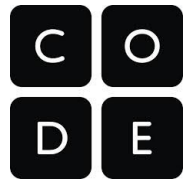


FROZEN TUTORIAL



ANSWER SHEET

REMINDER: Kids under 13 must not share on social media!

PUZZLE #1

1. When Run
2. Move forward by 100 pixels

PUZZLE #2

1. When Run
2. Move forward by 100 pixels
3. Turn right by 90 degrees
4. Move forward by 100 pixels

PUZZLE #3

Attach more blocks under grey blocks to create a square.

Steps by Step:

1. When run
2. Move forward by 100 pixels
3. Turn right by 90 degrees
4. Move forward by 100 pixels
5. Turn right by 90 degrees
6. Move forward by 100 pixels
7. Turn right by 90 degrees
8. Move forward by 100 pixels

PUZZLE #4

How many times should Anna Repeat the steps?

Use Drop Down to write:

1. When run
2. Repeat 4 times
3. Inside Repeat 4 Times: move forward by 100 pixels
4. Inside Repeat 4 Times: turn right by 90 degrees

PUZZLE # 5

Create 3 squares, turning after each square. Turn by 120 degrees before each new square.

Answer how many times you repeat:

- From drop down repeat 3 times

Answer by how many degrees:

- From drop down turn right by 120 degrees

Code with Anna and Elsa 5 20 I've finished

STUDIO

Assemble your blocks here: 6 / 6

```
when run
  repeat 3 times
  do
    repeat 4 times
    do
      move forward by 100 pixels
      turn right by 90 degrees
    do
      turn right by 120 degrees
```

Reset

Let's create three squares, turning after each square. Be sure to turn by 120 degrees before each new square.

PUZZLE #6

Create a snowflake using the "Repeat" block to make a square 10 times, and the "Turn" block to turn 36 degrees between each square.

Answer to how many times you repeat:

- From drop down repeat 10 times

Answer to by how many degrees:

- From drop down turn right by 36 degrees

Code with Anna and Elsa 6 20 I've finished

STUDIO

Assemble your blocks here: 6 / 6

```
when run
  repeat 10 times
  do
    repeat 4 times
    do
      move forward by 100 pixels
      turn right by 90 degrees
    do
      turn right by 36 degrees
```

Run

Can you create a snowflake using the "Repeat" block to make a square 10 times, and the "Turn" block to turn 36 degrees between each square?



Reset

Use the "Repeat" block to create a plus sign. Did you notice Elsa can move forward and backward?



Blocks

- move forward by 100 pixels
- move backward by 100 pixels
- turn right by 90 degrees
- turn left by 90 degrees
- repeat 4 times
- do

Assemble your blocks here: 5 / 5

```

when run
  repeat 4 times
    do
      move forward by 100 pixels
      move backward by 100 pixels
      turn right by 90 degrees
          
```

PUZZLE #7 – Use the “Repeat” block to create a plus sign. Did you notice Elsa can move forward and backward?

Answer: Move the pink “Repeat” block underneath “When Run”. Then move the grey blocks inside the pink repeat block.



Play

Now try repeating it 10 times. How many degrees do you need to turn between each line?



Blocks

- move forward by 100 pixels
- move backward by 100 pixels
- turn right by 36 degrees
- turn right by 36 degrees
- repeat 10 times
- do

Assemble your blocks here: 5 / 5

```

when run
  repeat 10 times
    do
      move forward by 100 pixels
      move backward by 100 pixels
      turn right by 36 degrees
          
```

PUZZLE #8 – Try repeating it 10 times. How many degrees do you need to turn between each line?

Answer: Move the pink repeat block under when run. Move the grey blocks and blue block inside the pink block. From the drop down in the blue block – turn right by “36” degrees.

PUZZLE #9 – Repeat 90 times. How many times does 90 go into 360?

Answer: Move pink repeat block under “when run”. Drop the blue/grey/grey/turquoise blocks inside of the pink block. In the turquoise block, use the drop down to change it to turn right by “4” degrees

PUZZLE #10 – Create a parallelogram. The angles needed are 60 and 120 degree angles instead of the 90 degree angles needed in a square.

Answer: Place the pink repeat block underneath “when run”. Drop the grey/blue/grey/blue blocks inside of the pink repeat block. Change the first blue line to read “turn right by 60 degrees”. Change the second blue line to read “turn right by 120 degrees”.

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STUDIO

Assemble your blocks here: 8 / 10

Did you know every snowflake is a different shape? Let's create a new snowflake by using the "Repeat" block to repeat a parallelogram 4 times, turning right by 90 degrees between each parallelogram.

PUZZLE #11 – Create a snowflake using the “repeat” block to repeat the parallelogram 4 times, turning right by 90 degrees between each parallelogram. **BONUS:** you can add different colors if you want!

