



## Pumpkin Plot Challenges

Are you ready to get spooky with STEM? Challenge your learners to create a Halloween image by plotting these sets of points on the included graph. For each shape, first, plot the points, then connect each point in the same order you plotted them. Do not connect the shapes to each other. Then use crayons or markers to finish off your delightful design with a burst of color. If you're looking for an extra challenge, use your spooky images as templates for pumpkin carving fun!



### HANDS-ON STEM EDUCATION

For over 30 years, PCS Edventures has inspired students to develop a passion for Science, Technology, Engineering and Mathematics (STEM), focusing our efforts on making learning and discovery a fun and interactive process for grades K-12.

- Classroom
- After-School
- Home Learning

# JACK-O-LANTERN

## Shape 1

$(-1,9)$  ,  $(-0.5,10)$  ,  $(0,11)$  ,  $(1,12)$  ,  $(2,13)$  ,  $(3,13.5)$  ,  
 $(3.5,12.5)$  ,  $(2,11)$  ,  $(1,10)$  ,  $(1.5,8.5)$

$(2,8)$  ,  $(2,7.5)$  ,  $(1,7)$  ,  $(0.5,7)$  ,  $(0,7)$  ,  $(-1,7.5)$  ,  
 $(-1.5,8)$  ,  $(-1,9)$

## Shape 2

$(1.5,8.5)$  ,  $(3,8.5)$  ,  $(6,8.5)$  ,  $(8,7.5)$  ,  $(9.5,6.5)$  ,  
 $(10.5,5)$  ,  $(11,4)$  ,  $(11.5,2)$  ,  $(12,0)$  ,  $(11.5,-3)$

$(10.5,-5)$  ,  $(9,-7)$  ,  $(7,-8.5)$  ,  $(5,-9.5)$  ,  $(3,-10)$  ,  $(1,-10)$  ,  
 $(-1.5,-10)$  ,  $(-3.5,-10)$  ,  $(-6,-9)$  ,  $(-8.5,-7)$

$(-10,-5)$  ,  $(-11.5,-2)$  ,  $(-12,0)$  ,  $(-11.5,2)$  ,  $(-11,4)$  ,  
 $(-10,6)$  ,  $(-8,7.5)$  ,  $(-6,8.5)$  ,  $(-4,9)$  ,  $(-2,9)$  ,  $(-1,9)$

## Shape 3

$(2,8)$  ,  $(5,7.5)$  ,  $(7,6.5)$  ,  $(8,5,5)$  ,  $(9,5,3)$  ,  $(10,1)$  ,  
 $(10.5,-1)$  ,  $(10,-3)$  ,  $(9,-5.5)$  ,  $(7,-8.5)$

## Shape 4

$(2,8)$  ,  $(4,7)$  ,  $(6,5)$  ,  $(7,3)$  ,  $(7.5,0)$  ,  $(7.5,-2)$

## Shape 5

$(7.5,-3.5)$  ,  $(7,-5)$  ,  $(6,-7)$  ,  $(5,-9.5)$

## Shape 6

$(0,-5.5)$  ,  $(0.5,-8)$  ,  $(1,-10)$

## Shape 7

$(2,7.5)$  ,  $(3,6.5)$  ,  $(4,4)$  ,  $(6,1)$  ,  $(4.5,1)$  ,  $(1.5,1)$  ,  $(4,4)$

