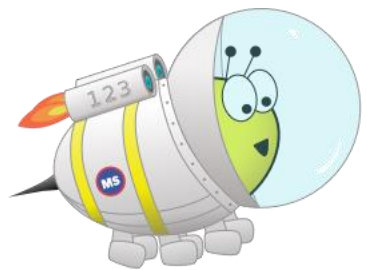




Maths Shed



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Lesson: 1

To be able to describe movement along straight lines

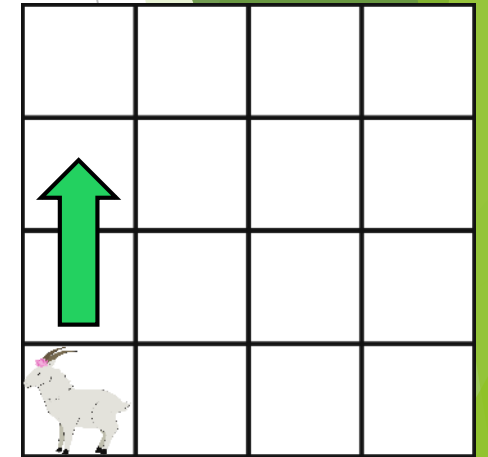
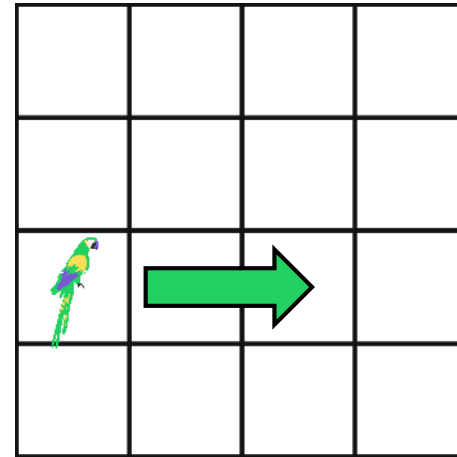
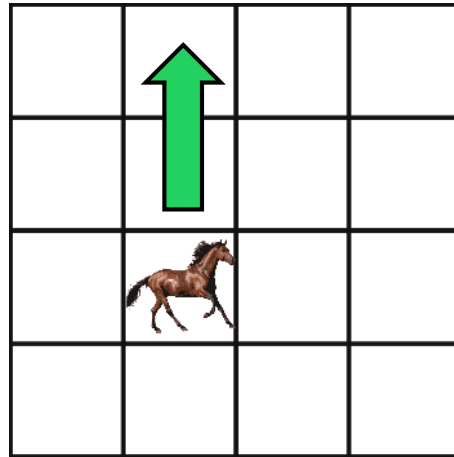
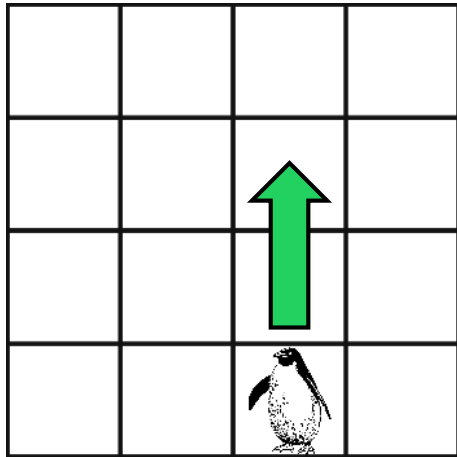
Success criteria:

- ✓ I can use terms like “forwards”, “backwards”, “up”, “down”, “left” and “right” to describe an object’s movement in straight lines on a grid
- ✓ I can explain my reasoning when using terms like “forwards”, “backwards”, “up”, “down”, “left” and “right” to describe an object’s movement in straight lines on a grid

To be able to describe movement along straight lines

Starter:

Which one doesn't belong?

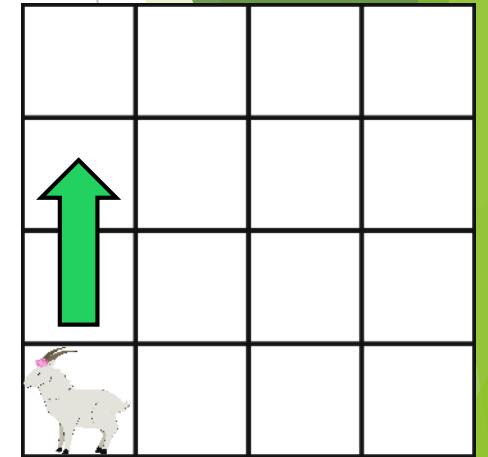
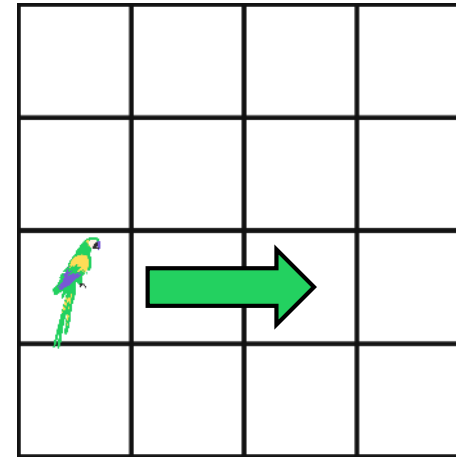
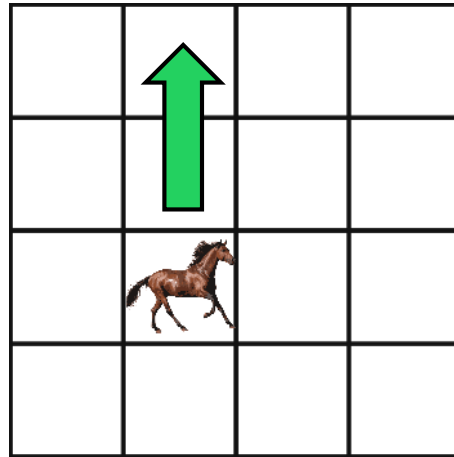
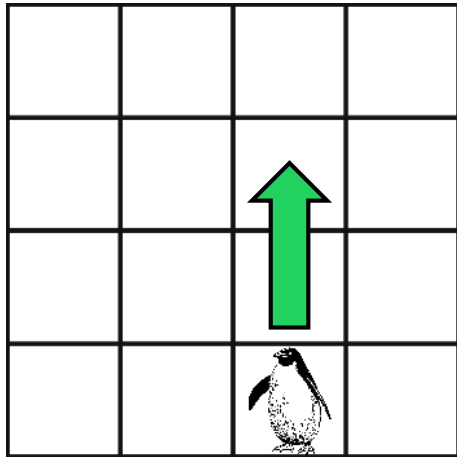


Explain your answer.

To be able to describe movement along straight lines

Starter:

Which one doesn't belong?



The parrot doesn't belong as it moves right by two spaces, whereas the penguin, horse and goat move forwards (or up) two spaces.

To be able to describe movement along straight lines

Activity 1:

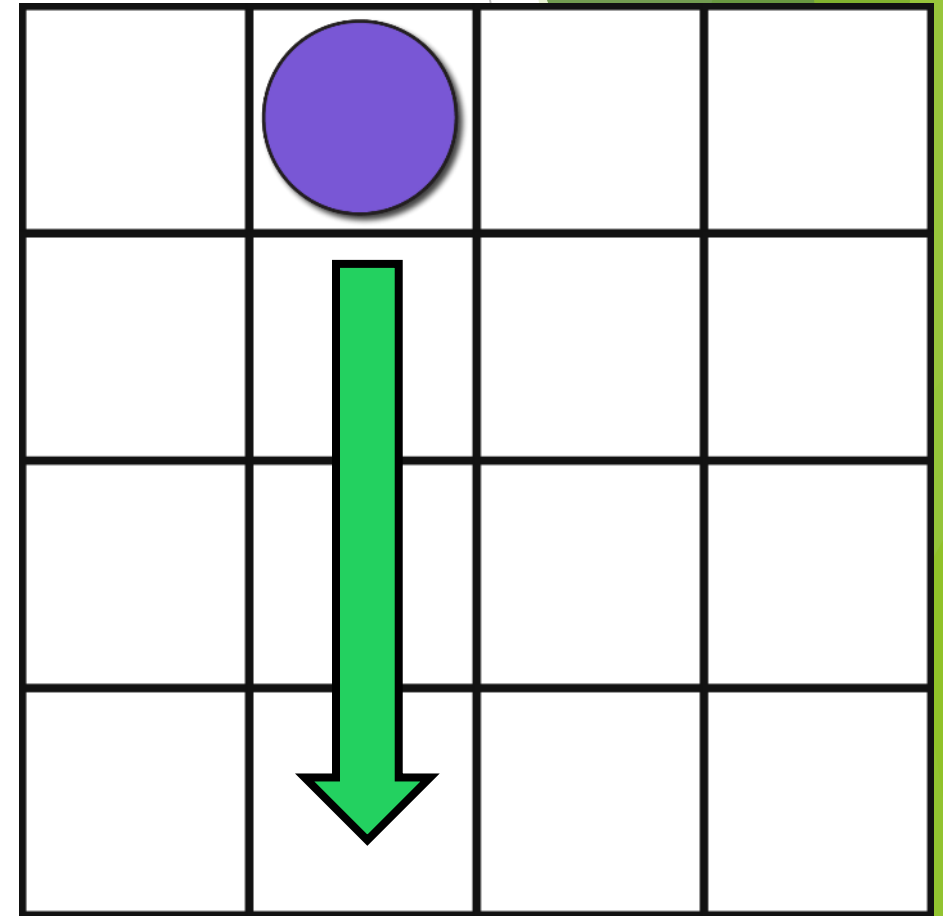
Draw a four space by four space grid.

Partner 1 has a counter or cube.

Partner 2 gives instructions like:

- ▶ “Move the counter up two spaces.”
- ▶ ”Move the counter left one space.”
- ▶ “Move the counter backwards three spaces.”

(Repeat with children acting as counters on a four by four grid drawn on the playground.)



