121 Kids Tuition

Welcome

to

121KidsTuiton Coding Course

Today's Interesting Concept

- ✔ Concept of Different type of loops
- ✔ Definition of Loop
- ✔ Repeat Loop
- ✔ While Loop
- ✔ For Loop
- ✔ Nested Loop

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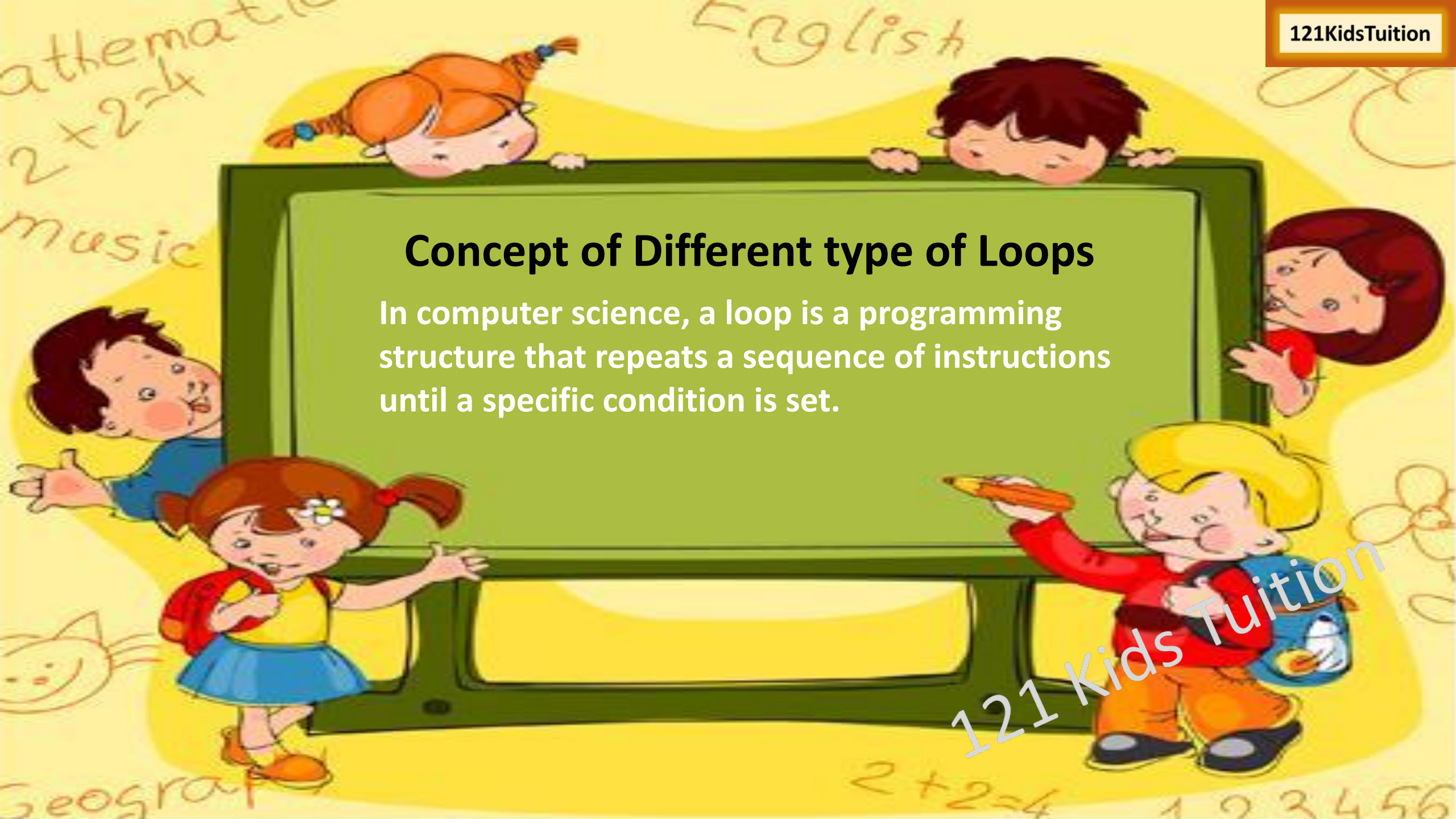

Concept of Different type of Loops

In computer science, a loop is a programming structure that repeats a sequence of instructions until a specific condition is set.

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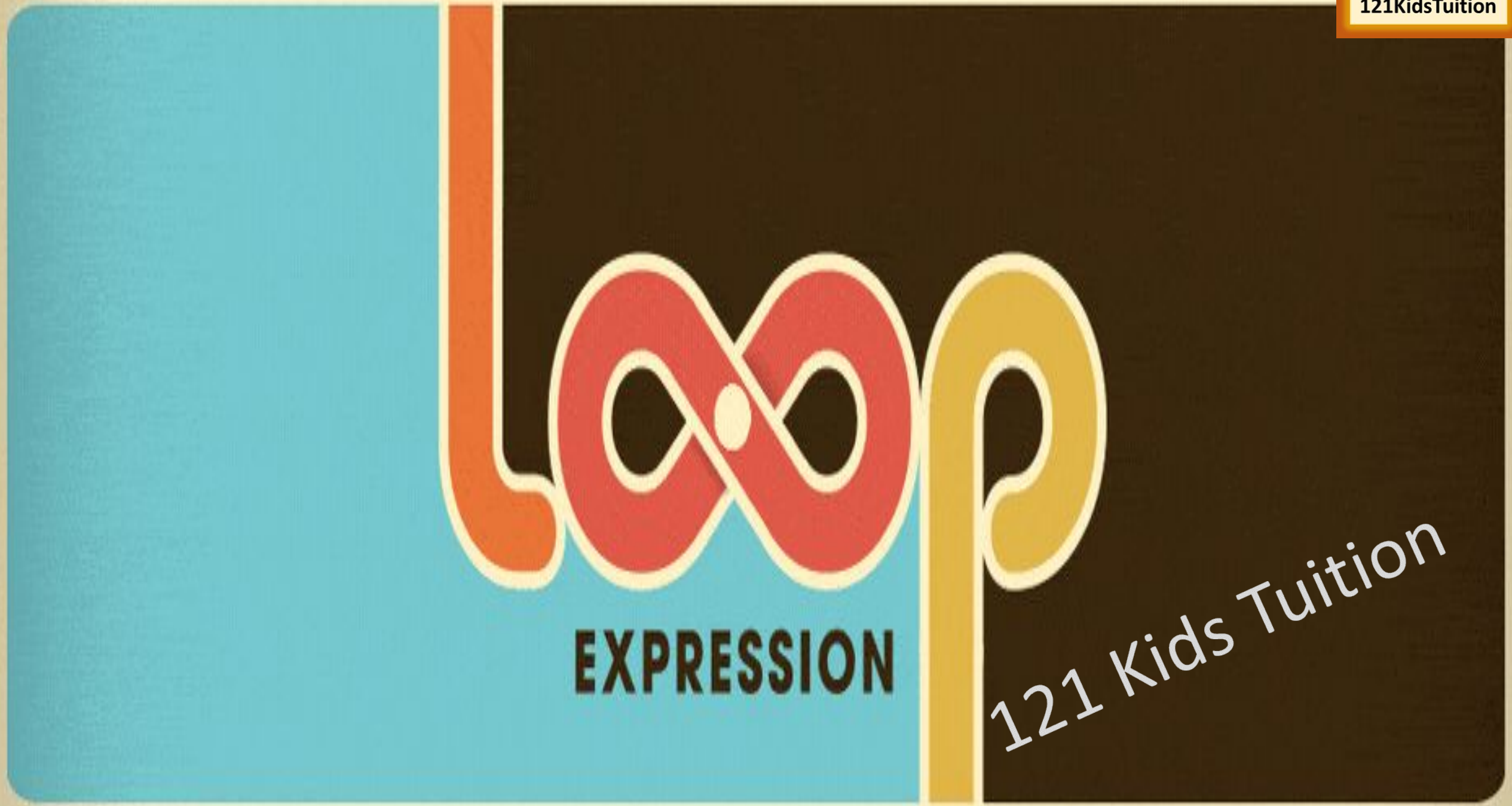

