


# GEOMETRIC TRANSFORMATIONS



PLAY

MENU

EXIT



# HS GEOMETRY STANDARDS

KY . HS . G . 2

KY . HS . G . 3

# PHOENIX TANG

## CATCH THE DONUTS



### Catch the donuts!

Controls	Action
W key	Power move- Translate and Reflect, move 20 steps and reflect across the x axis. This is a rigid transformation Ex: (-100, -92) → (-100, -95) size: 35 → 25
A key	Power move- Dilate and rotate, Enlarge by 10 and rotate 180 degrees. This is a non-rigid transformation Ex: size: 35 → 45, direction: 90 → -90
S key	Power move- Rotate and Translate 10 steps to the right. This is a rigid transformation Ex: (-100, -92) → (-100, -92) image rotates to side by 90 degrees clockwise
Arrow right	Move 10 steps to the right, Translate to the right, This is a rigid transformation Ex: (-100, -92) → (-100, -92)
Arrow left	Move 10 steps to the left, Translate to the left, This is a rigid transformation Ex: (-100, -92) → (-200, -92)
Space bar	Sprite jumps, translates up. This is a rigid transformation Ex: (-100, -92) → (-100, -15)

You begin in a land full of candy and brightness, but there's a problem, under you is a large pit of lava! Fall into it? You die. Jump over the purple blocks and collect the donuts to win! Use arrow keys to move side to side, spacebar to jump and WAS to use a power move!

Link to game: <https://scratch.mit.edu/projects/893375596>

## Capture The Flag: Cat Edition- User Guide

[Link to Game Above](#)

### Meet the Characters:

George

Jimmy



George is the main character and he is the character which you will be controlling.

Jimmy is one of the obstacles but he was really cute so we gave him a name.

### Goal of The Game:

The goal of this game is to win by getting to the green flag, in order to get to the green flag you have to go through a series of obstacles. In order to get around the obstacles you have to use different power moves.

### How to Win/ Lose:

In order to win the game you have to direct George through all the obstacles including going around Jimmy :( you will have to use the power moves to go down and under Jimmy and then you use a different power move to get to the end of the first screen. After that you use the third power move to get to the green flag. When you get to the green flag you have to be on top of it and hit "W" to go to the winning game screen.

# BRYCE KIMERY

# CAPTURE THE FLAG

### Transformation That Happens With The Move

Control	Move	Transformation	Old $\rightarrow$ New Location	Rigid
Up Arrow	Power Move	Dilation Rotation	$(-186, -151) \rightarrow (-186, -36)$ Size goes from 50% $\rightarrow$ 100%	Not Rigid
Right Arrow	Normal Move	Translation	$(-186, -36) \rightarrow (-86, -36)$ Moves forward by 100 units	Rigid
Down Arrow	Power Move	Translation Dilation	$(-186, -36) \rightarrow (-186, -151)$ Dilated by .5- 100% $\rightarrow$ 50%	Not Rigid
Left Arrow	Normal Move	Translation Reflection	$(-86, -36) \rightarrow (-186, -36)$ When the back arrow is clicked George Reflects and moves backwards.	Rigid
Space Bar	Normal Move	Translation Translation	$(-186, -36) \rightarrow (-186, 64)$ $\rightarrow$ $(31, -36)$	Rigid
#1	Power Move	Translation Rotation	$(-186, -36) \rightarrow (-186, 129)$ 180° Rotation	Rigid



# MERYL FURNISH FOOD TRUCK



## Rotation

In my game, rotations are used on the food truck. By clicking either the left arrow or the right arrow, the food truck will turn 90 degrees in that direction. This is a rigid transformation because the shape and size does not change.



## Objective of the Game

The objective of this game is to get the cat to the food truck because he is hungry. He can't touch the grass and must stay on the road.

