



KELP Module 1

Topic: Initialization

ACTIVITY 6: Animal Race **KEY**

VOCABULARY

Initialize: Reset sprites to starting location, size, color, and direction.

Position: Where something is located.

Orientation: The direction something is pointing

ACTIVITY GOAL

Tell sprites where they should be at the beginning of the program; reset them. This is called **initialization**.

An example is shown on the right. This short script tells the sprite to go to a certain position every time the green flag is clicked.



BACKGROUND

Below are some things about a sprite that can change during a program and how to reset, or **initialize** them.

How a sprite may change	Blocks that affect a sprite	How to initialize
Position – the location of the sprite 	"Glide", "move", "go to"	
Orientation – the direction your sprite is pointing 	"turn", "point"	
Size – how big or little a sprite is 	"change size by", "set size to"	
Color 	"change (something) effect" or "set (color) effect"	

EXPLORE:

Step 1: Click the **green flag**.

Step 2: Click on each **animal** on the **stage** to make it start racing. This may take a second to begin.

Step 3: Now click the **green flag** again. You should notice that some animals went back to the starting point while others did not.

The animals that went back to the starting position were correctly **initialized**. Those that did not return were **not initialized** meaning that they did not reset back to the starting line.

- List all the animals that were **initialized**.

The horse

- List all the animals that were **not initialized**.

The Rooster and the Cat

Step 5: Circle the two variables for the **cat** that changed:

Position

orientation

size

color

Step 6: Circle the two variables for the **rooster** that changed:

Position

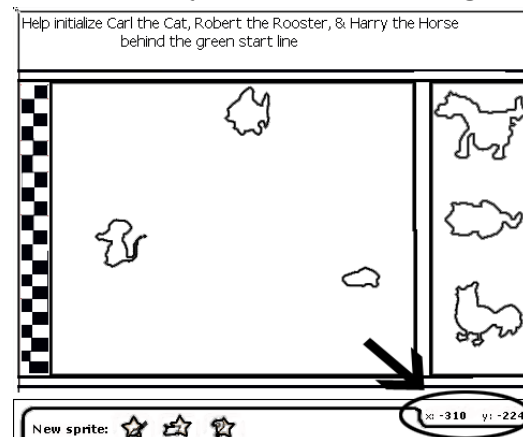
orientation

size

color

Step 7: Now look at the **x and y** number located just below the **stage** on the right-hand side.

This shows the **x and y** value for the location of the mouse pointer. If you put the pointer in the center of the **stage**, it should say: x: 0 y: 0. Now move your pointer to the right. The x number should get bigger. If you move the pointer up towards the top of the screen, the y number will get bigger.



Step 8: What are the **x and y** numbers for the bottom-left corner of the **stage**? Write them in the spaces below.

x: **-242** y: **-170**

PROGRAMMING CHALLENGE: ANIMAL RACE

Your task is to properly **initialize** the rooster and the cat when the **green flag** is clicked.

An example initialization **script** is shown to the right. It consists of one **control** block ("when green flag is clicked" and one **action** block ("go to x:__ y:__"). This **script** will bring a **sprite** back to a certain spot on the screen whenever the **green flag** is clicked.



PLAN:

Plan how you will **initialize** the cat (make sure it returns to its initial state):

For the cat and the rooster, you will need to use a **control** block and two other **blocks** for each of them (hint: Look at the table on page 1).

Fill in the words on the **action** block that you will need to use.

CAT:

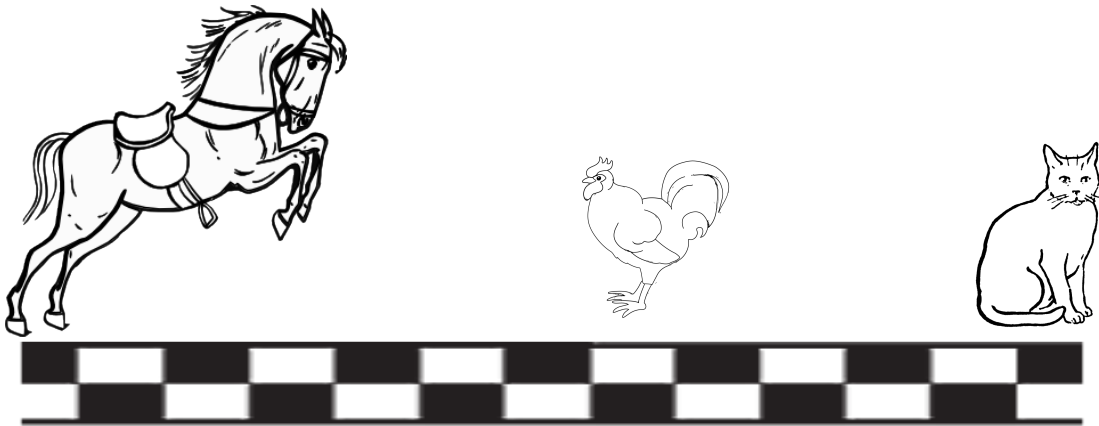
when clicked	Control Block
Go To X: Y:	Action Block 1 (fill this in)
Set size to 100%	Action Block 2 (fill this in)

ROOSTER:

when clicked	Control Block
Go To X: Y:	Action Block 1 (fill this in)
Point in direction	Action Block 2 (fill this in)

CREATE:

Make a **script** for the cat and a **script** for the rooster. Then test your solution by playing the race through twice in a row.



If your animals all go back to the starting point and look like they did before they began their first race, you have succeeded!

Double-check – did you remember everything?

- 1) Did you add in all of the **initialization** for the cat?
- 2) Did you add in all of the **initialization** for the rooster?

IMPROVE:

After you have finished, think about what you could do to make your project more interesting. If you could add another animal to the race what would it be? How would it race? What **blocks** might you use to get it to race how you want? Write or draw your ideas below.

The Improve section is designed to be open-ended and allow the students to write about and do what they think. There is no one correct response to these questions.