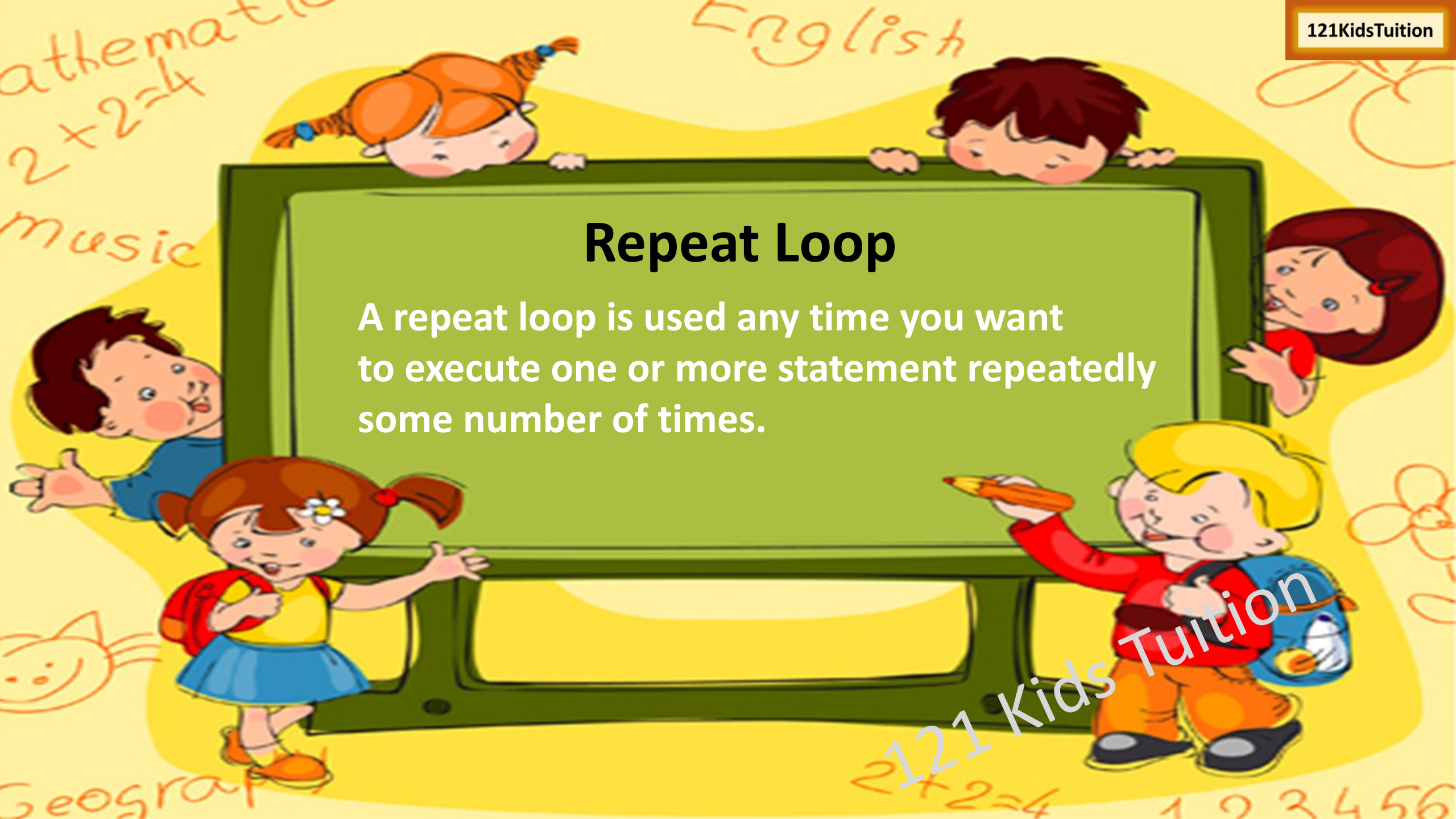

Repeat Loop

A repeat loop is used any time you want to execute one or more statement repeatedly some number of times.

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Repeat Loop – Link 1

https://studio.code.org/s/course4/lessons/9/levels/1

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Run Step

Instructions

Use a loop to collect the nectar from each flower.

OK

Blocks

Workspace: 1 / 5 blocks

Start Over Show Code

move forward

turn left

get nectar

repeat times do

1

when run

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English

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Run Step

Instructions

Use a loop to collect the nectar from each flower.

Blocks | Workspace: 2 / 5 blocks | Start Over | Show Code

move forward

turn left

get nectar

repeat times do

1

when run

repeat times do

English

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Run Step

Instructions

Use a loop to collect the nectar from each flower.

Blocks

move forward

turn left

get nectar

repeat times do

1

Workspace: 3 / 5 blocks

Start Over Show Code

when run

repeat times

do move forward

English

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Reset Step

Instructions

Use a loop to collect the nectar from each flower.

You need to collect the right amount of nectar.

Less

Blocks

move forward

turn left

get nectar

repeat times do

1

Workspace: 4 / 5 blocks

Start Over Show Code

when run

repeat 1 times do move forward

English

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Reset Step

Instructions

Use a loop to collect the nectar from each flower.

You need to collect the right amount of nectar.

Less

Blocks

Workspace: 5 / 5 blocks

Start Over Show Code

move forward

turn left ↺

get nectar

repeat times
do

1

when run
repeat 4 times
do move forward
get nectar

English ©

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Run Step

Instructions

Use a loop to collect the nectar from each flower.

Blocks

move forward

turn left

get nectar

repeat times do

1

Workspace: 5 / 5 blocks

Start Over Show Code

when run

repeat 5 times do

move forward

get nectar

English

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Lesson 9: Bee: For Loops

Congratulations! You completed Puzzle 1.

You just wrote 4 lines of code!

▶ Show code

Replay

Continue

Did you like this puzzle?

Instructions

Use a l

Blocks

move forward

turn left

get nectar

repeat times

do

get nectar

Start Over

Show Code

Reset

Stop

English

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Repeat Loop – Link 2

https://studio.code.org/s/course4/lessons/9/levels/2

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Run Step

Instructions

Add the code necessary to make sure the bee collects all the nectar.

Look at how much code you need for this puzzle!

(We'll learn a simpler way in the next puzzle.)

Blocks

move forward

turn right

turn left

get nectar

repeat times do

1

Workspace: 12 / 19 blocks

Start Over Show Code

when run
move forward
get nectar
move forward
repeat 2 times
do get nectar
move forward
repeat 3 times
do get nectar
move forward

English

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Reset Step

Instructions

Look at how much code you need for this puzzle!
(We'll learn a simpler way in the next puzzle.)

Less

You need to collect the right amount of nectar.

Blocks | Workspace: 12 / 19 blocks | Start Over | Show Code

move forward
turn right
turn left
get nectar
repeat times do
1

when run
move forward
get nectar
move forward
repeat 2 times do get nectar
move forward
repeat 3 times do get nectar
move forward

English

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Reset Step

Instructions

Look at how much code you need for this puzzle!
(We'll learn a simpler way in the next puzzle.)

Less

You need to collect the right amount of nectar.

Blocks | Workspace: 16 / 19 blocks | Start Over | Show Code

Blocks:
- move forward
- turn right
- turn left
- get nectar
- repeat times do
- 1

```
when run
move forward
get nectar
move forward
repeat 2 times
do get nectar
move forward
repeat 3 times
do get nectar
move forward
repeat 4 times
do get nectar
move forward
```

English

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Reset Step

Instructions

Look at how much code you need for this puzzle!
(We'll learn a simpler way in the next puzzle.)

Less

You need to collect the right amount of nectar.

Blocks | Workspace: 19 / 19 blocks | Start Over | Show Code

move forward
turn right ↻
turn left ↺
get nectar
repeat times do
1

```
when run
move forward
get nectar
move forward
repeat 2 times
do get nectar
move forward
repeat 3 times
do get nectar
move forward
repeat 4 times
do get nectar
move forward
repeat 5 times
do get nectar
```

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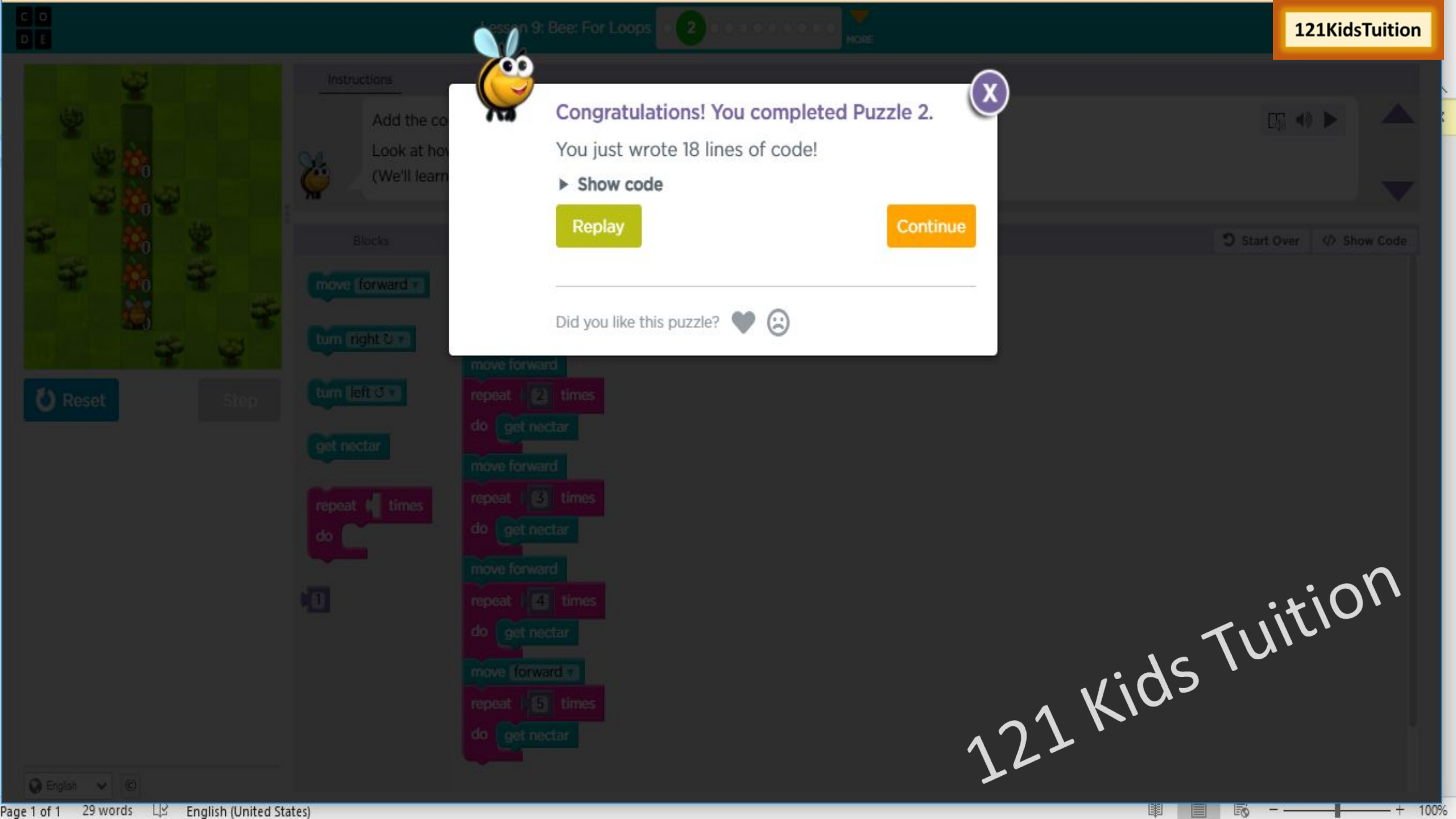
121KidsTuition
Congratulations! You completed Puzzle 2.
You just wrote 18 lines of code!
Show code
Replay
Continue
Did you like this puzzle?
Reset
Step
Start Over
Show Code
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Repeat Loop – Link 3

https://studio.code.org/s/course4/lessons/9/levels/9

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Run Step

Instructions

Now, let's combine the `counter` variable with a math block! How can you use the `counter` variable to navigate this garden with the fewest number of blocks possible?

What do you need to do to collect 3, 6, 9, 12, 15 nectar this time? The secret is in the `counter` variable!