To be able to describe movement along straight lines

Activity 1:

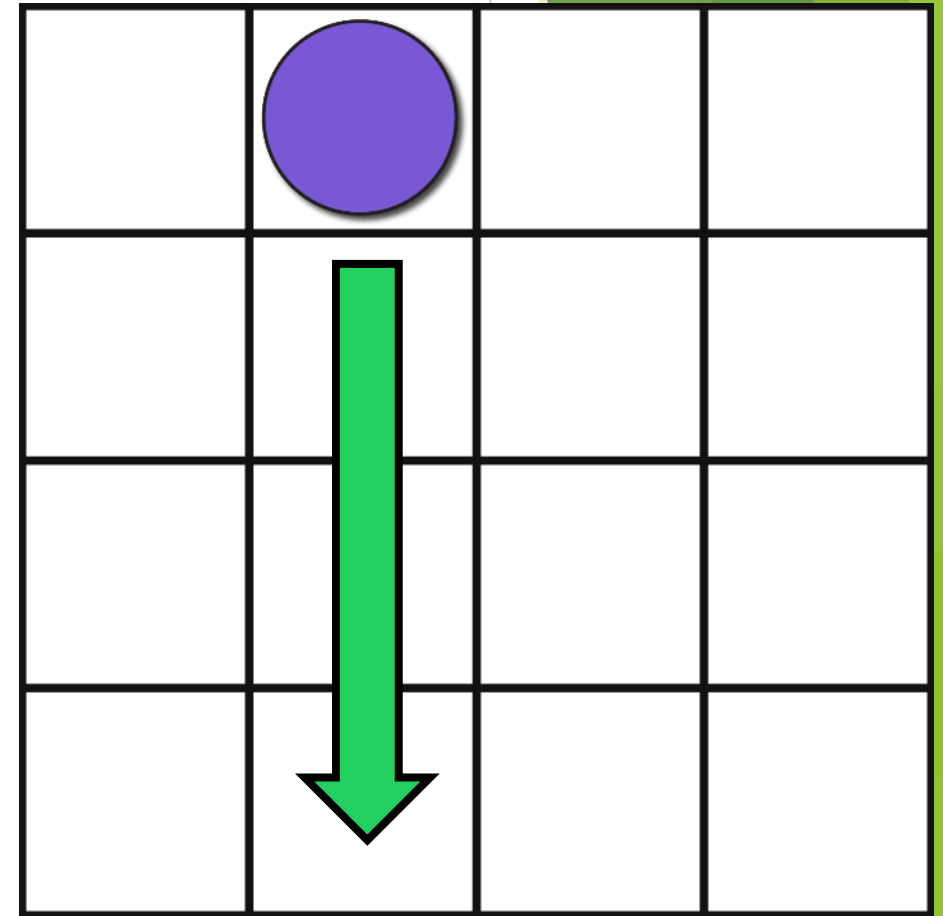
Draw a four space by four space grid.

Partner 1 has a counter or cube.

Partner 2 gives instructions like:

- ▶ “Move the counter up two spaces.”
- ▶ ”Move the counter left one space.”
- ▶ “Move the counter backwards three spaces.”

Teacher / peer assessment

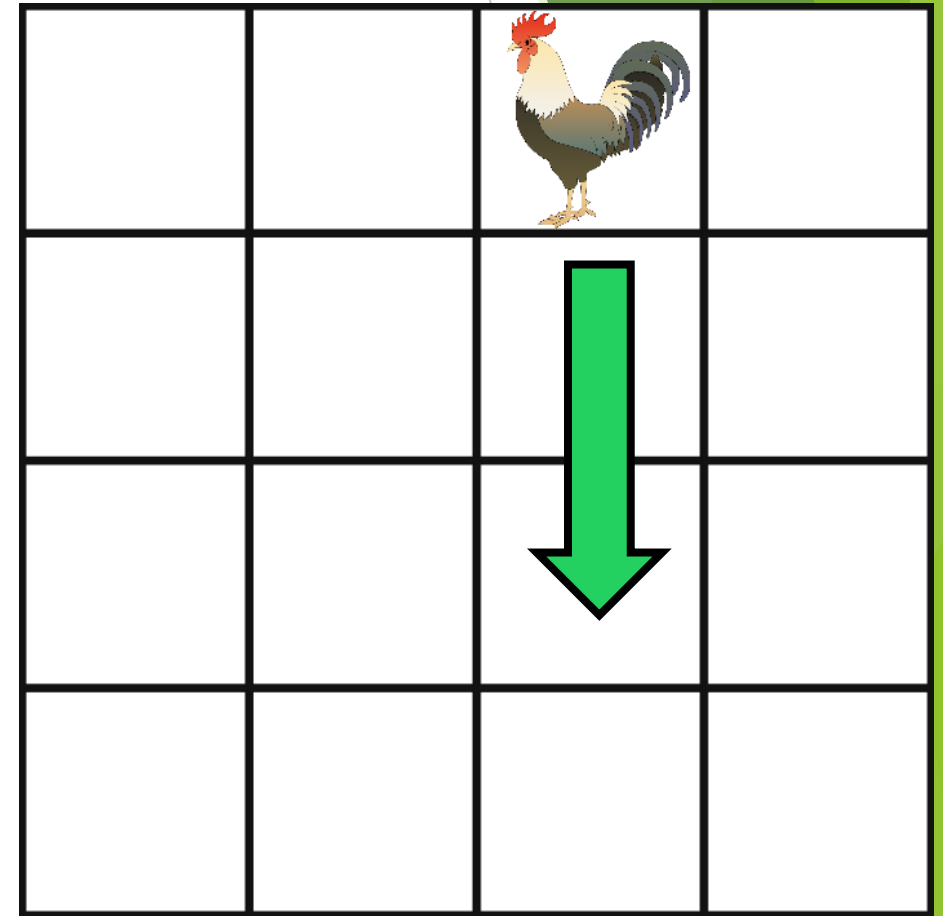


To be able to describe movement along straight lines

Talking Time:

Look at the grid, then complete the sentence below.

The rooster has moved
_____ two spaces.

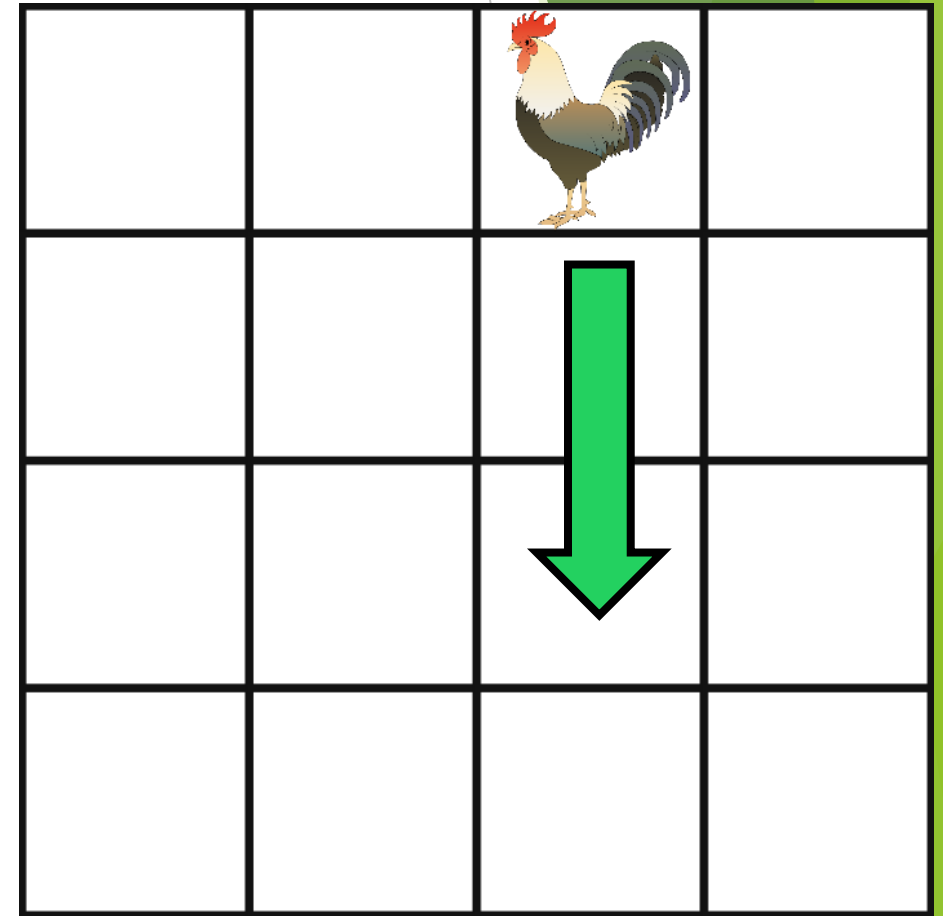


To be able to describe movement along straight lines

Talking Time:

Look at the grid, then complete the sentence below.

The rooster has moved
backwards two spaces.

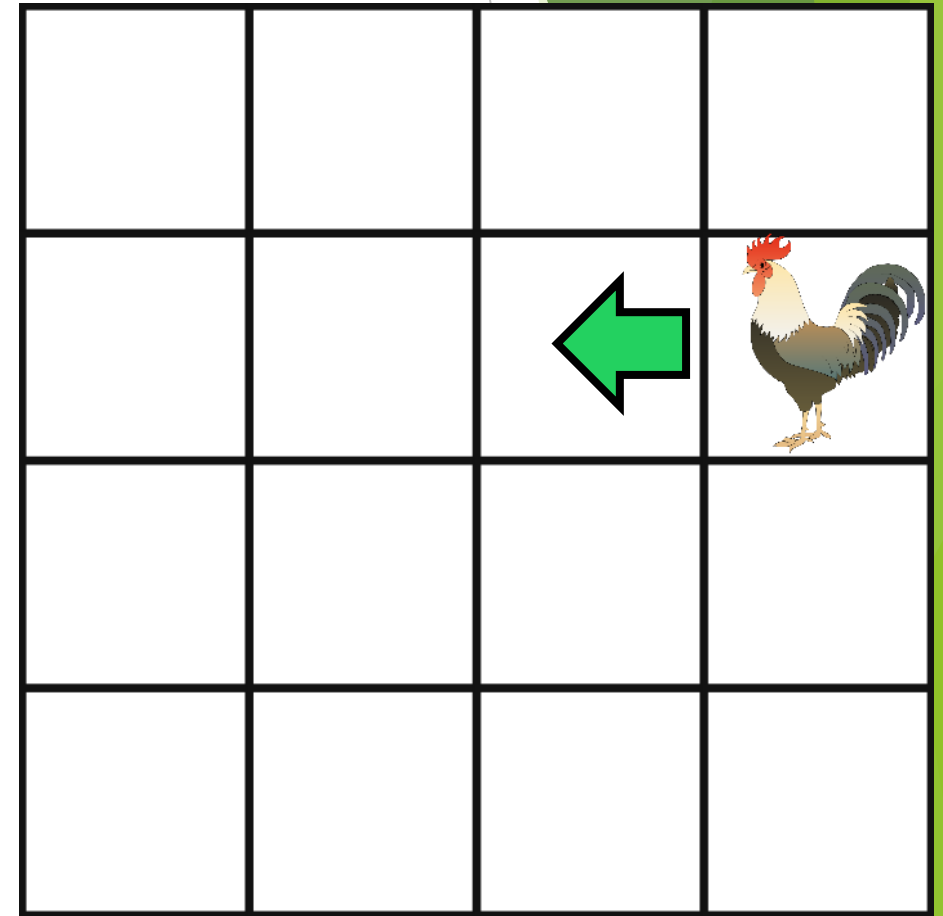


To be able to describe movement along straight lines

Talking Time:

Look at the grid, then complete the sentence below.

The rooster has moved
_____ one space.

