3.3 Open the Time Portal

Intro

So far, Mike has already mastered the method of drawing. Today, he needs to challenge himself to open the Time Portal.



Task

 The code of passing the Time Portal is an arch made up of 18 five-pointed stars. Mike needs to draw the arch using the knowledge he has. Let's cheer for him!

Start Learning

1. Draw a Five-Pointed Star

Draw a five-pointed star using Pen and Operator blocks.

Block	Explanation	Example
0-0	Subtraction	say 180 - 72 for 2 secs
0-0/0	Mixed Calculations	turn (1 180 - 180 / 5) degrees

 \star Practice

Try to draw a five-pointed star which is 150 steps on a side.

2. Make a Block

Make a Block is the new function in Scratch 2.0. You can make and name a block which consists often-used script of a sprite.

Block	Explanation	Example
define Five-Pointed Star	Choose "More Blocks" under Scripts Module. Click on "Make a Block" and enter the name "Five-Pointed Star".	define Five-Pointed Star pen down repeat 5 move 25 steps turn (* 180 - 180 / 5 degrees change pen color by 20 pen up

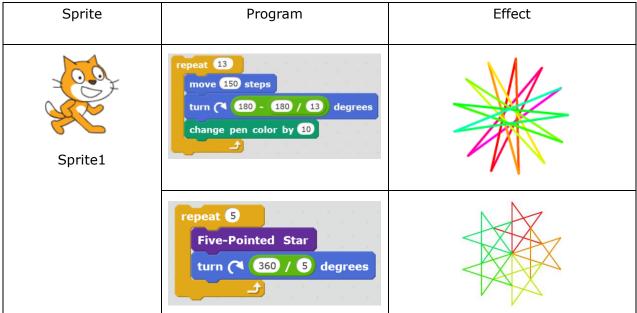
Import the "Time Portal.png" from the local file.

Achieve

Sprite	Program	Effect
Mike	when / clicked go to x: -157 y: -80 clear set pen size to 3 point in direction 0 repeat 18 move 30 steps turn (360 / 36 degrees Five-Pointed Star point in direction 90 pen up go to x: -13 y: -25	

Additional Training

Try to draw a colorful multi-pointed star and a diagram made up of 5 five-pointed stars in 5 different colors.



Tips

The formula of counting the rotation angle while drawing a multi-pointed star is: 180-(180/angle number of the multi-pointed star). And the number should be always an odd.

What You've Learnt?