Less

Blocks | Workspace: 5 / 14 blocks | Start Over | Show Code

move forward

turn right ↻

get nectar

repeat ??? times do

counter

???

??? × ???

when run

for counter from ??? to ??? count by ???

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Reset Step

Instructions

Remember: If your loop is counting up, the increment is added to your `counter` variable each time through.

You can only get nectar from a flower.

Less

Blocks

Workspace: 2 / 14 blocks

Start Over Show Code

move forward

turn right

get nectar

repeat times do

counter

???

??? × ???

when run

for counter from to count by

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English ©

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Reset Step

Instructions

repeat counter times
do

Less

Blocks | Workspace: 7 / 14 blocks | Start Over | Show Code

move forward

turn right ↻

get nectar

repeat times
do

counter

???

??? × ???

when run
for counter from ??? to ??? count by ???
repeat counter times
do

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Run Step

Instructions

Try doing some math with the counter variable.

What do you have to do to the counter at each flower to equal the amount of nectar you need to collect?

Less

Blocks

move forward

turn right ↻

get nectar

repeat times
do

counter

0

??? × ???

Workspace: 9 / 14 blocks

Start Over Show Code

```
when run
for counter from 1 to 5 count by 1
    turn left ↺
    repeat counter times
    do move forward
```

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Reset Step

Instructions

What do you have to do to the counter at each flower to equal the amount of nectar you need to collect?

You need to collect the right amount of nectar.

Less

Blocks

Workspace: 9 / 14 blocks

Start Over Show Code

move forward

turn right ↻

get nectar

repeat times do

counter

0

??? × ???

```
when run
for counter from 1 to 5 count by 1
    turn left ↺
    repeat counter times
    do move forward
```

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Reset Step

Instructions

What do you have to do to the counter at each flower to equal the amount of nectar you need to collect?

You need to collect the right amount of nectar.

Less

Blocks | Workspace: 11 / 14 blocks | Start Over | Show Code

move forward
turn right ↻
get nectar
repeat times do
counter
0
??? × ???

```
when run
for counter from 1 to 5 count by 1
    turn left ↺
    repeat counter times
    do move forward
    repeat times
    do get nectar
```

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Run Step

Instructions

Now, let's combine the `counter` variable with a math block! How can you use the `counter` variable to navigate this garden with the fewest number of blocks possible?

What do you need to do to collect 3, 6, 9, 12, 15 nectar this time? The secret is in the `counter` variable!

Less

Blocks

Workspace: 14 / 14 blocks

Start Over Show Code

move forward

turn right ↻

get nectar

repeat times do

counter

??? × ???

```
when run
for counter from 1 to 5 count by 1
    turn left ↺
    repeat counter times
    do move forward
    repeat counter × 3 times
    do get nectar
```

English

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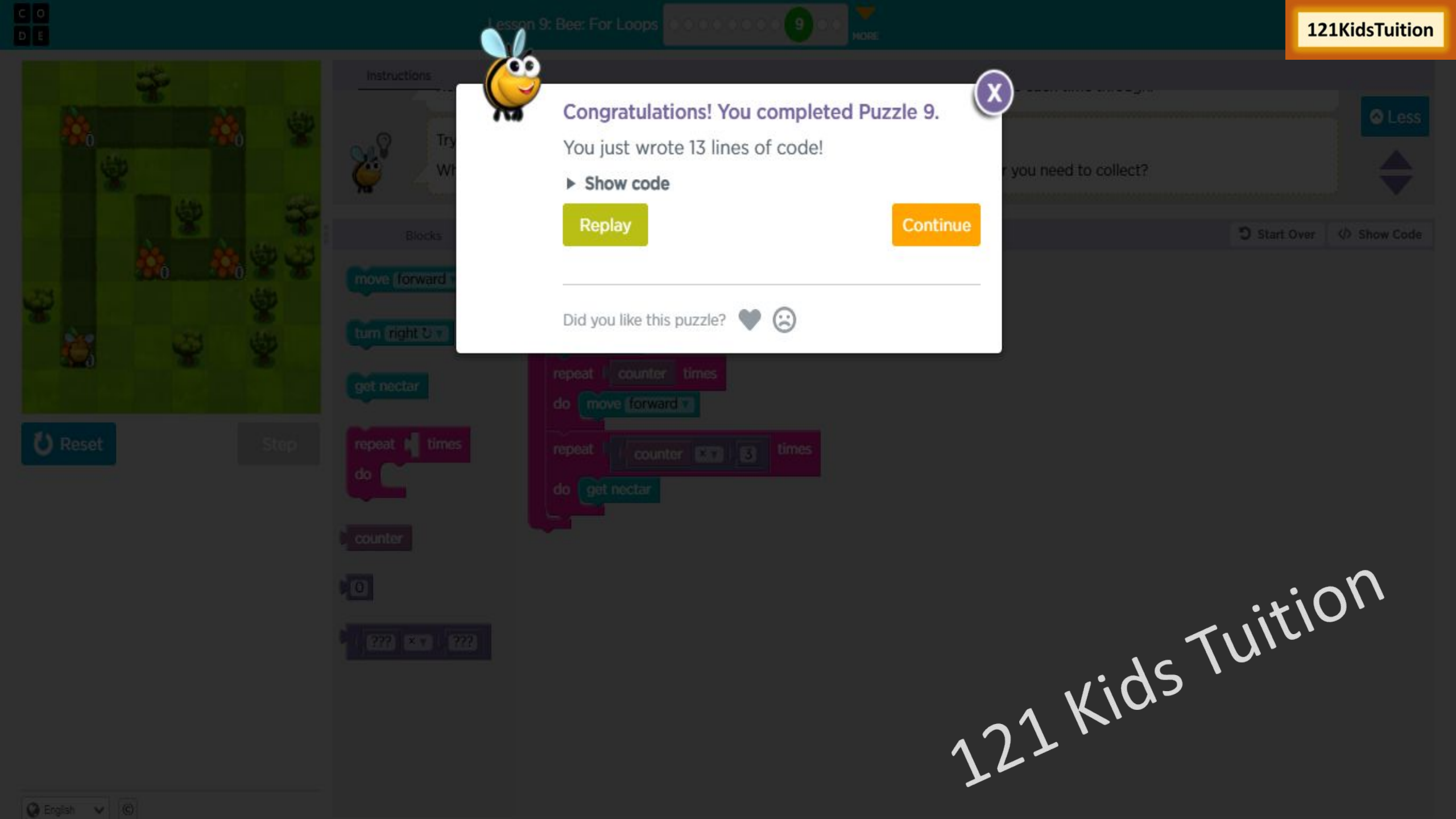
Lesson 9: Bee: For Loops
9
MORE
Instructions
Less
you need to collect?
Congratulations! You completed Puzzle 9.
You just wrote 13 lines of code!
Show code
Replay
Continue
Did you like this puzzle?
Blocks
Start Over
Show Code
move forward
turn right
get nectar
repeat times
do
counter
0
repeat counter times
do move forward
repeat counter × 3 times
do get nectar
Reset
Step
English
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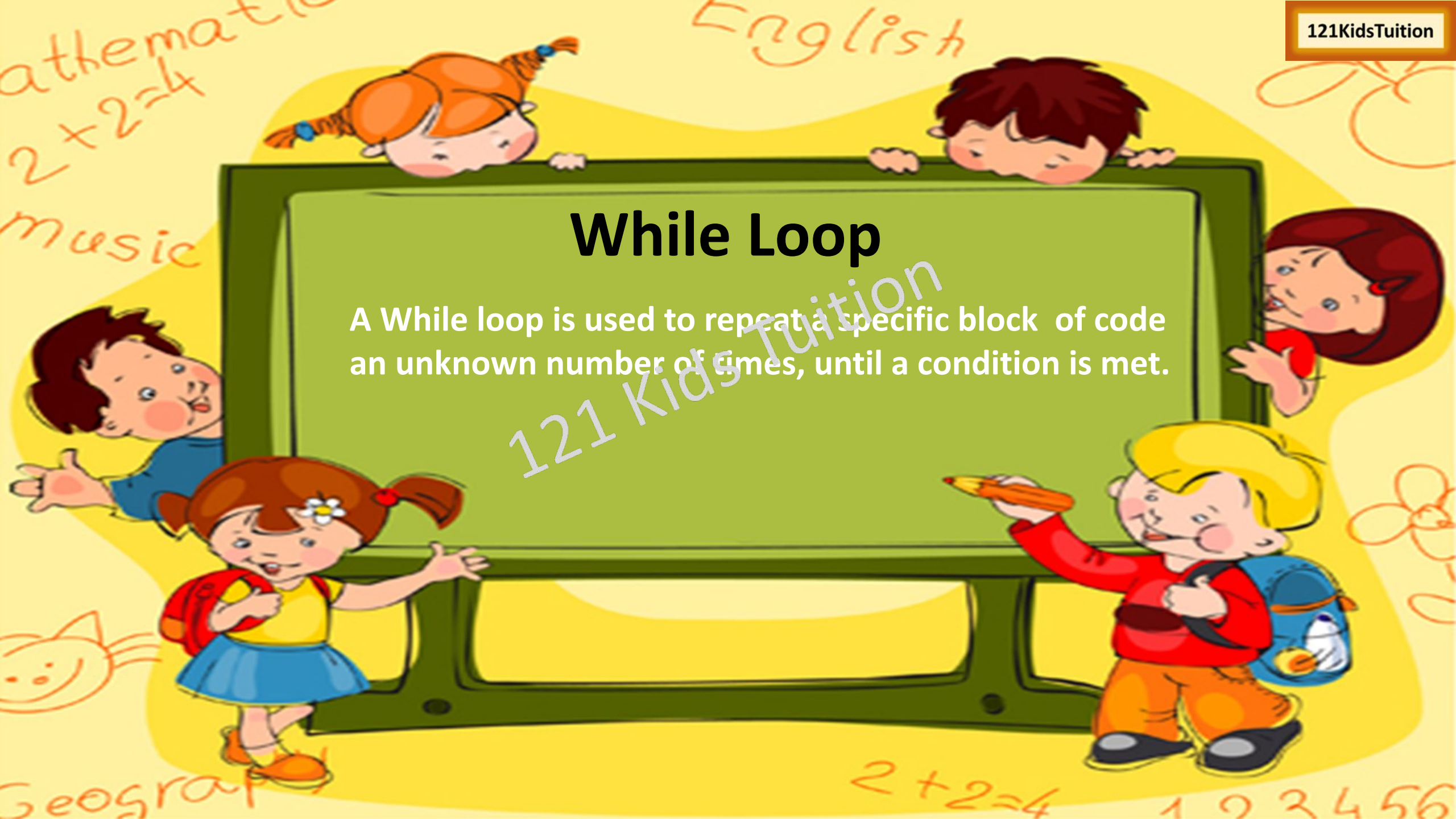

While Loop

A While loop is used to repeat a specific block of code an unknown number of times, until a condition is met.