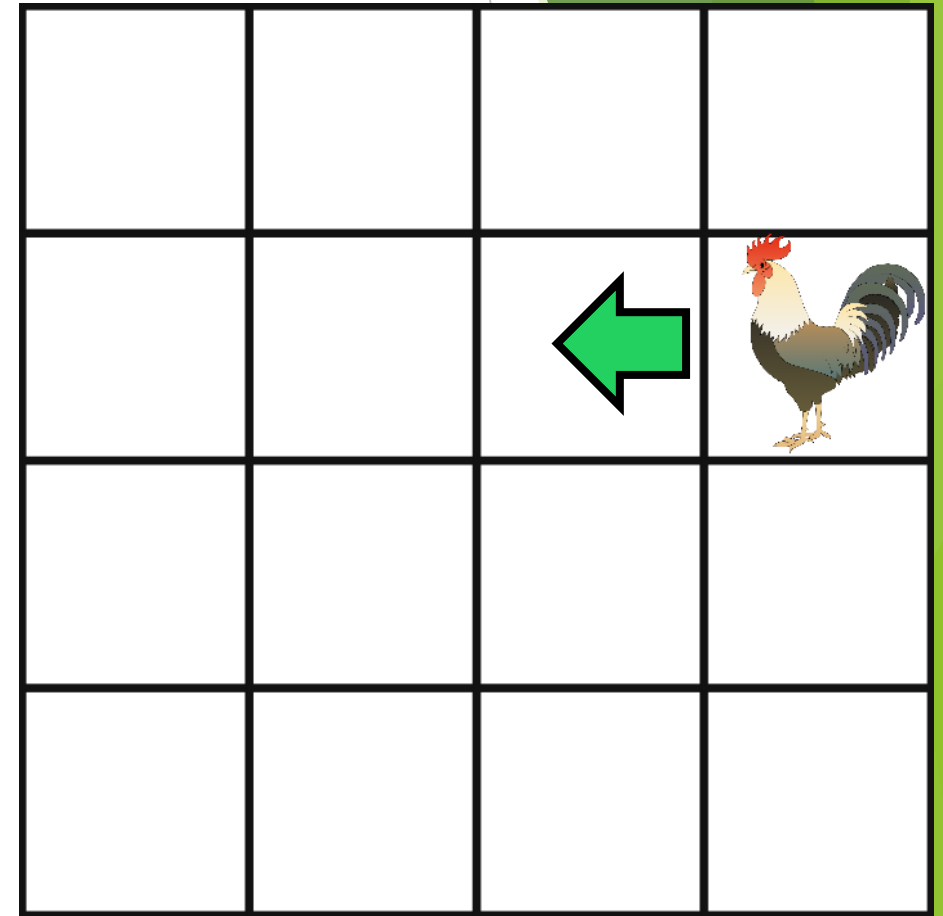


To be able to describe movement along straight lines

Talking Time:

Look at the grid, then complete the sentence below.

The rooster has moved
left one space.

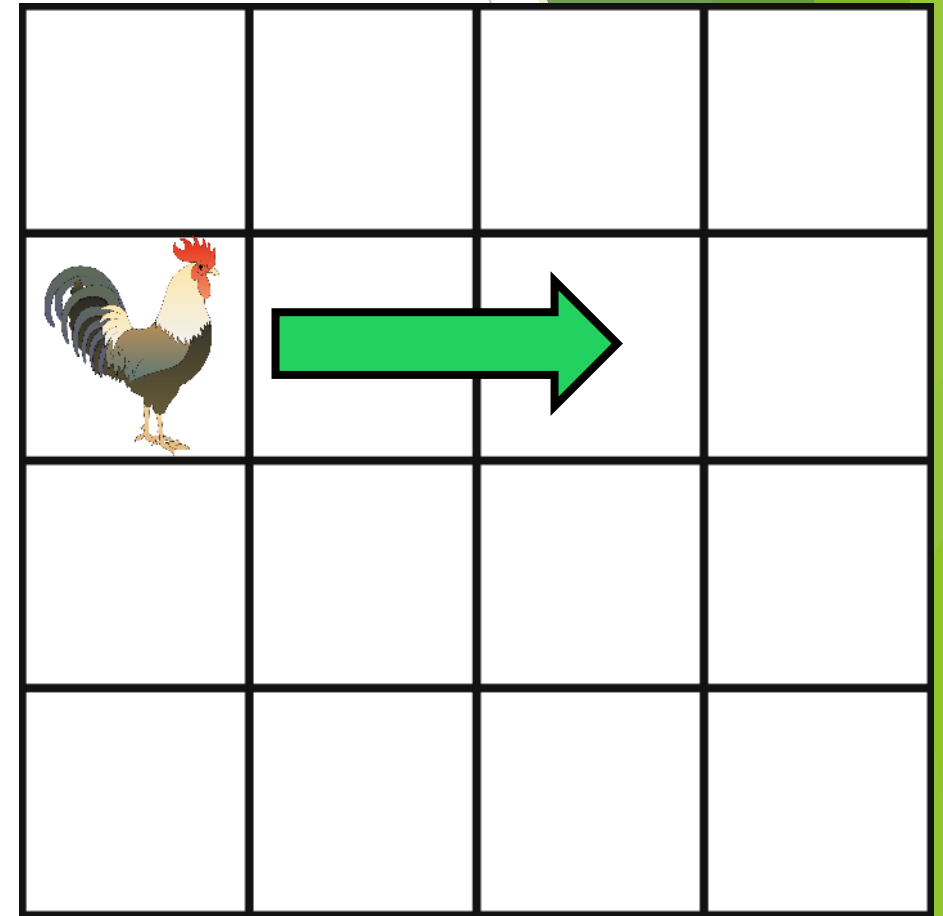


To be able to describe movement along straight lines

Talking Time:

Look at the grid, then complete the sentence below.

The rooster has moved
_____ two spaces.

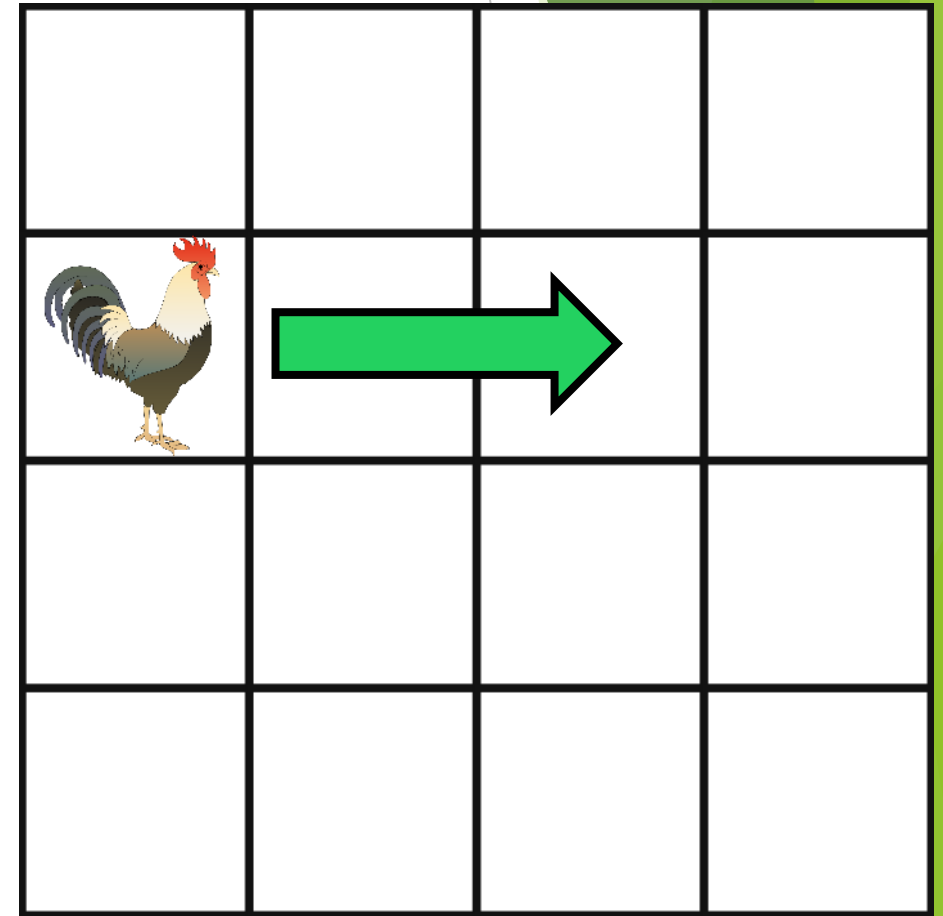


To be able to describe movement along straight lines

Talking Time:

Look at the grid, then complete the sentence below.

The rooster has moved
right two spaces.

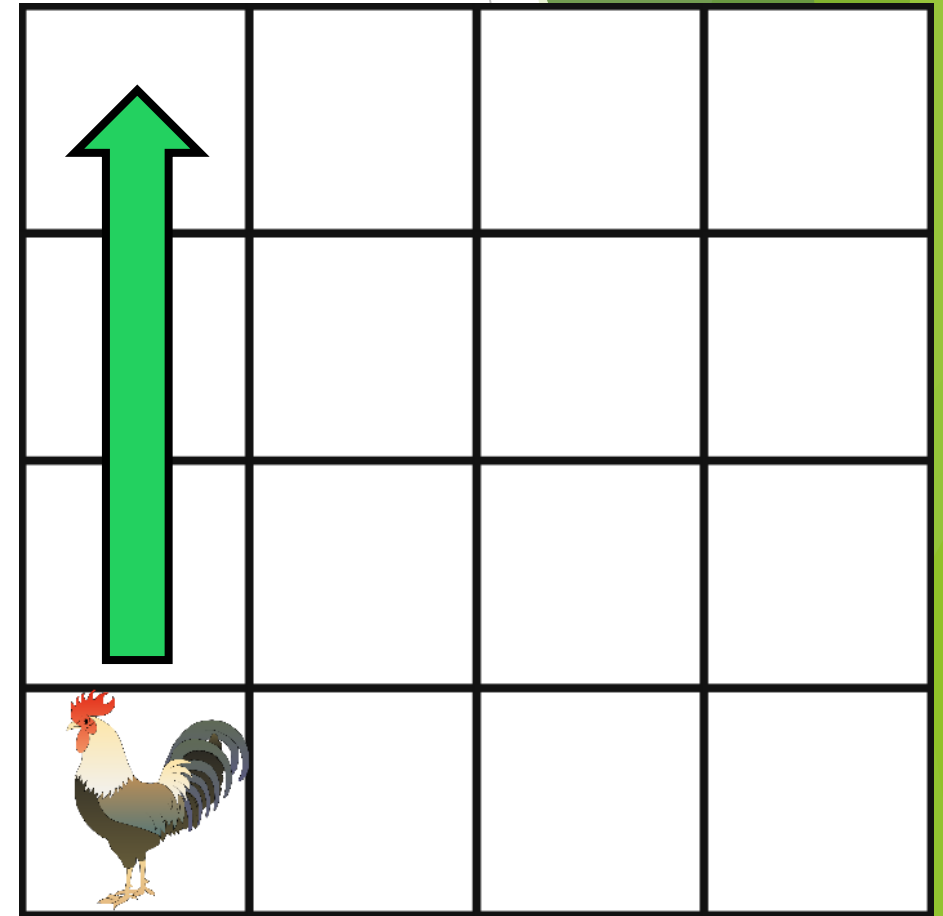


To be able to describe movement along straight lines

Talking Time:

Look at the grid, then complete the sentence below.

The rooster has moved
_____ three spaces.