Answer: Change drop down in pink block to read repeat “4” times. Change drop down in blue line to read turn right by “90” degrees. Students may use blocks on the left to add color if they want!

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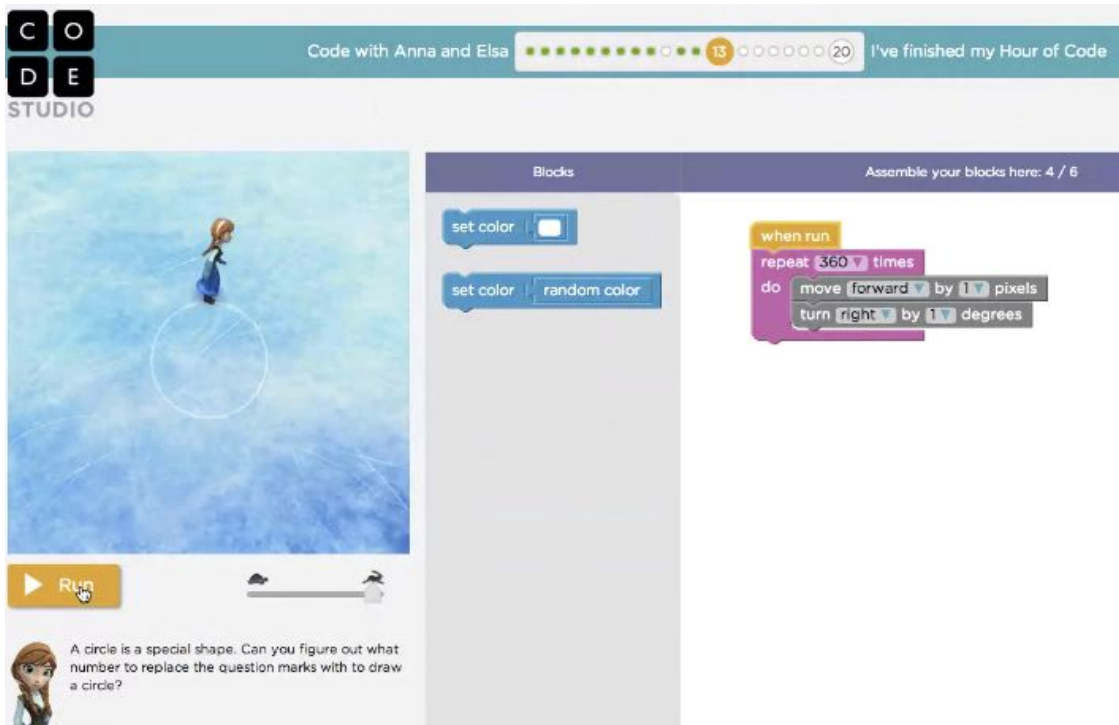
STUDIO

Assemble your blocks here: 8 / 10

Now, let's create a new snowflake by using the repeat block to repeat a parallelogram 10 times, turning right by 36 degrees between each one.

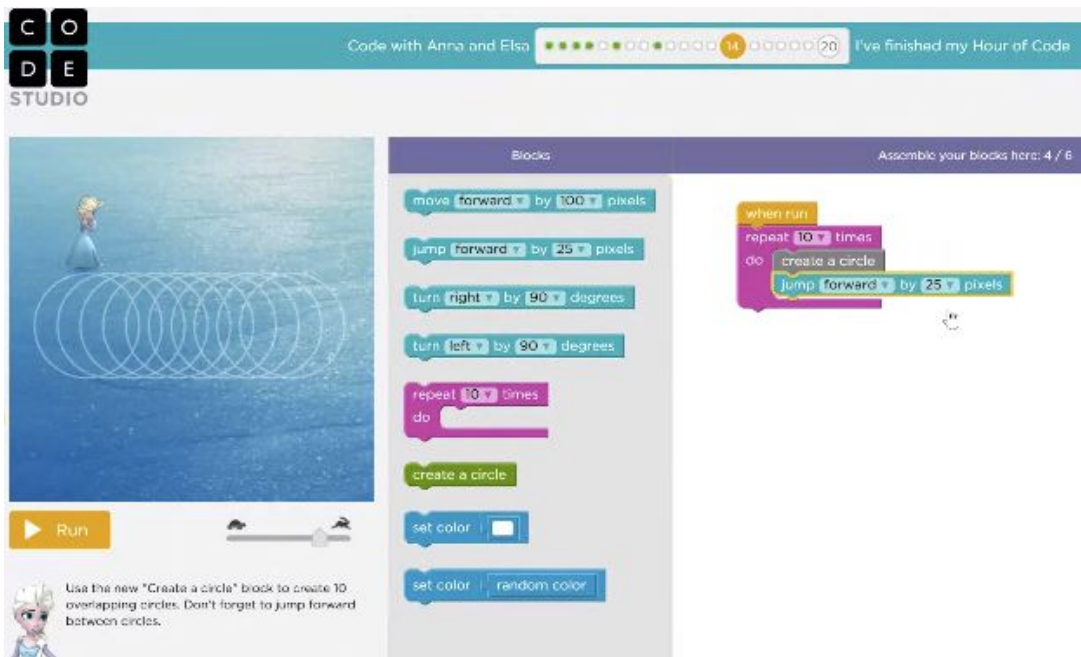
PUZZLE #12 – Create a snowflake using the repeat block to repeat the parallelogram 10 times, turning right by 36 degrees between each one. **BONUS:** add color blocks if you want!