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While Loop – Link 1

https://studio.code.org/s/course3/lessons/12/levels/2

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Run Step

Instructions

Move me to the pile of dirt and remove it with 5 shovel scoops, using the `remove 1` block.

Blocks

- move forward
- turn left
- turn right
- remove 1
- fill 1
- repeat ??? times do

Workspace: 1 / 4 blocks

Start Over Show Code

when run

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Reset Step

Instructions

Move me to the pile of dirt and remove it with 5 shovel scoops, using the `remove 1` block.

Not quite. Try using a block you aren't using yet.

Less

Blocks | Workspace: 2 / 4 blocks | Start Over | Show Code

move forward

turn left

turn right

remove 1

fill 1

repeat ??? times do

when run
move forward

English

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Reset Step

Instructions

Move me to the pile of dirt and remove it with 5 shovel scoops, using the `remove 1` block.

Not quite. Try using a block you aren't using yet.

Less

Blocks

- move forward
- turn left ↺
- turn right ↻
- remove 1
- fill 1
- repeat ??? times do

Workspace: 3 / 4 blocks

Start Over Show Code

```
when run
move forward
repeat 5 times
do
```

English

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Reset Step

Instructions

Move me to the pile of dirt and remove it with 5 shovel scoops, using the `remove 1` block.

Not quite. Try using a block you aren't using yet.

Less

Blocks

- move forward
- turn left ↺
- turn right ↻
- remove 1
- fill 1
- repeat ??? times do

Workspace: 4 / 4 blocks

Start Over Show Code

```
when run
move forward
repeat 5 times
do remove 1
```

English ©

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Lesson 12: Farmer: While Loops

Instructions

Move m

Blocks

move forward

turn left

turn right

remove 1

fill 1

repeat ??? times
do

Start Over

Show Code

Reset

Step

Congratulations! You completed Puzzle 2.

You just wrote 3 lines of code!

▶ Show code

Replay

Continue

Did you like this puzzle?

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While Loop – Link 2

https://studio.code.org/s/course3/lessons/12/levels/5

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Run Step

Instructions

Wow, now there are two deep holes! Can you write a program that fills them both until the ground is even?

Blocks

- move forward
- turn left ↺
- turn right ↻
- remove 1
- fill 1
- repeat ??? times do
- while there is a hole do

Workspace: 1 / 8 blocks

Start Over Show Code

when run

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English ©

Lesson 12: Farmer: While Loops

5

MORE

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Run

Step

Instructions

Wow, now there are two deep holes! Can you write a program that fills them both until the ground is even?

Blocks

Workspace: 8 / 8 blocks

Start Over

Show Code

move forward

turn left ↺

turn right ↻

remove 1

fill 1

repeat ??? times
do

while there is a hole
do

```
when run
repeat 3 times
do  move forward
    turn left ↺
    move forward
    while there is a hole
    do  fill 1
    turn right ↻
```

English

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Congratulations! You completed Puzzle 5.

You just wrote 7 lines of code!

All-time total: 21 lines of code.

▶ Show code

Replay

Continue

Did you like this puzzle?

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While Loop – Link 3

https://studio.code.org/s/course3/lessons/12/levels/7

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Run Step

Instructions

Wow, now there are three piles of dirt! Can you write a program that removes each of them until the ground is even?

Blocks | Workspace: 1 / 8 blocks | Start Over | Show Code

move forward

turn left ↺

turn right ↻

remove 1

fill 1

repeat ??? times
do

while there is a pile
do

when run

English

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Lesson 12: Farmer: While Loops

7

MORE

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Run

Step

Instructions

Wow, now there are three piles of dirt! Can you write a program that removes each of them until the ground is even?

Blocks

Workspace: 8 / 8 blocks

Start Over

Show Code

move forward

turn left ↺

turn right ↻

remove 1

fill 1

repeat ??? times
do

while there is a pile
do

```
when run
repeat 6 times
do  move forward
    turn left ↺
    move forward
    while there is a pile
    do  remove 1
    turn right ↻
```

English

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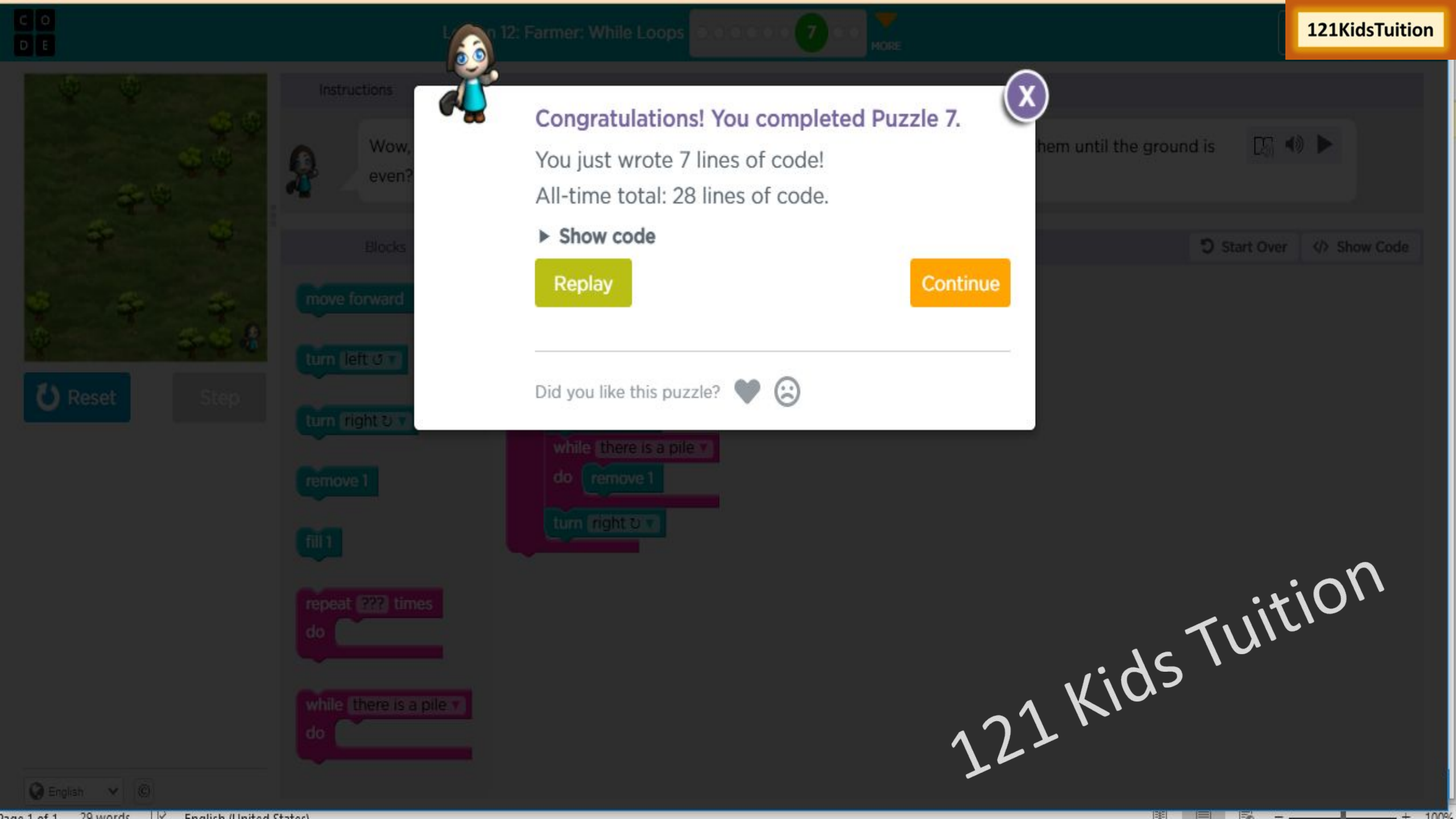
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Congratulations! You completed Puzzle 7.
You just wrote 7 lines of code!
All-time total: 28 lines of code.
Show code
Replay
Continue
Did you like this puzzle?
Instructions
Blocks
Start Over
Show Code
Reset
Step
move forward
turn left
turn right
remove 1
fill 1
repeat ??? times
do
while there is a pile
do
remove 1
turn right
English
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While Loop – Link 4

https://studio.code.org/s/course3/lessons/12/levels/9

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Run Step

Instructions

There are a lot of holes and piles. Help me to fill and remove them to make the ground flat.

Blocks | Workspace: 1 / 10 blocks | Start Over | Show Code

- move forward
- turn left ↺
- turn right ↻
- remove 1
- fill 1
- repeat ??? times do
- while there is a pile do

when run

English ©

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Run Step

Instructions

There are a lot of holes and piles. Help me to fill and remove them to make the ground flat.