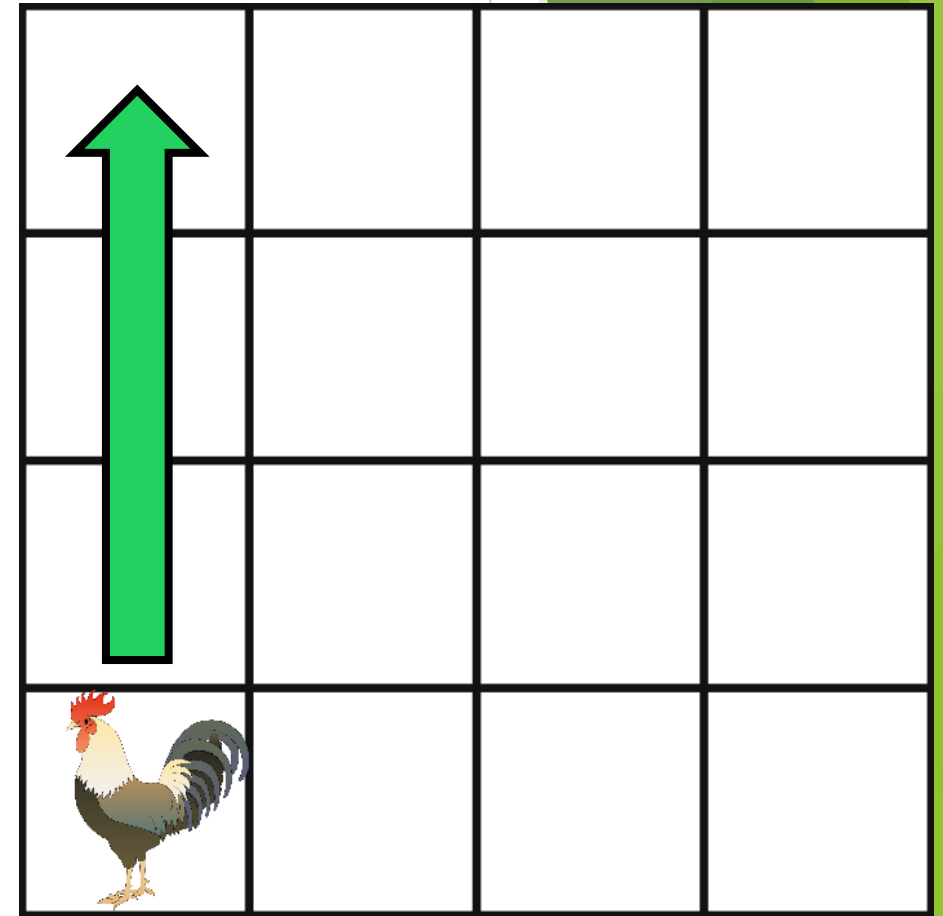


To be able to describe movement along straight lines

Talking Time:

Look at the grid, then complete the sentence below.

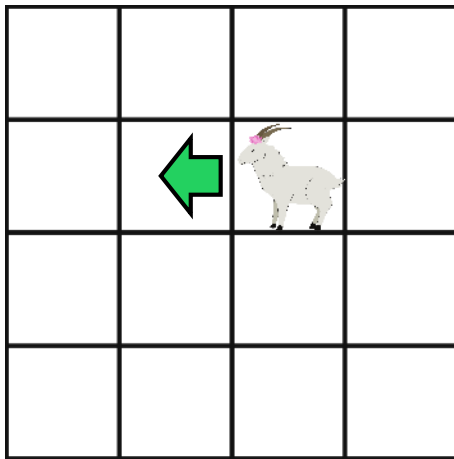
The rooster has moved
forwards three spaces.



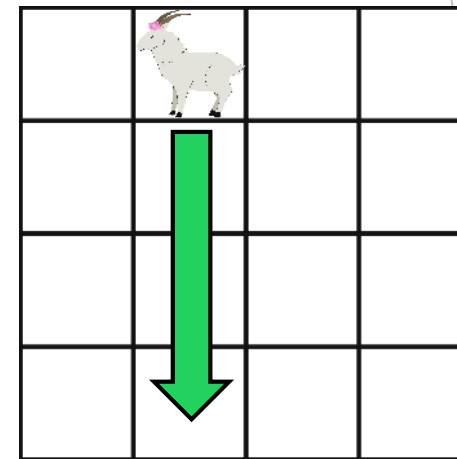
To be able to describe movement along straight lines

Activity 2:

Look at the grids, then complete the sentences below.



The goat has moved
_____ one space.

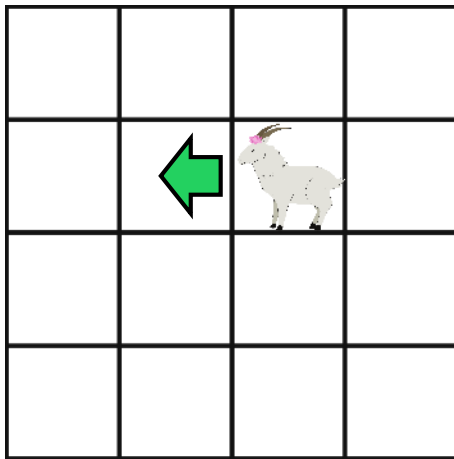


The goat has moved
_____ three spaces.

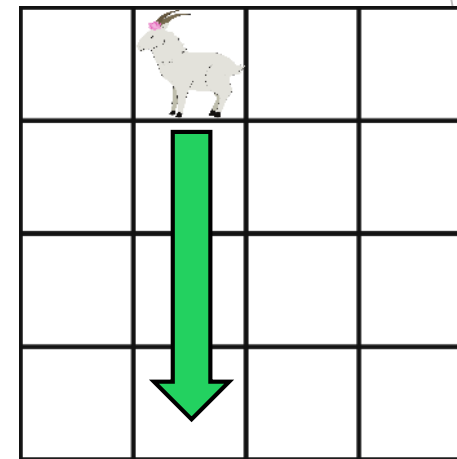
To be able to describe movement along straight lines

Activity 2:

Look at the grids, then complete the sentences below.



The goat has moved
left one space.

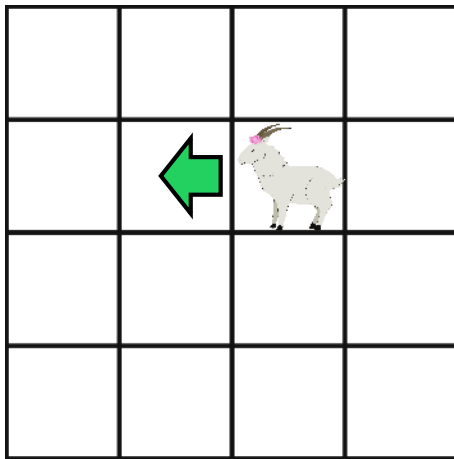


The goat has moved
_____ three spaces.

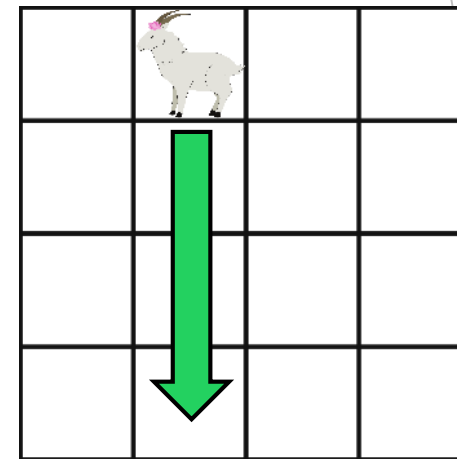
To be able to describe movement along straight lines

Activity 2:

Look at the grids, then complete the sentences below.



The goat has moved
left one space.

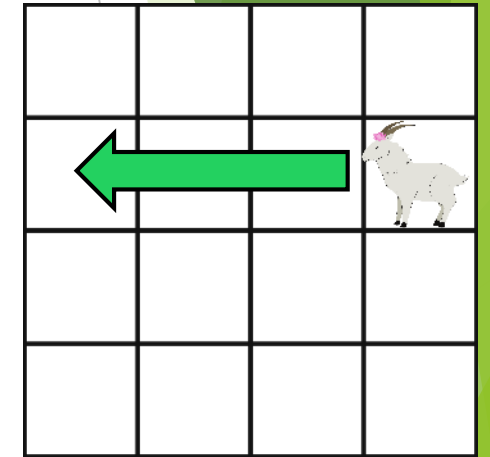
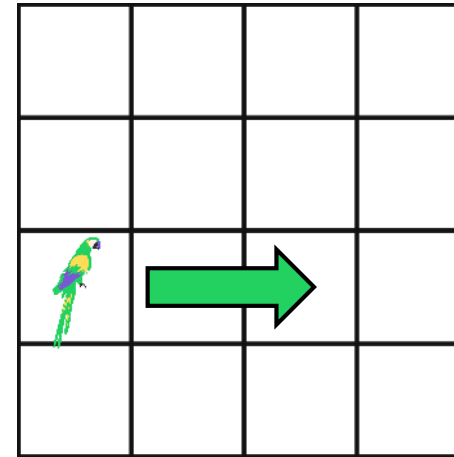
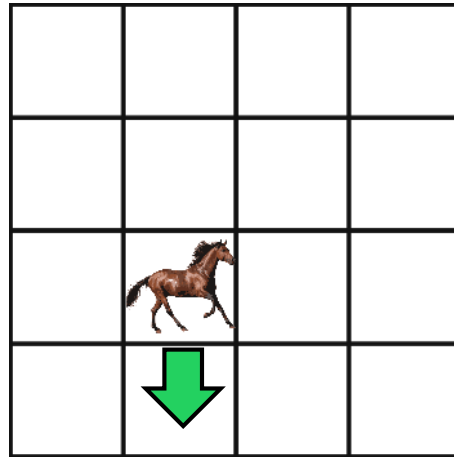
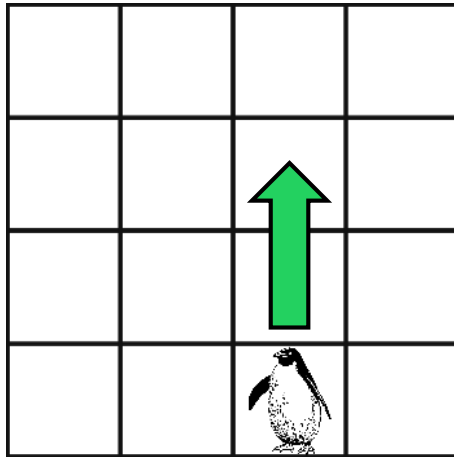


The goat has moved
backwards three spaces.

