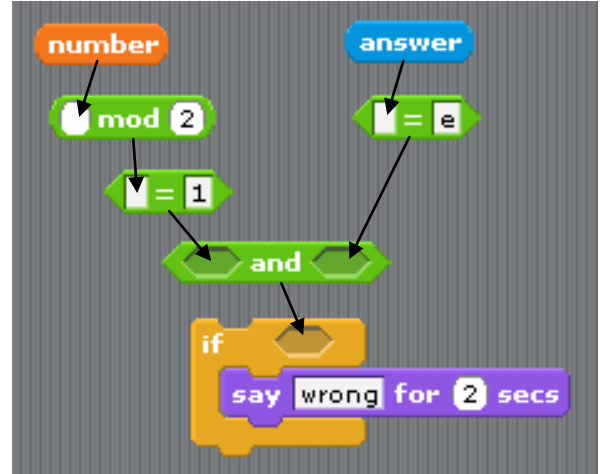
code-it.co.uk

cience

## Odd Even P5

### Step 9 & 10 Answers

```
set rannum to pick random 1 to 100
ask join Is join rannum odd or even? and wait
if rannum mod 2 = 0
  set odd or even to even
else
  set odd or even to odd
if odd or even = odd and answer = odd
  say Correct for 2 secs
if odd or even = even and answer = even
  say correct for 2 secs
if odd or even = odd and answer = even
  say wrong for 2 secs
if odd or even = even and answer = odd
  say wrong for 2 secs
```



The four if blocks don't need to be in this order

### Step 14 Hint

### Counting Machine



# Junior omputer



code-it.co.uk

# cience

## Odd Even P6

Code to end of step 13

```
when clicked
  set score to 0
  repeat 10
    set number to pick random 1 to 100
    ask join is join number odd or even? o=odd e=even and wait
    if number mod 2 = 0 and answer = e
      change score by 1
      say well done the number was even for 2 secs
    if number mod 2 = 1 and answer = o
      change score by 1
      say well done the number was odd for 2 secs
    if number mod 2 = 1 and answer = e
      say wrong for 2 secs
    if number mod 2 = 0 and answer = o
      say wrong for 2 secs
  say join Your score is score
```