Blocks | Workspace: 10 / 10 blocks | Start Over | Show Code

move forward

turn left ↺

turn right ↻

remove 1

fill 1

repeat ??? times
do

while there is a pile
do

```
when run
repeat 2 times
do move forward
   move forward
   while there is a hole
   do fill 1
   move forward
   while there is a pile
   do remove 1
   turn right ↻
```

English ©

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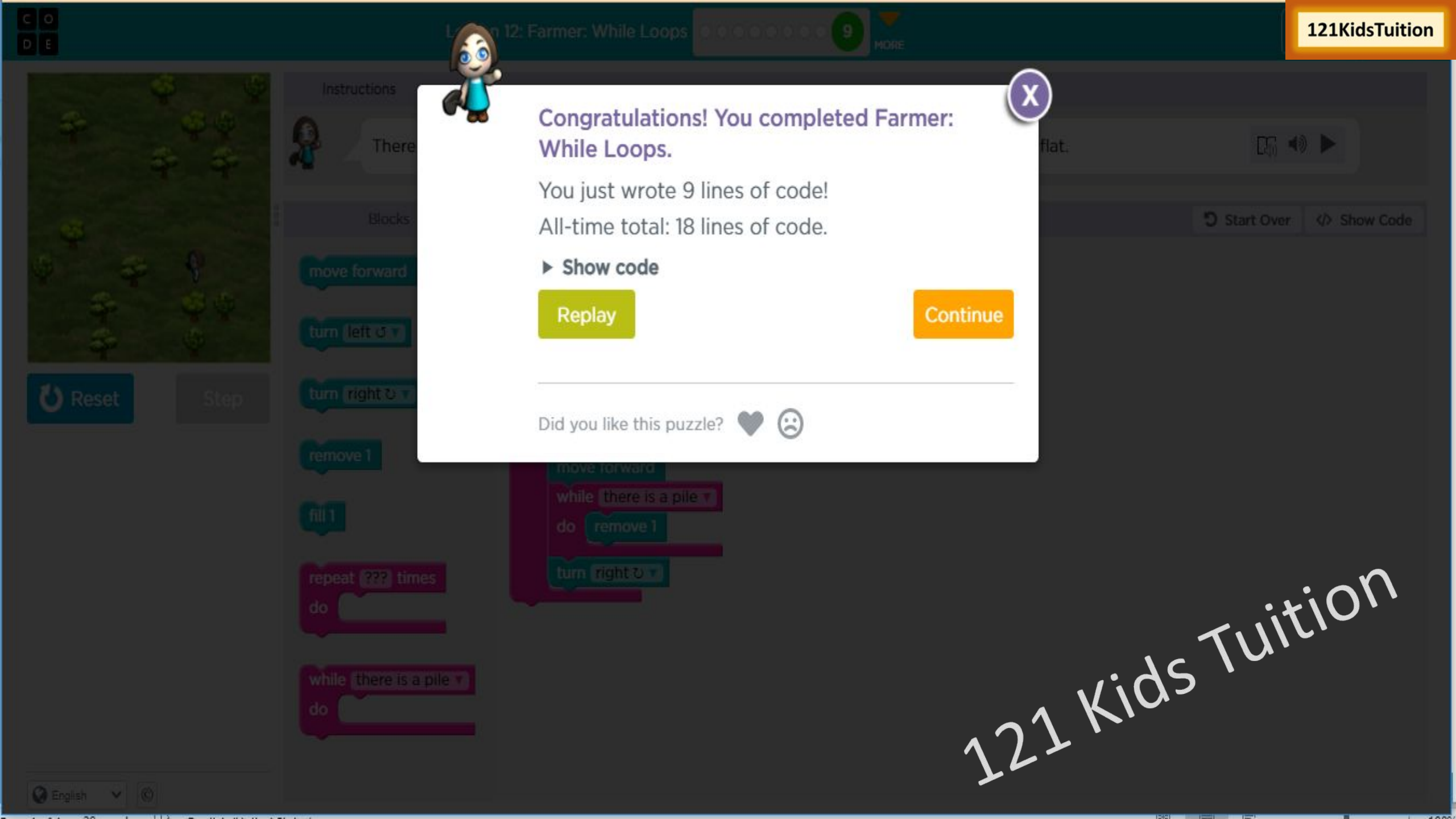
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Instructions
Blocks
Start Over
Show Code
Reset
Step
move forward
turn left
turn right
remove 1
fill 1
repeat ??? times
do
while there is a pile
do
Congratulations! You completed Farmer: While Loops.
You just wrote 9 lines of code!
All-time total: 18 lines of code.
Show code
Replay
Continue
Did you like this puzzle?
English
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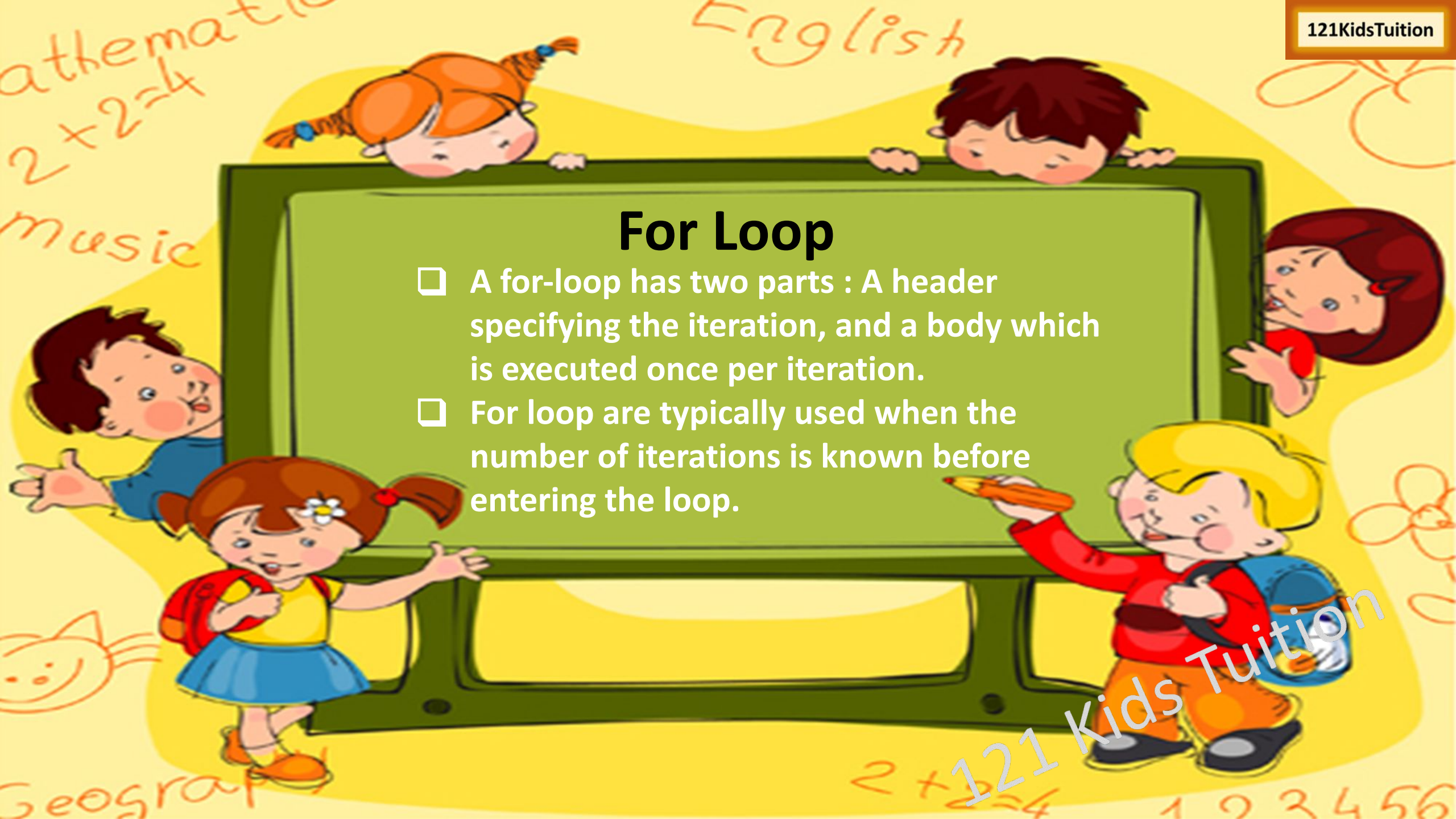

For Loop

- A for-loop has two parts : A header specifying the iteration, and a body which is executed once per iteration.
- For loop are typically used when the number of iterations is known before entering the loop.

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For Loop – Link 1

https://studio.code.org/s/course4/lessons/11/levels/1

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Instructions

Let's make the dog speak every number from 1 to 100. Use a `for` loop and the counter block to speak the counter variable each time the loop is run.

OK

Run

Blocks

actor 1 say for 0.1 seconds

counter

1

when run

for i from to count by

Workspace: 8 / 9 blocks

Start Over

when run

for counter from 1 to 100 count by 1

actor 1 say for 0.1 seconds

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English

121KidsTuition

Run

Instructions

Let's make the dog speak every number from 1 to 100. Use a `for` loop and the counter block to speak the counter variable each time the loop is run.

Blocks

actor 1 say for 0.1 seconds

counter

1

when run

for i from to count by

Workspace: 8 / 9 blocks

Start Over

when run

for counter from 1 to 100 count by 1

actor 1 say for 0.1 seconds

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English ©

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Run

Instructions

Let's make the dog speak every number from 1 to 100. Use a `for` loop and the counter block to speak the counter variable each time the loop is run.

Blocks

actor 1 say for 0.1 seconds

counter

1

when run

for i from to count by

Workspace: 9 / 9 blocks

Start Over

when run

for counter from 1 to 100 count by 1

actor 1 say counter for 0.1 seconds

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English

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Reset

Instructions

Let's make the dog speak every number from 1 to 100. Use a `for` loop and the counter block to speak the counter variable each time the loop is run.

Blocks

actor 1 say for 0.1 seconds

counter

1

when run

for i from to count by

Workspace: 9 / 9 blocks

Start Over

when run

for counter from 1 to 100 count by 1

actor 1 say counter for 0.1 seconds

English

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Reset

Instructions

Let's make the dog speak every number from 1 to 100. Use a `for` loop and the counter block to speak the counter variable each time the loop is run.