Answer: Move the pink repeat block underneath “when run”. Drop the grey blocks and blue line inside of the pink block. Change drop down in the blue block to read turn right by “36” degrees.



PUZZLE #13 – What number do you need to replace the question marks with to make a circle?
BONUS: add color blocks if you want!

Answer: From drop-down in pink repeat block, choose “360” times.



PUZZLE #14 – Use the “Create a circle” block to create 10 overlapping circles. Jump forward between the circles. *BONUS: add color blocks if you want!*

Answer: Drop pink repeat block underneath “when run”. Drop “create a circle” and blue “jump forward” blocks inside the pink repeat block. Change drop-down to say “jump forward by 25 pixels”.

PUZZLE #15 – Create 20 overlapping circles, turning 18 degrees between each circle. *BONUS: add color blocks if you want!*

Answer: Leave blocks as is. Choose repeat 20 times in pink block. Jump forward by 50 pixels. Turn right by 18 degrees.

PUZZLE #16 – Use the “Create a circle” block to make a small circle of size 5 and a large circle of size 10. *BONUS: add color blocks if you want!*

Answer: Drop the “Create a circle” block 2 times under “when run”. Change the size of one to “5” and the size of the other one to “10”. It doesn’t matter what order the circles are drawn.

Code with Anna and Elsa 17 / 20 I've finished my Hour of Code

Report Bug

Assemble your blocks here: 7 / 9

move forward by 100 pixels

turn right by 72 degrees

turn right by 72 degrees

repeat 5 times

do

create a circle size: 5

set color

set color random color

when run

repeat 5 times

do

create a circle size: 5

create a circle size: 10

turn right by 72 degrees

Reset

Intricate snow patterns can be created with very simple shapes. Can you make a pattern by repeating 5 circles of size 5 and 5 circles of size 10?

PUZZLE #17: Make a pattern by repeating 5 circles of size 5 and 5 circles of size 10.

Answer: Drop pink repeat block under “when run”. Drop 2 x “Create a circle” blocks inside repeat block. Place “turn right by 72 degrees” block underneath the create a circle blocks inside pink repeat block. Add color blocks if you want!

Code with Anna and Elsa 18 / 20 I've finished my Hour of Code

Report Bug

Assemble your blocks here: 4 / 6

move forward by 100 pixels

turn right by 45 degrees

turn left by 45 degrees

repeat 3 times

do

create a snowflake branch

set color

set color random color

when run

repeat 3 times

do

create a snowflake branch

turn right by 45 degrees

Reset

Try using the “Create a snowflake branch” block to create three branches, which starts to look like a snowflake.

PUZZLE #18: Use the “Create a snowflake branch” to create 3 branches. Add color if you want!

Answer: Drop pink repeat block underneath “when run”. Make sure it says repeat 3 times. Put “create a snowflake branch” inside repeat block. Drop “turn right by 45 degrees” underneath “create a snowflake”. Add color blocks if you want!

Code with Anna and Elsa 19 20 I've finished my Hour of Code

C O
D E
STUDIO

Assemble your blocks here: 4 / 6

when run
repeat 8 times
do
create a snowflake branch
turn right by 45 degrees

Reset

Now let's repeat it 8 times to make a beautiful snowflake!

PUZZLE #19 – Repeat the snowflake branch 8 times to make a snowflake. Add color if you want!
Answer: Drop pink repeat block underneath “when run”. Drop “create a snowflake branch” and “turn right by 45 degrees” inside repeat block. Add color blocks to change color.

Code with Anna and Elsa 20 I've finished my Hour of Code

C O
D E
STUDIO

Assemble your blocks here:

when run
create a snowflake of type flower
move forward by 100 pixels
create a snowflake of type line
turn right by 90 degrees
move forward by 100 pixels
create a snowflake of type square
square
parallelogram
line
spiral
flower
fractal
random

Reset

You've officially become a master artist! Create a winter wonderland and share with your friends.

PUZZLE #20 – Master Artist – Create what you want!