## Shape 8

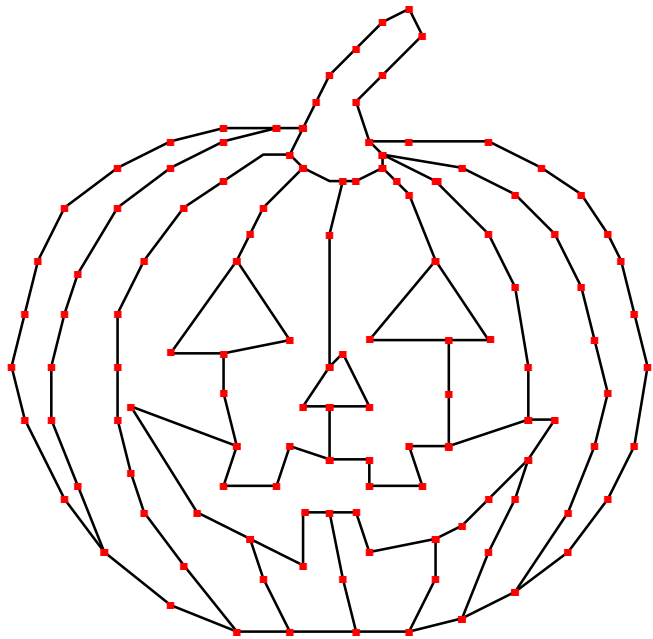
$(4.5,1)$  ,  $(4.5,-1)$  ,  $(4.5,-3)$

## Shape 9

$(4,-6.5)$  ,  $(4,-8)$  ,  $(3,-10)$

## Shape 10

$(0.5,7)$  ,  $(0,5)$  ,  $(0,0)$  ,  $(-1,-1.5)$  ,  $(0,-1.5)$  ,  $(1.5,-1.5)$  ,  
 $(0.5,0.5)$  ,  $(0,0)$



## Shape 11

$(0,-1.5)$  ,  $(0,-3.5)$  ,  $(1.5,-3.5)$  ,  $(1.5,-4.5)$  ,  $(3.5,-4.5)$  ,  
 $(3,-3)$  ,  $(4.5,-3)$  ,  $(7.5,-2)$  ,  $(8.5,-2)$  ,  $(7.5,-3.5)$

$(6,-5)$  ,  $(5,-6)$  ,  $(4,-6.5)$  ,  $(1.5,-7)$  ,  $(1,-5.5)$  ,  $(0,-5.5)$  ,  
 $(-1,-5.5)$  ,  $(-1,-7.5)$  ,  $(-3,-6.5)$  ,  $(-5,-5.5)$

$(-7.5,-1.5)$  ,  $(-3.5,-3)$  ,  $(-4,-4.5)$  ,  $(-2,-4.5)$  ,  $(-1.5,-3)$  ,  
 $(0,-3.5)$

## Shape 12

$(-1,7.5)$  ,  $(-2.5,6)$  ,  $(-3,5)$  ,  $(-3.5,4)$  ,  $(-1.5,1)$  ,  $(-4,0.5)$  ,  
 $(-6,0.5)$  ,  $(-3.5,4)$