Blocks

actor 1 say for 0.1 seconds

counter

1

when run

for i from to count by

Workspace: 9 / 9 blocks

Start Over

when run

for counter from 1 to 100 count by 1

actor 1 say counter for 0.1 seconds

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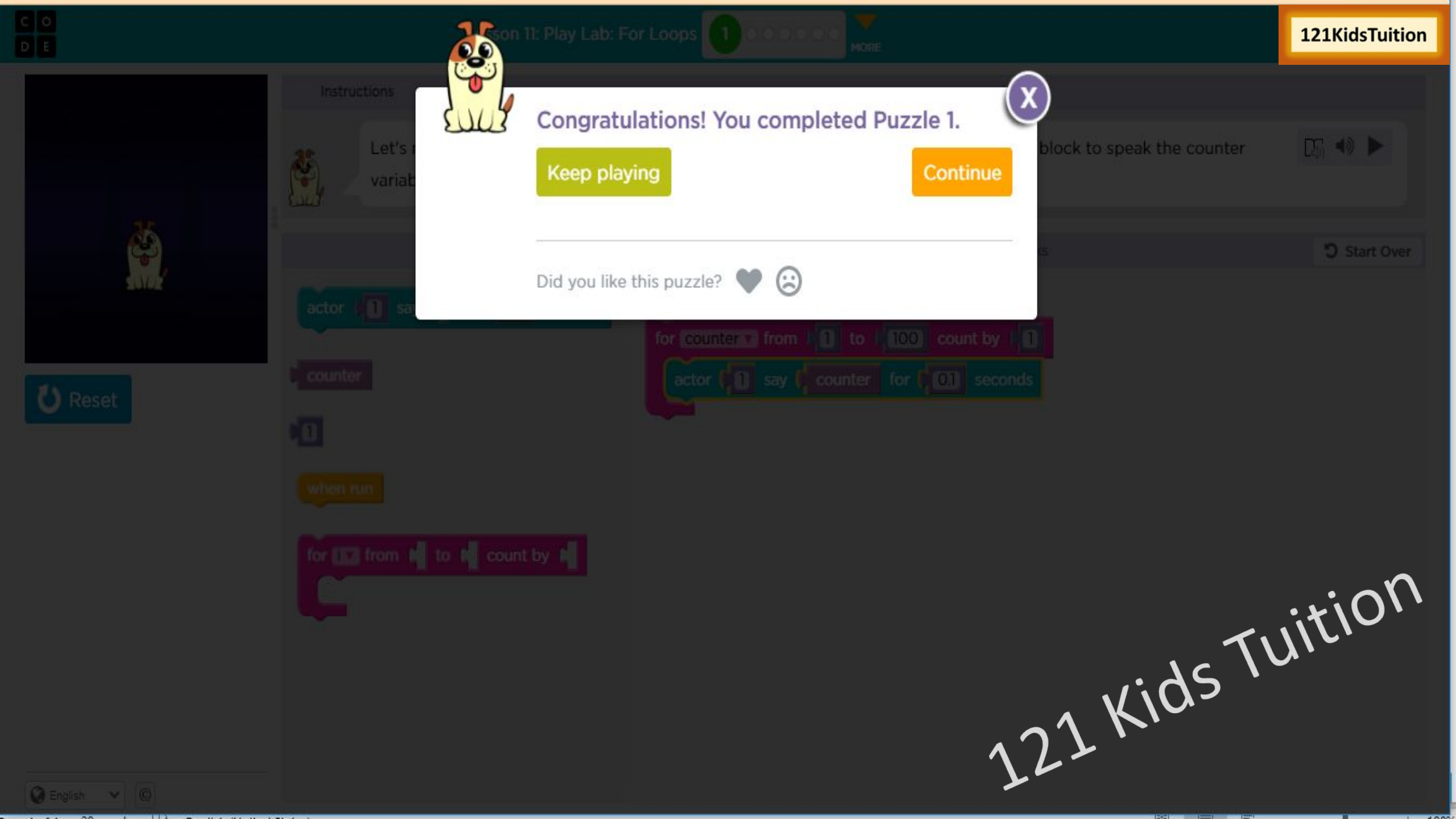
English


121KidsTuition
Congratulations! You completed Puzzle 1.
Keep playing
Continue
Did you like this puzzle?
Instructions
Start Over
Reset
for counter from 1 to 100 count by 1
actor 1 say counter for 0.1 seconds
counter
when run
for i from to count by
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For Loop – Link 2

https://studio.code.org/s/course4/lessons/11/levels/2

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Lesson 11: Play Lab: For Loops 2 MORE

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Run

Instructions

This time, help Olive the Cat count only the odd numbers from 1 to 101.

Blocks

actor 1 say for 0.2 seconds

1

counter

Workspace: 5 / 9 blocks

Start Over

when run

for counter from ??? to ??? count by ???

English

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Run

Instructions

This time, help Olive the Cat count only the odd numbers from 1 to 101.

Blocks

actor 1 say for 0.2 seconds

0

counter

Workspace: 9 / 9 blocks

Start Over

```
when run
for counter from 1 to 101 count by 2
    actor 1 say counter for 0.2 seconds
```

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Reset

Instructions

This time, help Olive the Cat count only the odd numbers from 1 to 101.

Blocks

actor 1 say for 0.2 seconds

1

counter

Workspace: 9 / 9 blocks

Start Over

```
when run
for counter from 1 to 101 count by 2
    actor 1 say counter for 0.2 seconds
```

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Congratulations! You completed Puzzle 2.

Keep playing

Continue

Did you like this puzzle?

Instructions

Start Over

Reset

actor 1 say counter for 0.2 seconds

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For Loop – Link 3

https://studio.code.org/s/course4/lessons/20/levels/5

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Run

Finish

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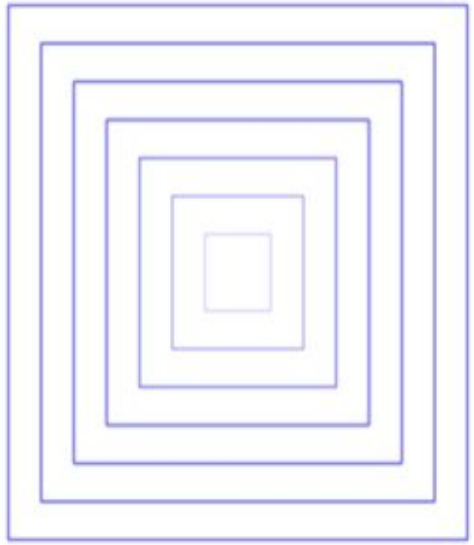
Instructions

For-Loops Super Challenge: Can you figure out how to re-create this drawing?



Less

Blocks

Actions
Brushes
Loops
Math
Variables

Workspace: 1 / 27 blocks

Start Over Show Code

when run

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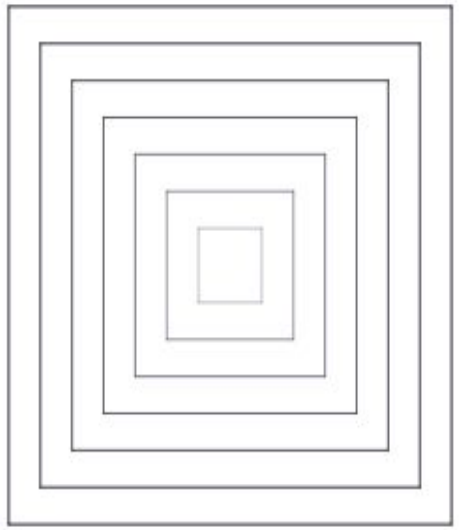

Reset

Finish

Instructions

Can you figure out how to re-create this drawing?

More

Blocks

Actions
Brushes
Loops
Math
Variables

Workspace: 21 / 27 blocks

Start Over

Show Code

```
when run
set width 1
set color
for counter from 50 to 350 count by 50
    set alpha counter ÷ 2
    repeat 4 times
    do
        move forward by counter pixels
        turn right by 90 degrees
        set color
    jump backward by 25 pixels
    turn right by 90 degrees
    jump backward by 25 pixels
    turn left by 90 degrees
```

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English

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For Loop – Link 4

https://studio.code.org/s/course4/lessons/20/levels/1

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Run Step

Instructions

For Loops Super Challenge: Can you get Scrat to his acorn using as few blocks as possible?

OK

Less

Blocks

Actions
Loops
Math

Workspace: 12 / 13 blocks

Start Over Show Code

```
when run
repeat 4 times
do move forward
repeat 2 times
do turn left
   repeat 3 times
   do move forward
   turn right
   move forward
```

English

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Run Step

English ©

Instructions

For Loops Super Challenge: Can you get Scrat to his acorn using as few blocks as possible?

Less

Blocks | Workspace: 1 / 13 blocks | Start Over | Show Code

Actions
Loops
Math

when run

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Run Step

Instructions

For Loops Super Challenge: Can you get Scrat to his acorn using as few blocks as possible?

Less

Blocks | Workspace: 12 / 13 blocks | Start Over | Show Code

Actions
Loops
Math

```
when run
repeat 4 times
do move forward
repeat 2 times
do turn left ↺
   repeat 3 times
   do move forward
   turn right ↻
   move forward
```

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English ©

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Super Challenge - For Loops

Congratulations! You completed Puzzle 1.

You just wrote 11 lines of code!

All-time total: 37 lines of code.

▶ Show code

Replay

Continue

Did you like this puzzle?

Instructions

Blocks

Actions
Loops
Math

repeat 2 times
do turn left
repeat 3 times
do move forward
turn right
move forward