To be able to describe movement along straight lines

Talking Time:

Match each image to its direction instructions.



move down
1 space

move right
2 spaces

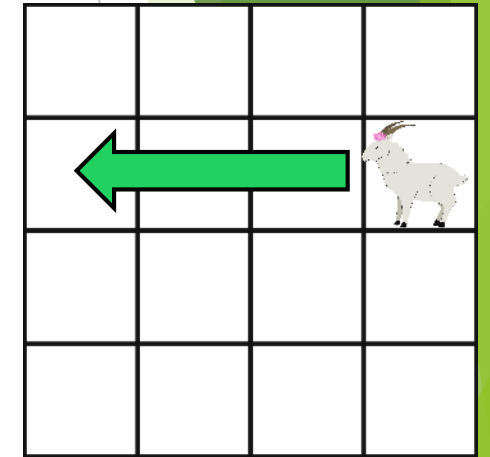
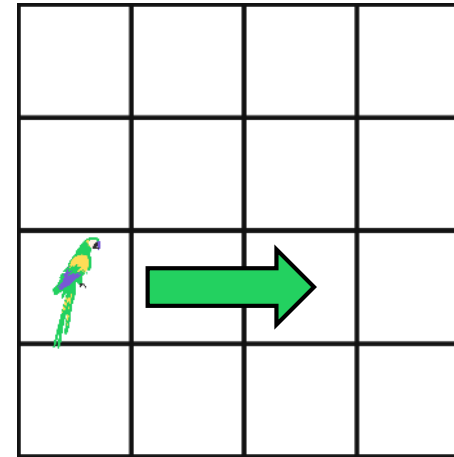
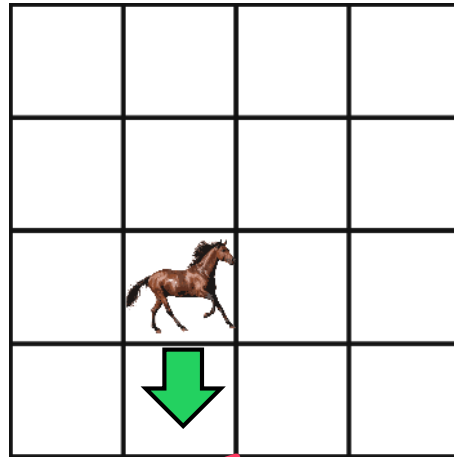
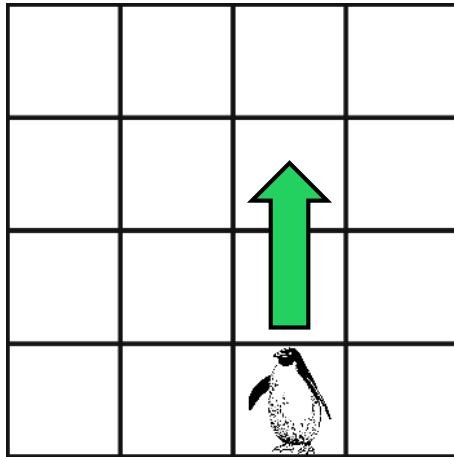
move left
3 spaces

move up
2 spaces

To be able to describe movement along straight lines

Talking Time:

Match each image to its direction instructions.



move down
1 space

move right
2 spaces

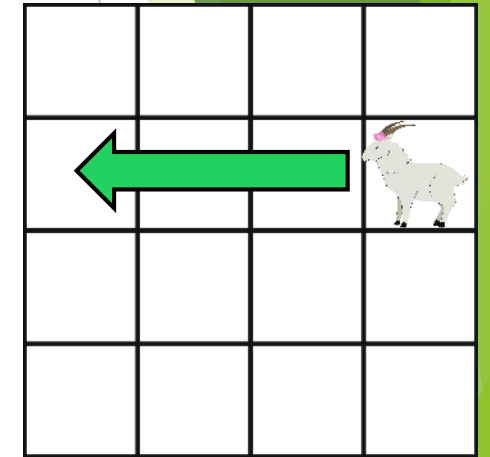
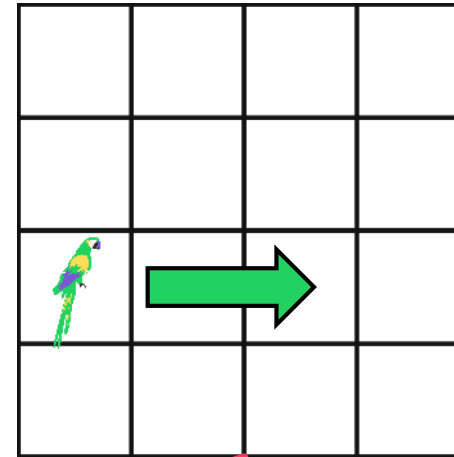
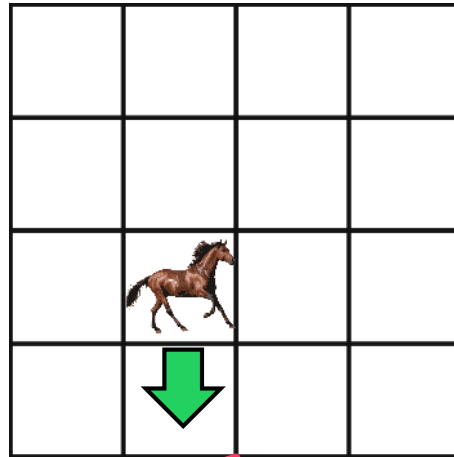
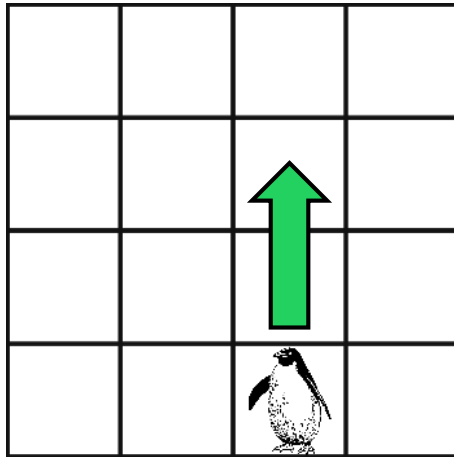
move left
3 spaces

move up
2 spaces

To be able to describe movement along straight lines

Talking Time:

Match each image to its direction instructions.



move down
1 space

move right
2 spaces

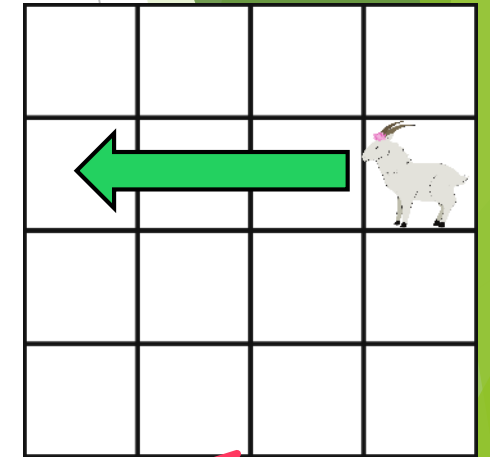
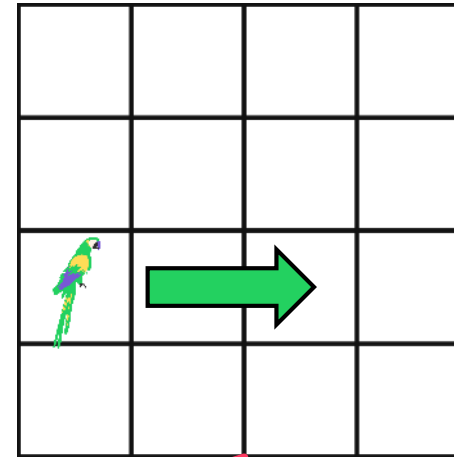
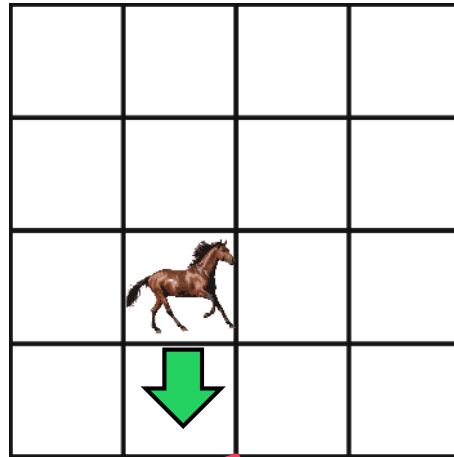
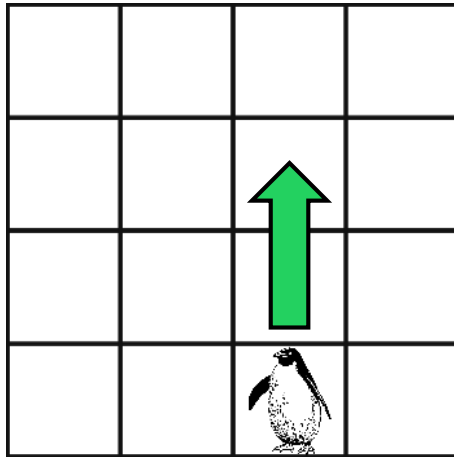
move left
3 spaces

move up
2 spaces

To be able to describe movement along straight lines

Talking Time:

Match each image to its direction instructions.



move down
1 space

move right
2 spaces

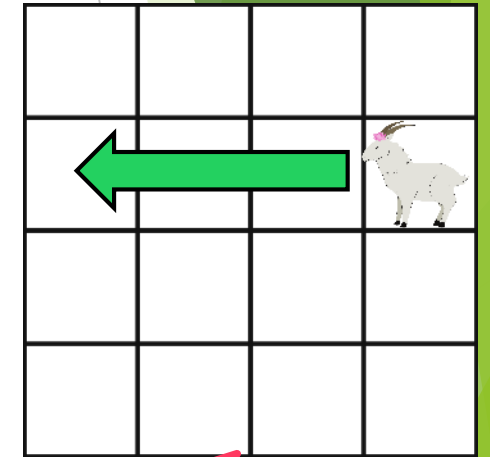
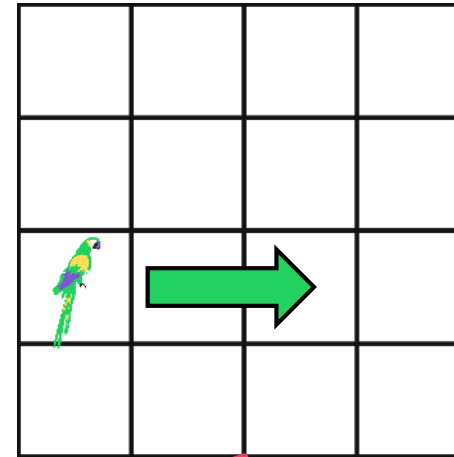
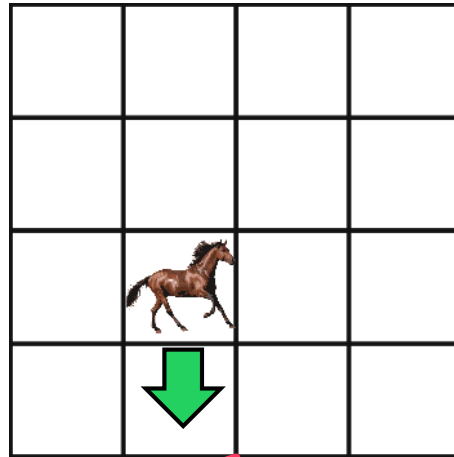
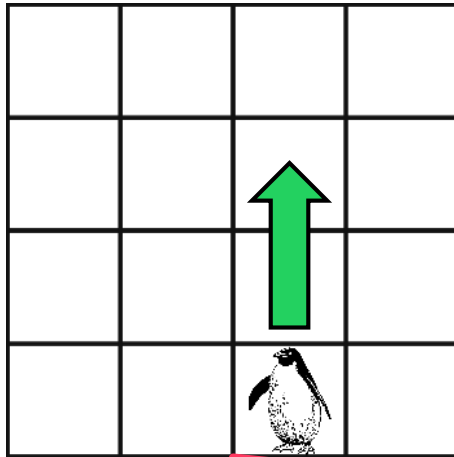
move left
3 spaces

move up
2 spaces

To be able to describe movement along straight lines

Talking Time:

Match each image to its direction instructions.