## Shape 13

$(-4,0.5)$  ,  $(-4,-1)$  ,  $(-3.5,-3)$

## Shape 14

$(-3,-6.5)$  ,  $(-2.5,-8)$  ,  $(-1.5,-10)$

## Shape 15

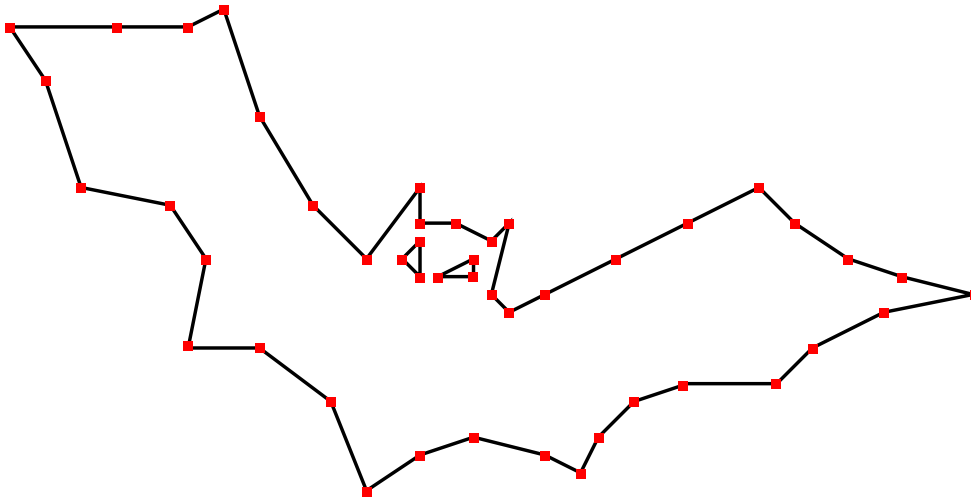
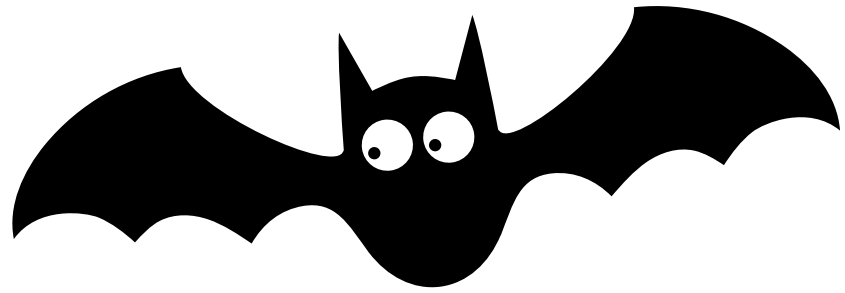
$(-1.5,8)$  ,  $(-2.5,8)$  ,  $(-4,7)$  ,  $(-5.5,6)$  ,  $(-7,4)$  ,  $(-8,2)$  ,  
 $(-8,0)$  ,  $(-8,-2)$  ,  $(-7.5,-4)$  ,  $(-7,-5.5)$

$(-5.5,-7.5)$  ,  $(-3.5,-10)$

## Shape 16

$(-2,9)$  ,  $(-4,8.5)$  ,  $(-6,7.5)$  ,  $(-8,6)$  ,  $(-9.5,3.5)$  ,  $(-10,2)$  ,  
 $(-10.5,0)$  ,  $(-10.5,-2)$  ,  $(-9.5,-4.5)$  ,  $(-8.5,-7)$

# BEASTY BATS



## Shape 1

(7,6) , (8,5) , (9.5,4) , (11,3.5) , (13,3) , (10.5,2.5) , (8.5,1.5) , (7.5,0.5) , (5,.5) , (3.5,0) ,  
 (2.5,-1) , (2,-2) , (1,-1.5) , (-1,-1) , (-2.5,-1.5) , (-4,-2.5) , (-5,0) , (-7,1.5) , (-9,1.5) (-8.5,4) ,  
 (-9.5,5.5) , (-12,6) , (-13,9) , (-14,10.5) , (-11,10.5) , (-9,10.5) , (-8,11) , (-7,8) (-5.5,5.5) ,  
 (-4,4) , (-2.5,6) , (-2.5,5) , (-1.5,5) , (-0.5,4.5) , (0,5) , (-0.5,3) , (0,2.5) (1,3) , (3,4) , (5,5) , (7,6)

## Shape 2

(-3,4) , (-2.5,4.5) , (-2.5,3.5) , (-3,4)

## Shape 3

(-2,3.5) , (-1,4) , (-1,3.5) , (-2,3.5)