Reset

Step

Less

Start Over

Show Code

English

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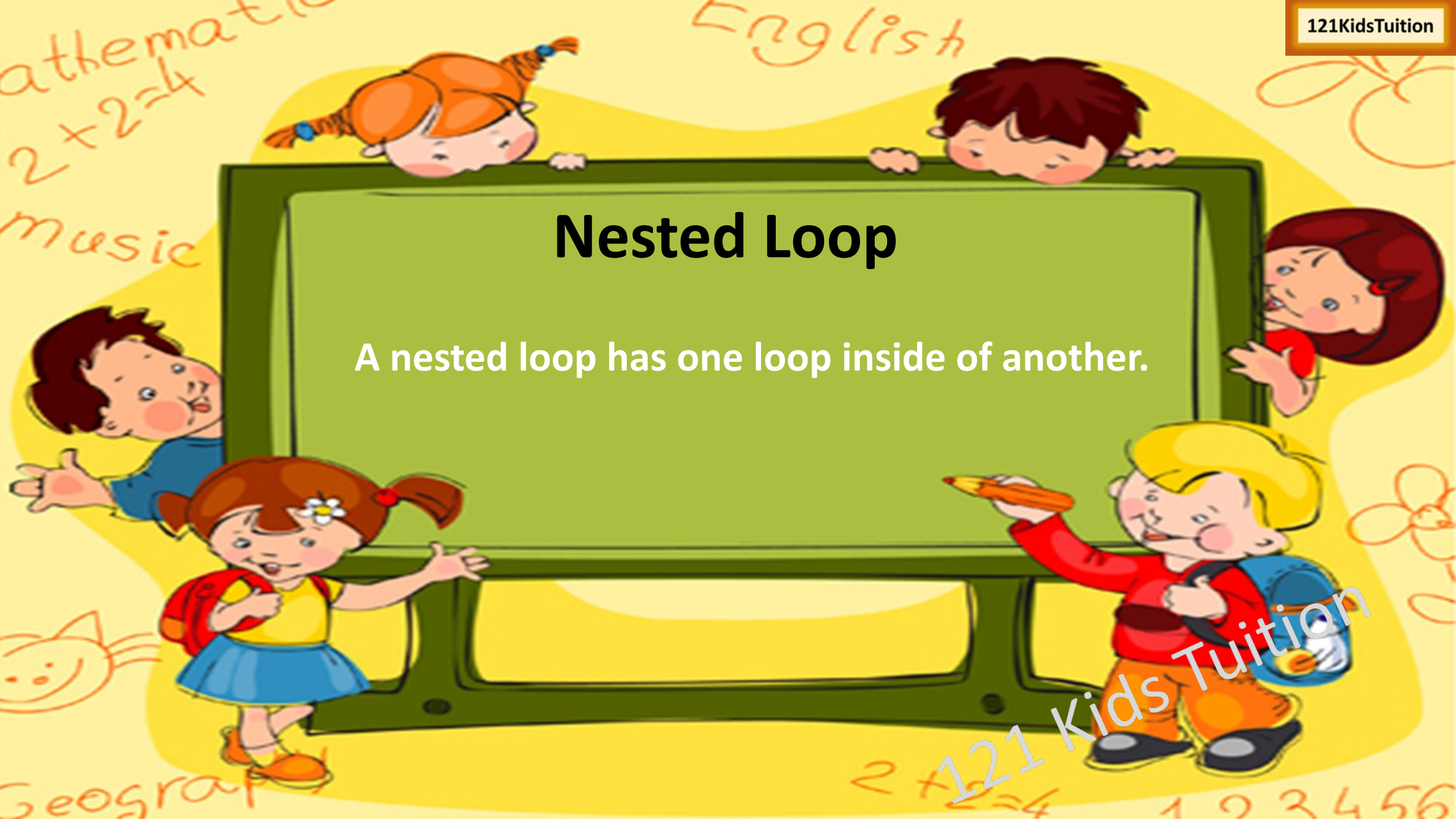

Nested Loop

A nested loop has one loop inside of another.

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Nested Loop – Link 1

https://studio.code.org/s/course3/lessons/11/levels/1

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Instructions

Complete the code to draw these triangles. The first one is done for you. Hint: 3 triangles in a 360 degree rotation.

OK

Run

Blocks

- move forward by 100 pixels
- turn right by 90 degrees
- turn left by 90 degrees
- jump forward by 100 pixels
- repeat ??? times do
- set color

Workspace: 4 / 12 blocks

Start Over | Show Code

```
when run
repeat 3 times
do
    move forward by 100 pixels
    turn left by 120 degrees
```

English

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Lesson 11: Artist: Nested Loops

1

MORE

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Run

Instructions

Complete the code to draw these triangles. The first one is done for you. Hint: 3 triangles in a 360 degree rotation.

Blocks

move forward by 100 pixels

turn right by 90 degrees

turn left by 90 degrees

jump forward by 100 pixels

repeat ??? times
do

set color

set color random color

Workspace: 4 / 12 blocks

Start Over

Show Code

```
when run
repeat 3 times
do move forward by 100 pixels
   turn left by 120 degrees
```

English

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Lesson 11: Artist: Nested Loops

1

MORE

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Reset

Instructions

Keep coding! Something's not quite right yet.

Less

Blocks

Workspace: 7 / 12 blocks

Start Over

Show Code

move forward by 100 pixels

turn right by 90 degrees

turn left by 90 degrees

jump forward by 100 pixels

repeat ??? times
do

set color

set color random color

when run
repeat 3 times
do move forward by 100 pixels
turn left by 120 degrees
repeat 3 times
do move backward by 100 pixels
turn right by 120 degrees

English

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Instructions

Complete the code to draw these triangles. The first one is done for you. Hint: 3 triangles in a 360 degree rotation.

OK

Run

Blocks

- move forward by 100 pixels
- turn right by 90 degrees
- turn left by 90 degrees
- jump forward by 100 pixels
- repeat ??? times do
- set color

Workspace: 11 / 12 blocks

Start Over | Show Code

```
when run
set color random color
repeat 3 times
do  move forward by 100 pixels
    turn left by 120 degrees
repeat 3 times
do  move backward by 100 pixels
    turn right by 120 degrees
repeat 3 times
do  set color
    turn left by 120 degrees
    move backward by 100 pixels
    turn left by 120 degrees
```

English

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Run

Instructions

Complete the code to draw these triangles. The first one is done for you. Hint: 3 triangles in a 360 degree rotation.

Blocks

- move forward by 100 pixels
- turn right by 90 degrees
- turn left by 90 degrees
- jump forward by 100 pixels
- repeat ??? times do
- set color
- set color random color

Workspace: 11 / 12 blocks

Start Over | Show Code

```
when run
set color random color
repeat 3 times
do  move forward by 100 pixels
    turn left by 120 degrees
repeat 3 times
do  move backward by 100 pixels
    turn right by 120 degrees
repeat 3 times
do  set color
    turn left by 120 degrees
    move backward by 100 pixels
    turn left by 120 degrees
```

English

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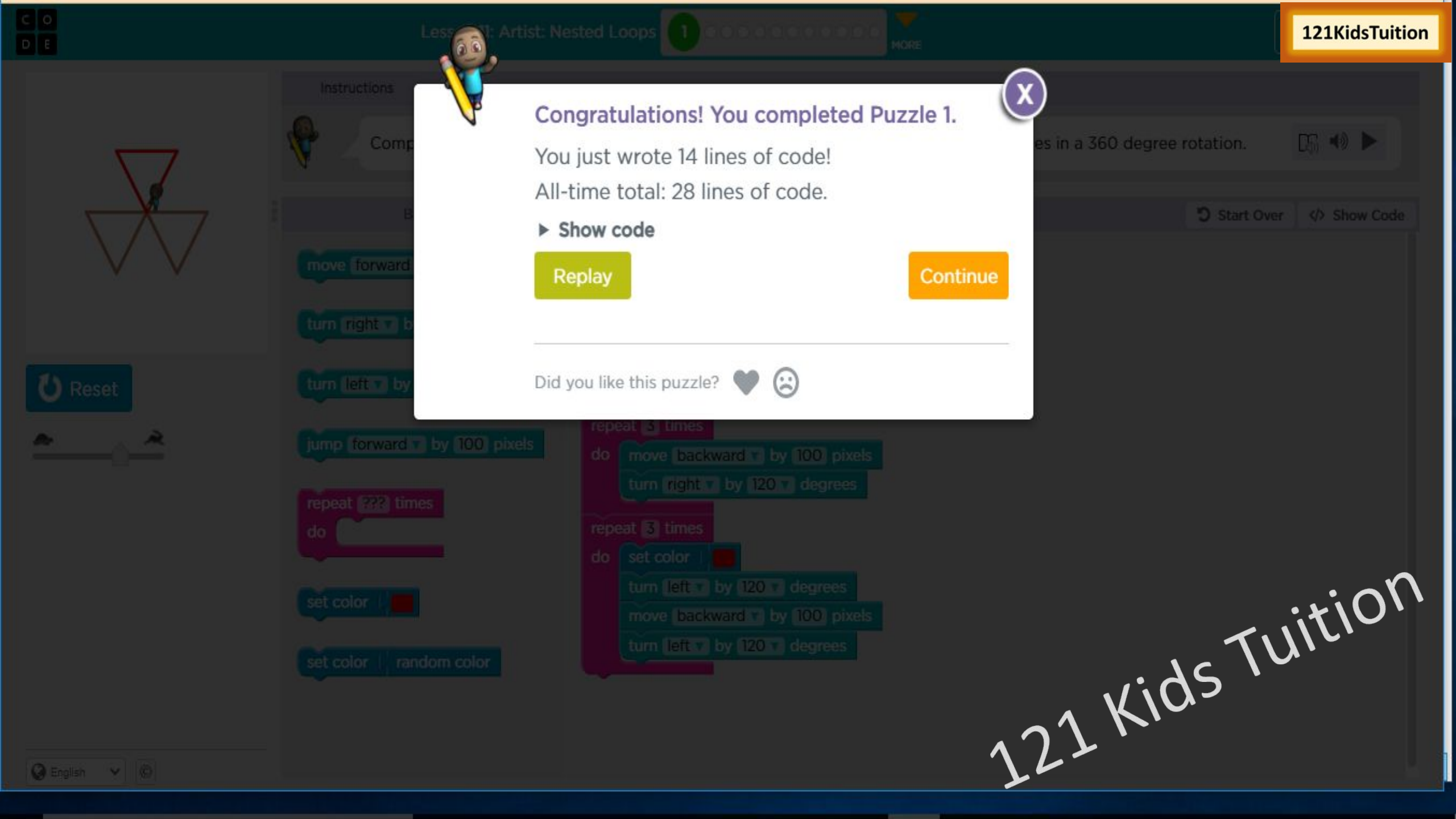
121KidsTuition
Congratulations! You completed Puzzle 1.
You just wrote 14 lines of code!
All-time total: 28 lines of code.
Show code
Replay
Continue
Did you like this puzzle?
Instructions
Start Over
Show Code
Reset
English
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Nested Loop – Link 2

https://studio.code.org/s/course3/lessons/11/levels/2

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Run

Need help? See these videos and hints

Nested Loops

Instructions

Now nest this loop inside another loop to draw 10 triangles.
This is called a "nested" loop.

Blocks

- move forward by 100 pixels
- turn right by 90 degrees
- turn left by 90 degrees
- jump forward by 100 pixels
- repeat ??? times do
- set color
- set color random color

Workspace: 5 / 8 blocks

Start Over | Show Code

```
when run
set color random color
repeat 3 times
do  move forward by 100 pixels
    turn left by 120 degrees
turn right by 36 degrees
```

English

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Run

Need help?

See these videos and hints

Nested Loops

English ©

Instructions

Now nest this loop inside another loop to draw 10 triangles.
This is called a "nested" loop.