move down
1 space

move right
2 spaces

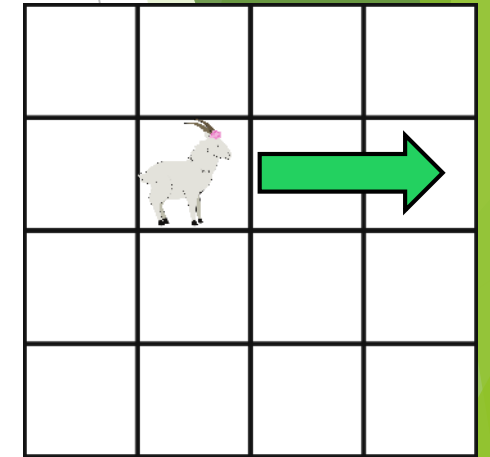
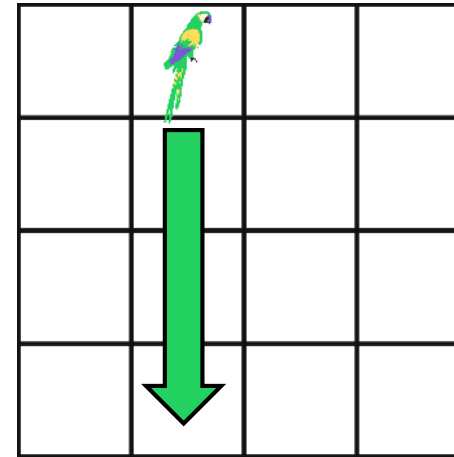
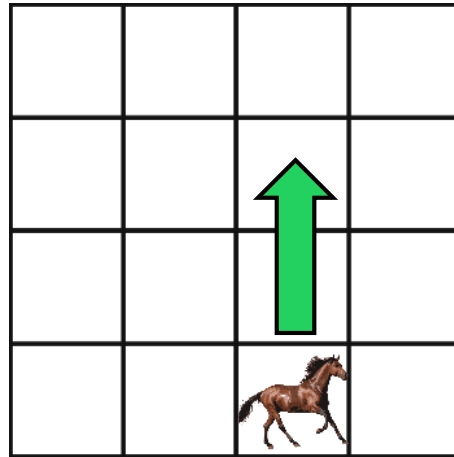
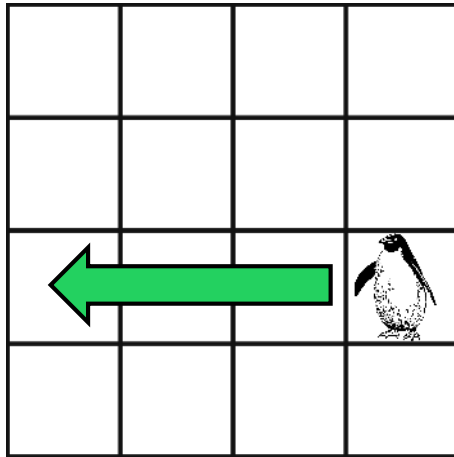
move left
3 spaces

move up
2 spaces

To be able to describe movement along straight lines

Activity 3:

Match each image to its direction instructions.



move up
2 spaces

move left
3 spaces

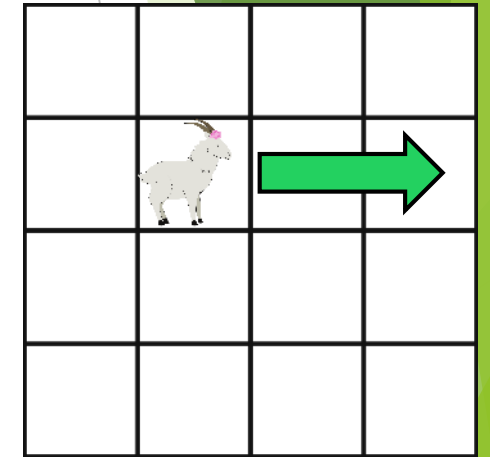
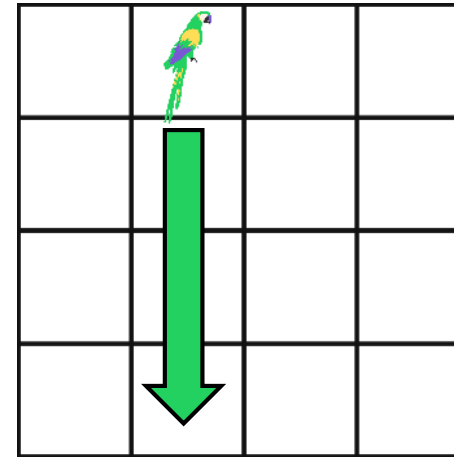
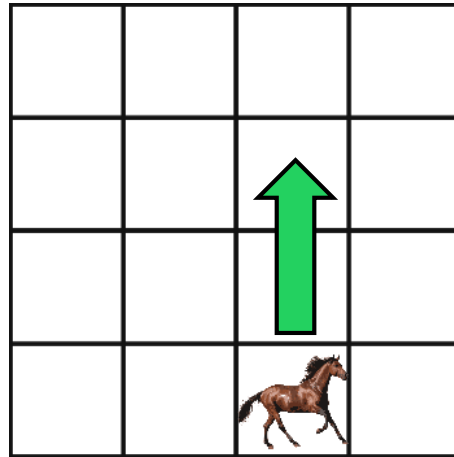
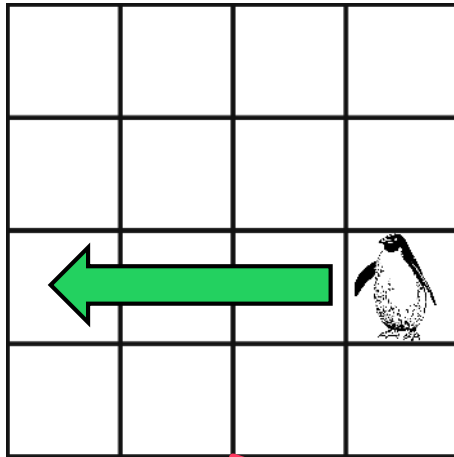
move right
2 spaces

move down
3 spaces

To be able to describe movement along straight lines

Activity 3:

Match each image to its direction instructions.



move up
2 spaces

move left
3 spaces

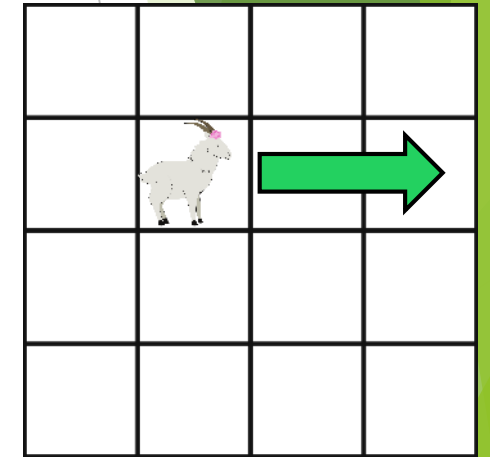
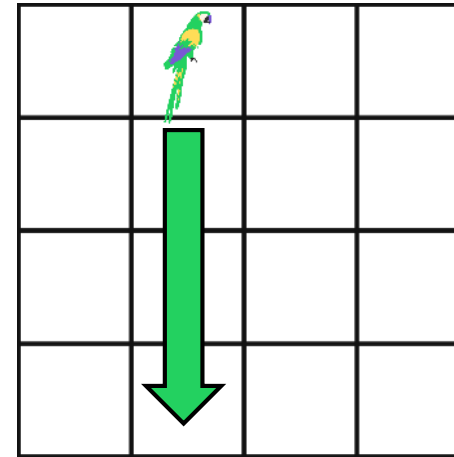
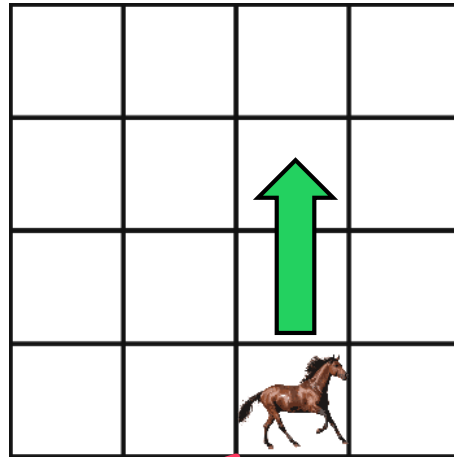
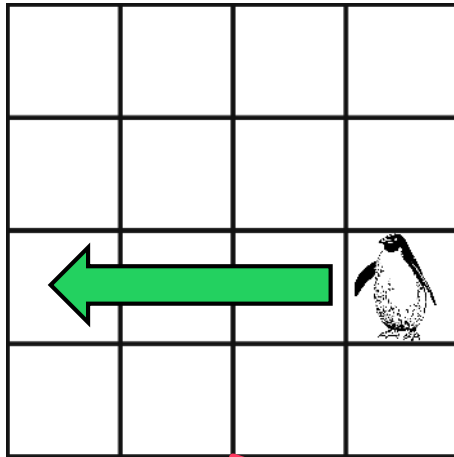
move right
2 spaces

move down
3 spaces

To be able to describe movement along straight lines

Activity 3:

Match each image to its direction instructions.



move up
2 spaces

move left
3 spaces

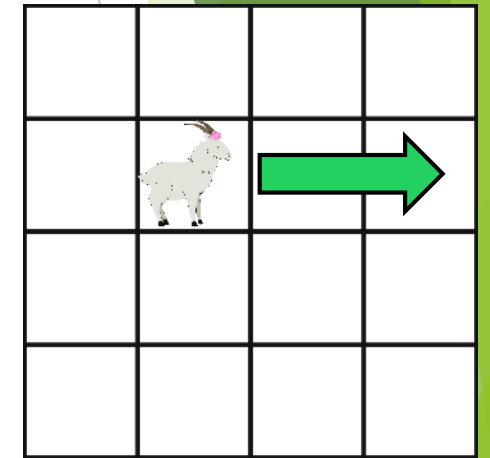
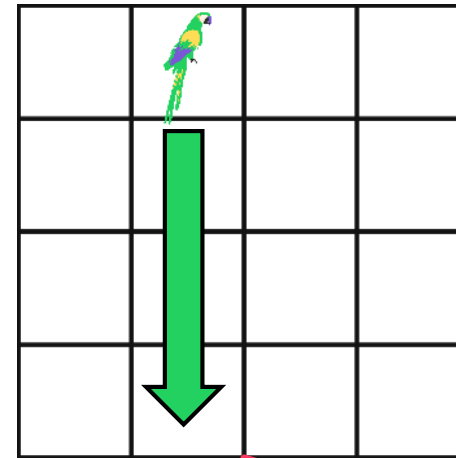
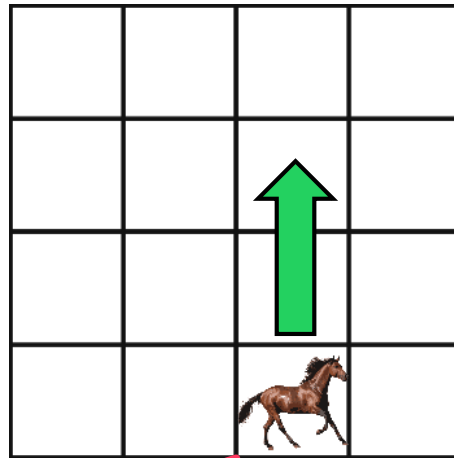
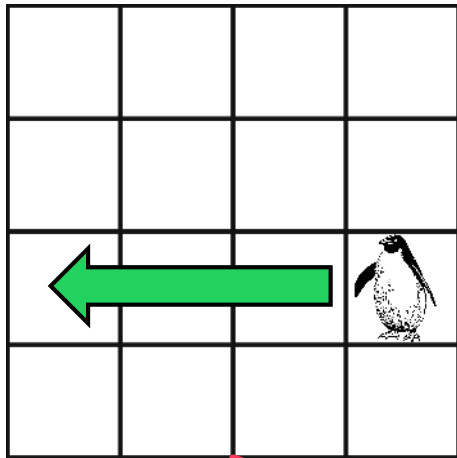
move right
2 spaces

move down
3 spaces

To be able to describe movement along straight lines

Activity 3:

Match each image to its direction instructions.



move up
2 spaces

move left
3 spaces

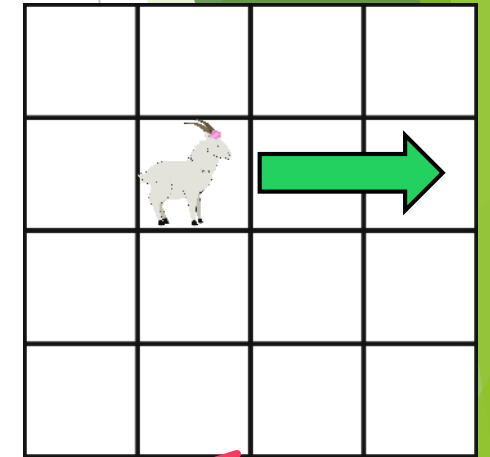
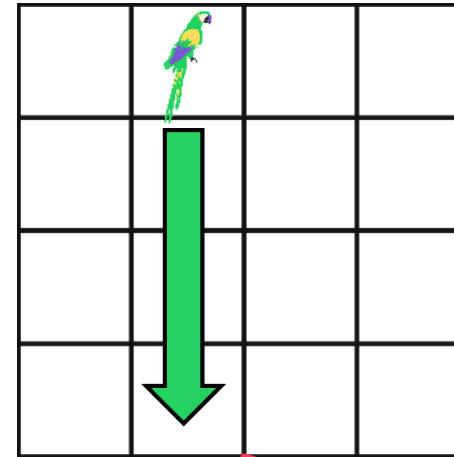
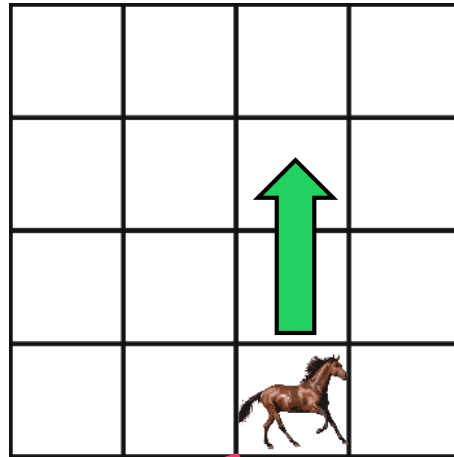
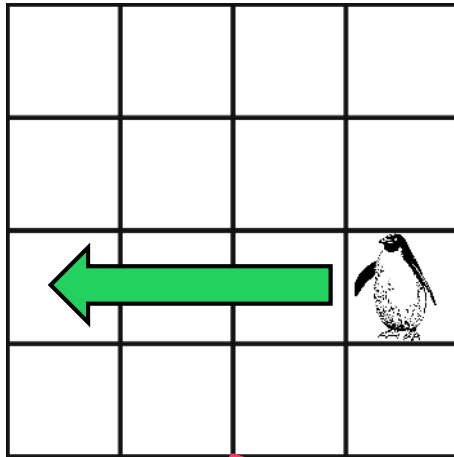
move right
2 spaces

move down
3 spaces

To be able to describe movement along straight lines

Activity 3:

Match each image to its direction instructions.



move up
2 spaces

move left
3 spaces

move right
2 spaces

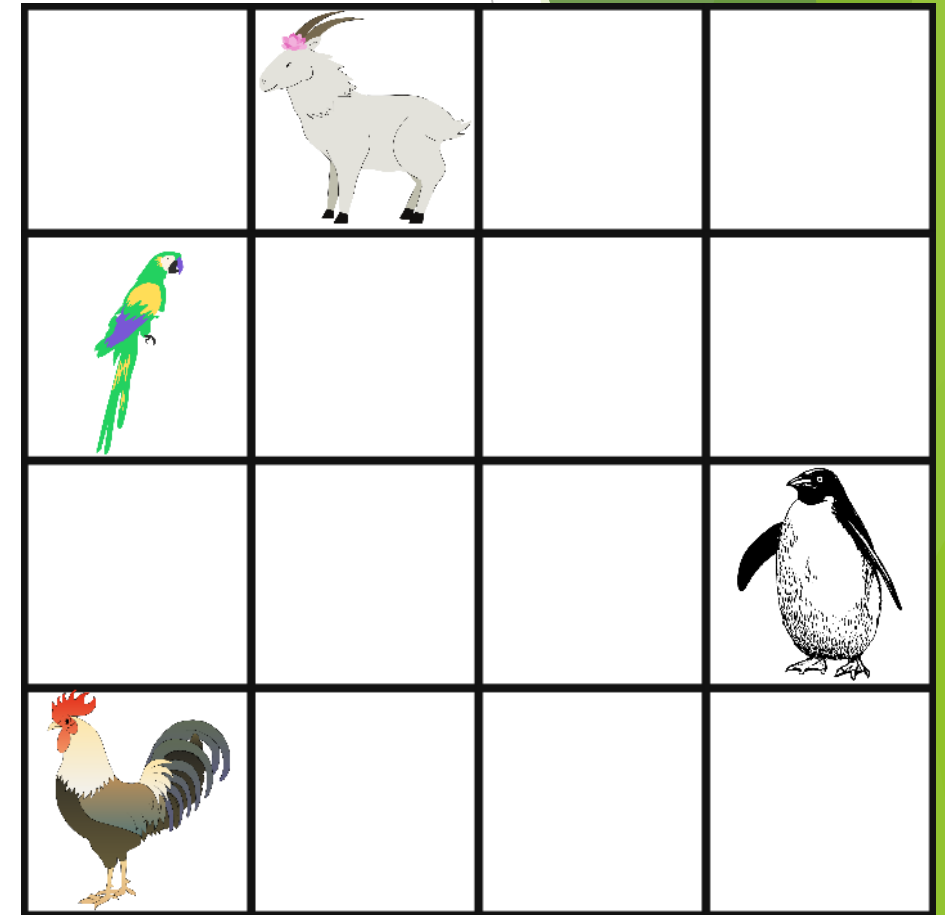
move down
3 spaces

To be able to describe movement along straight lines

Talking Time:

Place arrows on the grid to show:

- ▶ The goat moving backwards two spaces.
- ▶ The rooster moving right three spaces.
- ▶ The parrot moving forward one space.
- ▶ The penguin moving left by one space.

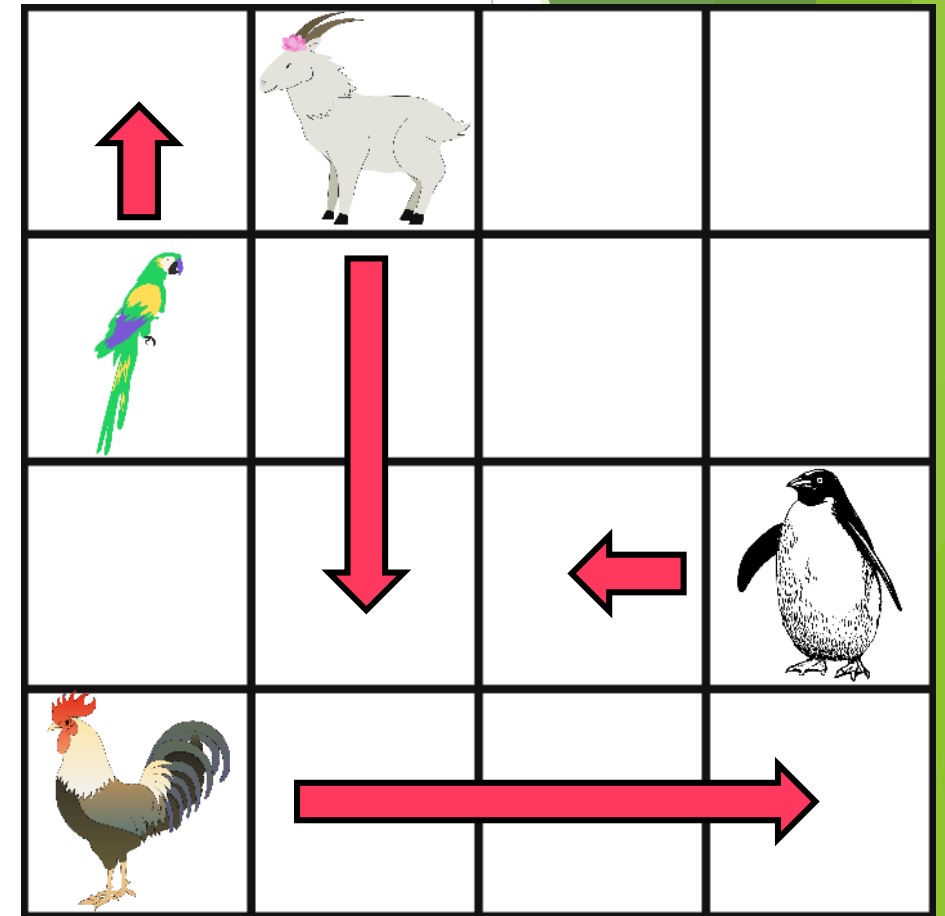


To be able to describe movement along straight lines

Talking Time:

Place arrows on the grid to show:

- ▶ The goat moving backwards two spaces.
- ▶ The rooster moving right three spaces.
- ▶ The parrot moving forward one space.
- ▶ The penguin moving left by one space.

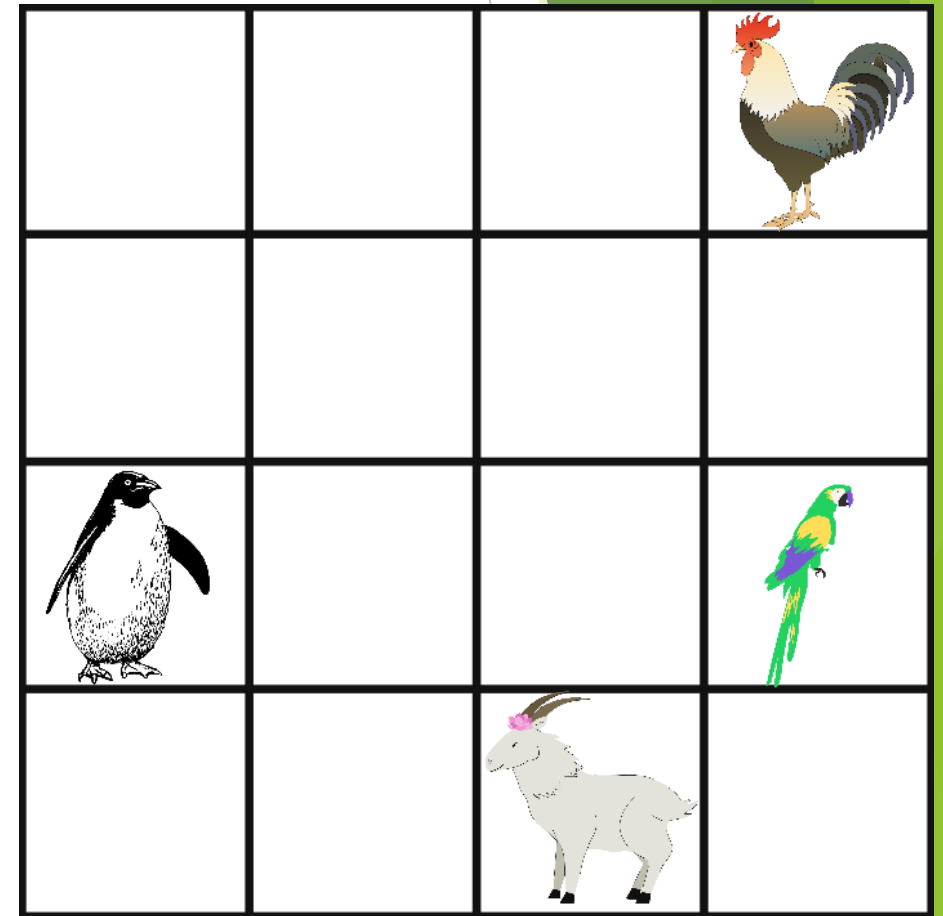


To be able to describe movement along straight lines

Activity 4:

Place arrows on the grid to show:

- ▶ The goat moving forwards two spaces.
- ▶ The rooster moving left three spaces.
- ▶ The parrot moving backwards one space.
- ▶ The penguin moving right by one space.