# CROOKED CATS

## Shape 1

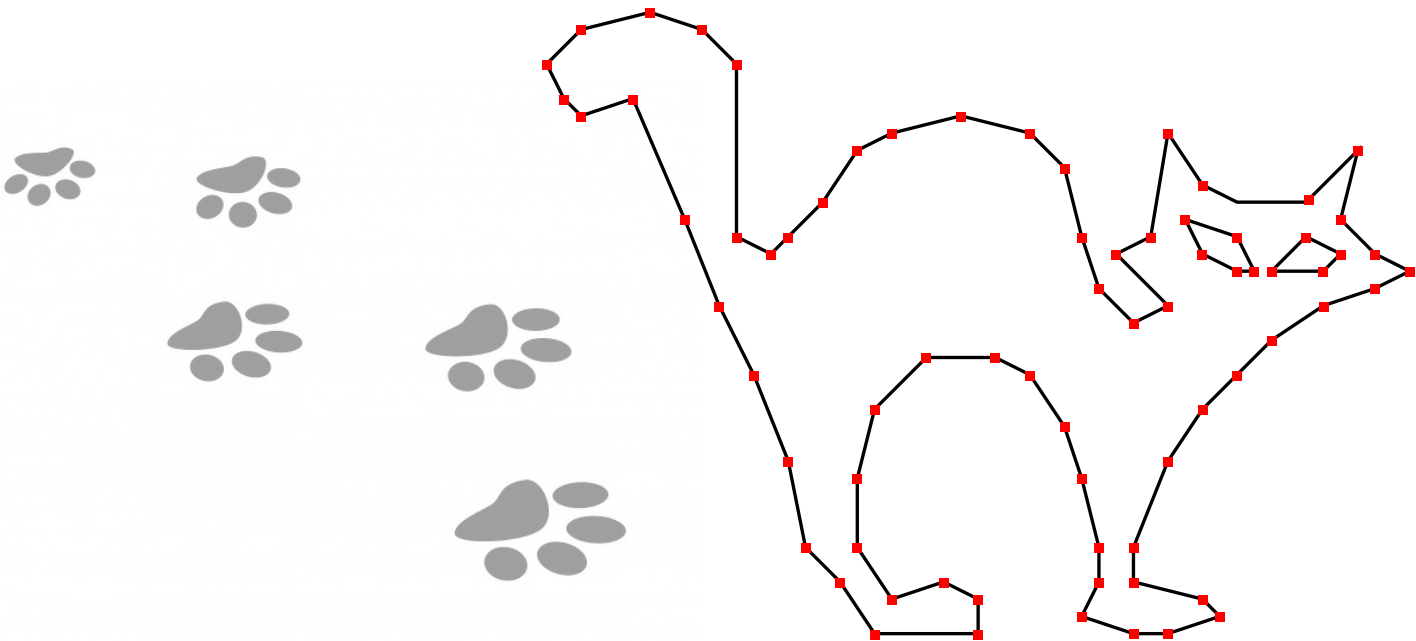
(0,0) , (1,-1.5) , (1.5,-3) , (2,-5) , (2,-6) , (1.5,-7) , (3,-7.5) , (4,-7.5) , (5.5,-7) , (5,-6.5) (3,-6) , (3,-5) ,  
 (4,-2.5) , (5,-1) , (6,0) , (7,1) , (8.5,2) , (10,2.5) , (11,3) , (10,3.5) (9,4.5) , (9.5,6.5) , (8,5) , (6,5) ,  
 (5,5.5) , (4,7) , (3.5,4) , (2.5,3.5) , (4,2) , (3,1.5) (2,2.5) , (1.5,4) , (1,6) , (0,7) , (-2,7.5) , (-4,7) , (-5,6.5) ,  
 (-6,5) , (-7,4) , (-7.5,3.5) (-8.5,4) , (-8.5,9) , (-9.5,10) , (-11,10.5) , (-13,10) , (-14,9) , (-13.5,8) , (-13,7.5) ,  
 (-11.5,8) (-10,4.5) , (-9,2) , (-8,0) , (-7,-2.5) , (-6.5,-5) , (-5.5,-6) , (-4.5,-7.5) , (-1.5,-7.5) (-1.5,-6.5) ,  
 (-2.5,-6) , (-4,-6.5) , (-5,-5) , (-5,-3) , (-4.5,-1) , (-3,0.5) , (-1,0.5) , (0,0)