Blocks

move forward by 100 pixels

turn right by 90 degrees

turn left by 90 degrees

jump forward by 100 pixels

repeat ??? times
do

set color

set color random color

Workspace: 6 / 8 blocks

Start Over

Show Code

```
when run
repeat 10 times
do  set color random color
    repeat 3 times
    do  move forward by 100 pixels
        turn left by 120 degrees
    turn right by 36 degrees
```

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Lesson 11: Artist: Nested Loops

Instructions

Congratulations! You completed Puzzle 2.

You just wrote 1 line of code!

All-time total: 10 lines of code.

▶ Show code

Replay

Continue

Did you like this puzzle?

Start Over

Show Code

move forward

turn right

turn left by

jump forward by 100 pixels

repeat ??? times do

set color

set color random color

turn left by 120 degrees

turn right by 36 degrees

Reset

Need help?

See these videos and hints

Nested Loops

English

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Nested Loop – Link 3

https://studio.code.org/s/course3/lessons/11/levels/5

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Run

Instructions

Create a sun by nesting the starter code in another loop.

To get this cool design with a hollow center, you'll need to jump forward by the length of the triangle before turning.

Blocks

- move forward by 50 pixels
- turn right by 30 degrees
- turn left by 30 degrees
- jump forward by 50 pixels
- repeat ??? times do
- set color
- set color random color

Workspace: 4 / 7 blocks

Start Over | Show Code

```
when run
repeat 3 times
do  move forward by 50 pixels
    turn left by 120 degrees
```

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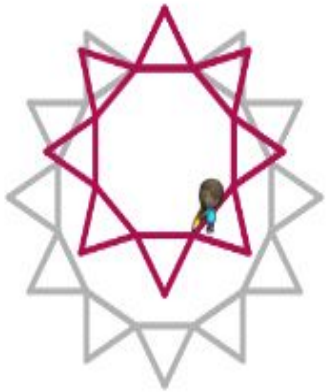

Reset

Instructions

To get this cool design with a hollow center, you'll need to jump forward by the length of the triangle before turning.

Keep coding! Something's not quite right yet.

Less

Blocks

Workspace: 7 / 7 blocks

Start Over

Show Code

move forward by 50 pixels

turn right by 30 degrees

turn left by 30 degrees

jump forward by 50 pixels

repeat ??? times
do

set color

set color random color

```
when run
set color random color
repeat 12 times
do repeat 3 times
   do move forward by 50 pixels
      turn left by 120 degrees
   jump forward by 50 pixels
   turn right by 45 degrees
```

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English

©

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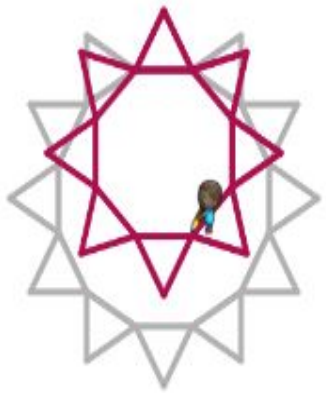

Reset

Instructions

To get this cool design with a hollow center, you'll need to jump forward by the length of the triangle before turning.

Keep coding! Something's not quite right yet.

Less

Blocks

Workspace: 7 / 7 blocks

Start Over

Show Code

move forward by 50 pixels

turn right by 30 degrees

turn left by 30 degrees

jump forward by 50 pixels

repeat ??? times
do

set color

set color random color

```
when run
set color random color
repeat 12 times
do repeat 3 times
   do move forward by 50 pixels
      turn left by 120 degrees
   jump forward by 50 pixels
   turn right by 45 degrees
```

English

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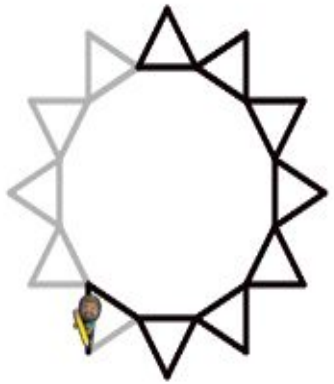

Reset

Instructions

Create a sun by nesting the starter code in another loop.

To get this cool design with a hollow center, you'll need to jump forward by the length of the triangle before turning.

Blocks

Workspace: 7 / 7 blocks

Start Over

Show Code

move forward by 50 pixels

turn right by 30 degrees

turn left by 30 degrees

jump forward by 50 pixels

repeat ??? times
do

set color

set color random color

```
when run
set color random color
repeat 12 times
do repeat 3 times
   do move forward by 50 pixels
      turn left by 120 degrees
   jump forward by 50 pixels
   turn right by 30 degrees
```

English

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Run

Instructions

Create a sun by nesting the starter code in another loop.

To get this cool design with a hollow center, you'll need to jump forward by the length of the triangle before turning.

Blocks

Workspace: 7 / 7 blocks

Start Over

Show Code

- move forward by 50 pixels
- turn right by 30 degrees
- turn left by 30 degrees
- jump forward by 50 pixels
- repeat ??? times do
- set color
- set color random color

```
when run
set color random color
repeat 12 times
do repeat 3 times
   do move forward by 50 pixels
      turn left by 120 degrees
   jump forward by 50 pixels
   turn right by 30 degrees
```

English

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Congratulations! You completed Puzzle 5.

You just wrote 5 lines of code!

▶ Show code

Replay

Continue

Did you like this puzzle?

Reset

Start Over

Show Code

move for

turn right

turn left by 30 degrees

jump forward by 50 pixels

repeat ??? times
do

set color

set color random color

do repeat 3 times
do move forward by 50 pixels
turn left by 120 degrees
jump forward by 50 pixels
turn right by 30 degrees

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Nested Loop – Link 4

https://studio.code.org/s/course3/lessons/11/levels/8

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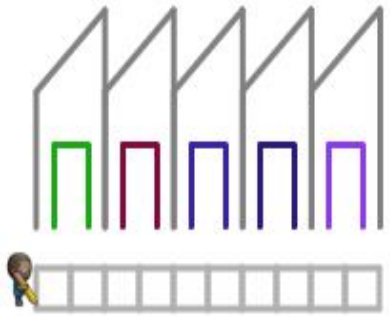

Run

Instructions

Can you draw these 10 squares of this sidewalk using a nested loop?

Each square is 30 pixels.

Blocks

- move forward by 100 pixels
- turn right by 90 degrees
- turn left by 90 degrees
- jump forward by 100 pixels
- repeat ??? times do
- set color
- set color random color

Workspace: 7 / 6 blocks

Start Over | Show Code

```
when run
repeat 10 times
do
    repeat 4 times
    do
        move forward by 30 pixels
        turn left by 90 degrees
    move forward by 30 pixels
    turn right by 0 degrees
```

English

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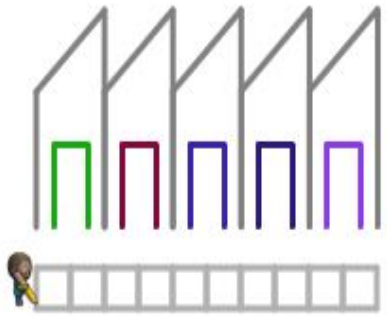

Run

Instructions

Can you draw these 10 squares of this sidewalk using a nested loop?

Each square is 30 pixels.

Blocks

Workspace: 1 / 6 blocks

Start Over

Show Code

move forward by 100 pixels

turn right by 90 degrees

turn left by 90 degrees

jump forward by 100 pixels

repeat ??? times
do

set color

set color random color

when run

English

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Lesson 11: Artist: Nested Loops

Congratulations! You completed Puzzle 8.
(However, you could have used only 6 blocks.)

You just wrote 3 lines of code!

All-time total: 9 lines of code.

▶ Show code

Try again | Continue

Did you like this puzzle?

Instructions

Can you dr

Blocks

Start Over | Show Code

move forward by

turn right by 90

turn left by 90

jump forward by

repeat ??? times
do

set color

set color random color

Reset

English

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Nested Loop – Link 5

https://studio.code.org/s/course3/lessons/11/levels/11

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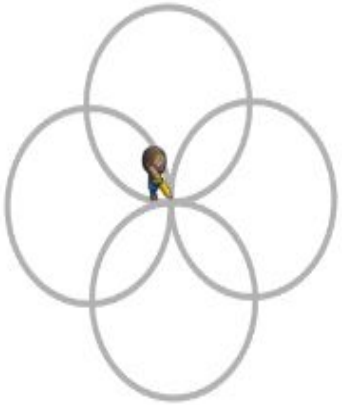

Run

Instructions

Assessment: Use a nested loop to complete the design.

Blocks

- move forward by 100 pixels
- turn right by 90 degrees
- turn left by 90 degrees
- jump forward by 100 pixels
- repeat ??? times do
- set color
- set color random color

Workspace: 1 / 6 blocks

Start Over | Show Code

when run

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English

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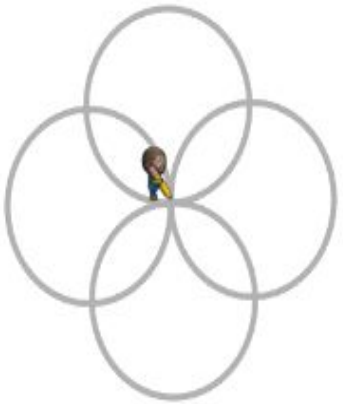

Run

Instructions

Assessment: Use a nested loop to complete the design.

Blocks

- move forward by 100 pixels
- turn right by 90 degrees
- turn left by 90 degrees
- jump forward by 100 pixels
- repeat ??? times do
- set color
- set color random color

Workspace: 6 / 6 blocks

Start Over | Show Code

```
when run
set color random color
repeat 4 times
do turn right by 90 degrees
   repeat 90 times
   do move forward by 5 pixels
      turn right by 4 degrees
```

English

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Lesson 11: Artist: Nested Loops

Congratulations! You completed Puzzle 11.

You just wrote 4 lines of code!

▶ Show code

Replay

Continue

Did you like this puzzle?

Instructions

Assessment

Blocks

Start Over

Show Code

move forward by

turn right by 90

turn left by 90

jump forward by 100 pixels

repeat ??? times do

set color

set color random color

do move forward by 5 pixels

turn right by 4 degrees

Reset

English

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