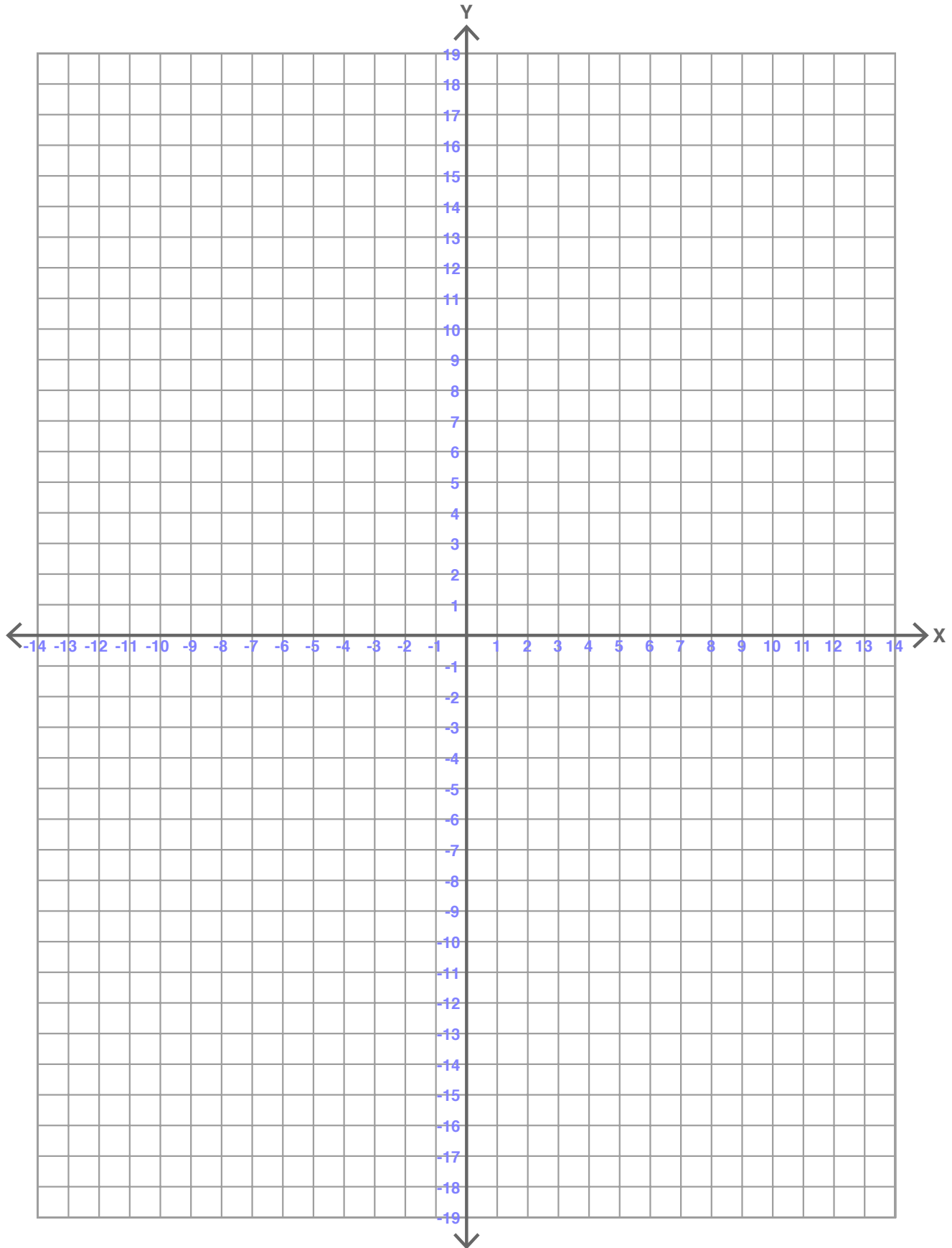
## Shape 2

(6,3) , (6.5,3) , (6,4) , (4.5,4.5) , (5,3.5) , (6,3)

## Shape 3

(7,3) , (8.5,3) , (9,3.5) , (8,4) , (7,3)







## REFERENCES:

Math-Aids.Com. (2019). Math Worksheets. Retrieved October 10, 2019, from <http://www.math-aids.com/>.



For more information, visit: <https://edventures.com/collections>  
or contact a STEM Program Specialist at (800) 429-3110

**PCS edventures!**<sup>TM</sup>  
Experts in Hands-On **STEM** Education