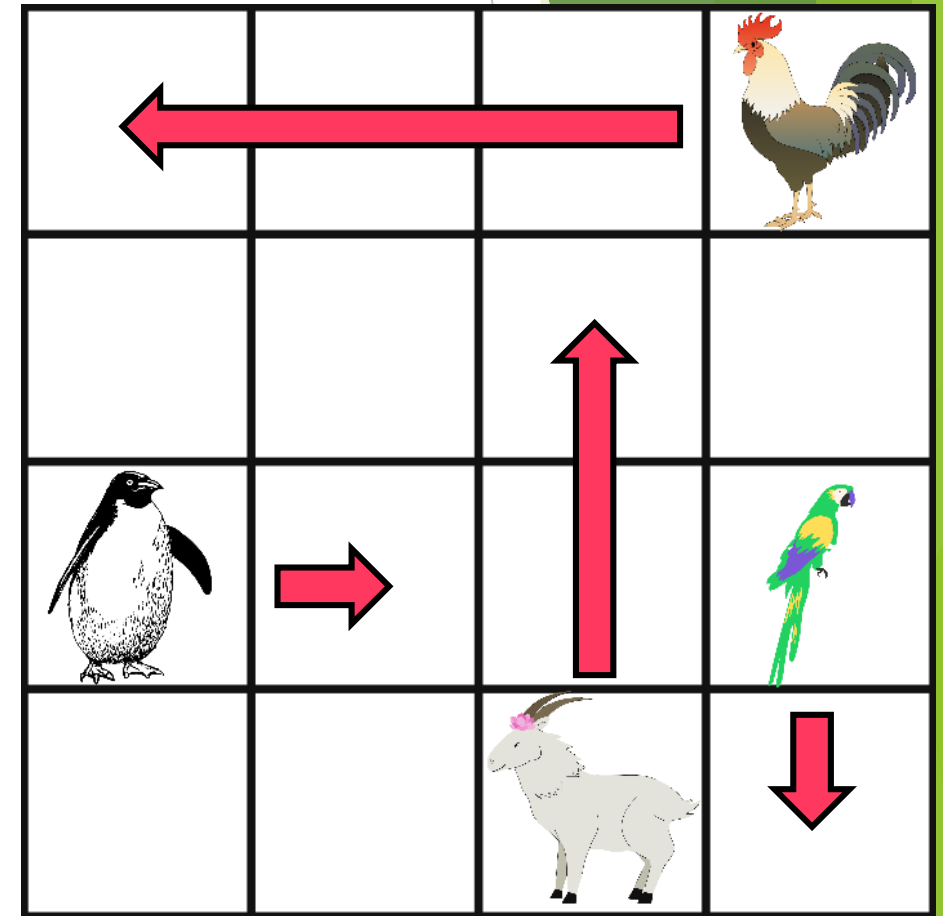


To be able to describe movement along straight lines

Activity 4:

Place arrows on the grid to show:

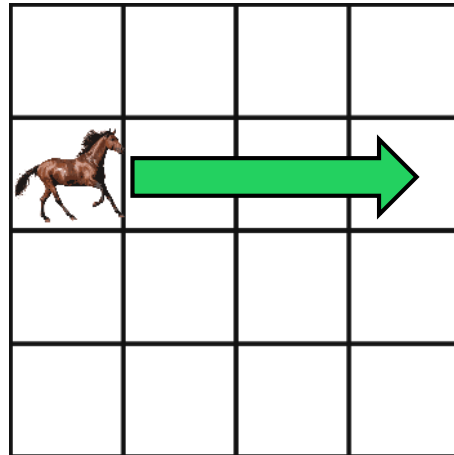
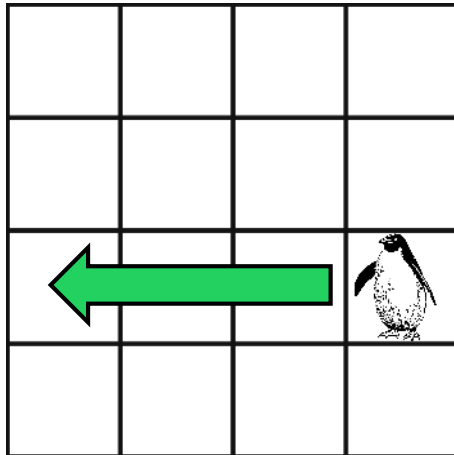
- ▶ The goat moving forwards two spaces.
- ▶ The rooster moving left three spaces.
- ▶ The parrot moving backwards one space.
- ▶ The penguin moving right by one space.



To be able to describe movement along straight lines

Activity 5:

What's the same? What's different?

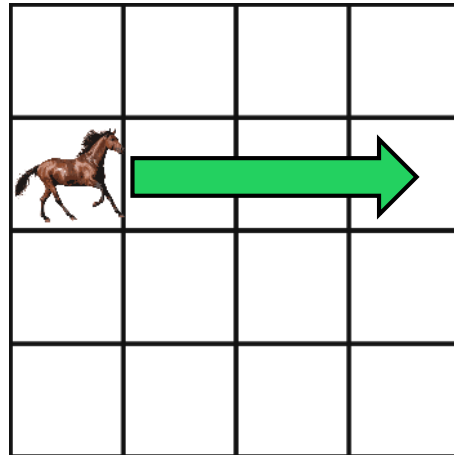
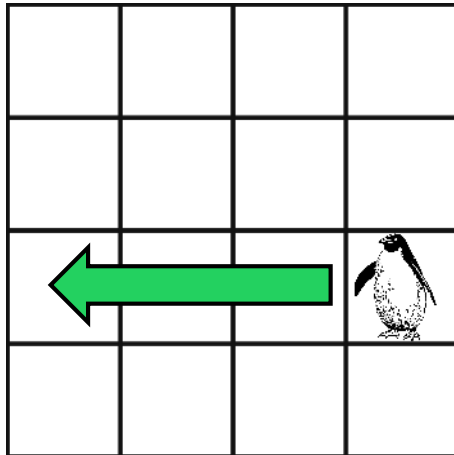


Explain your answer.

To be able to describe movement along straight lines

Activity 5:

What's the same? What's different?



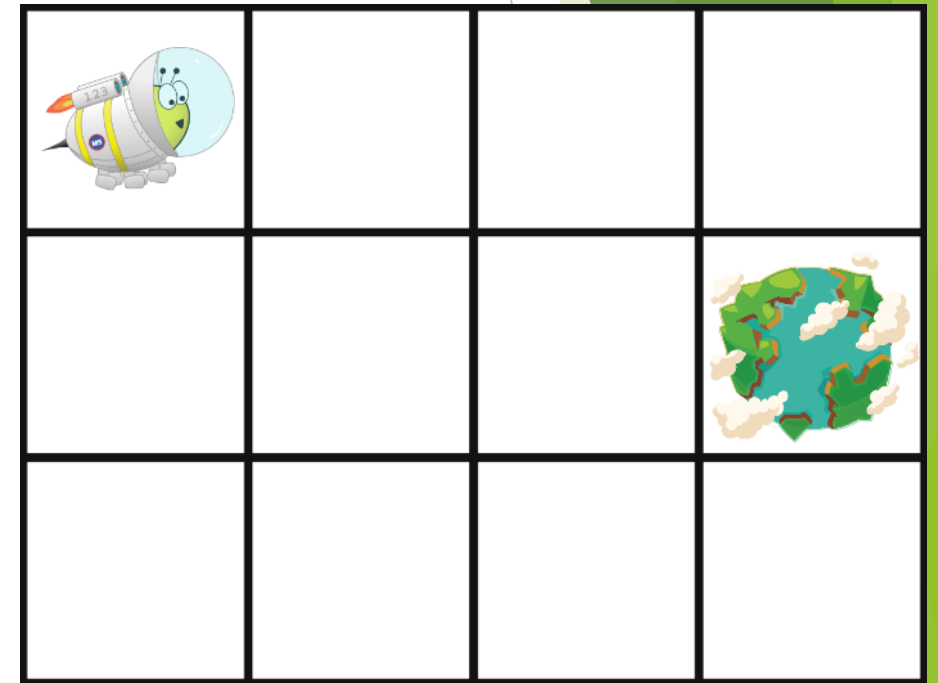
Both animals have move three spaces.

The penguin has moved left three spaces, the horse has moved right three spaces.

To be able to describe movement along straight lines

Activity 6:

How many different sets of directions can you write to get Astrobees back to Planet Earth?



To be able to describe movement along straight lines

Activity 6:

How many different sets of directions can you write to get Astrobee back to Planet Earth?

Example directions:

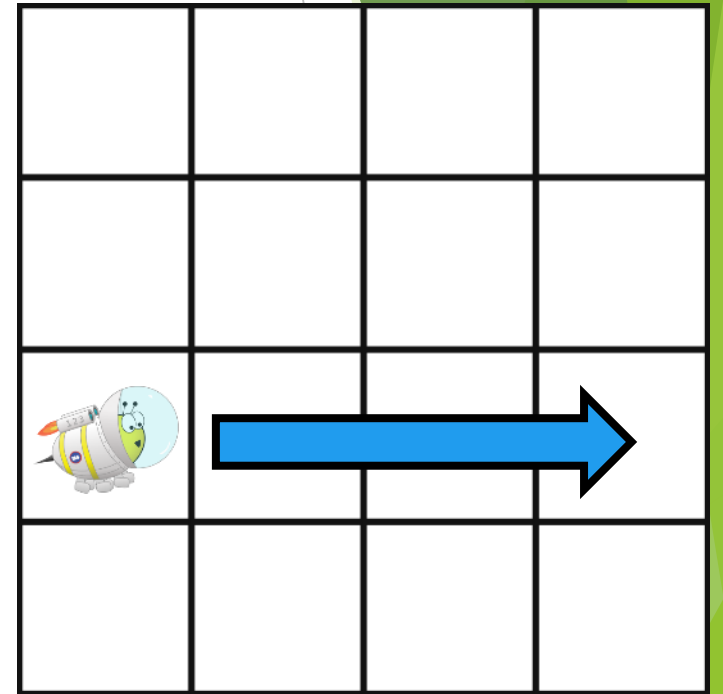
- ▶ “Move down 1 space, move right 3 spaces.”
- ▶ “Move right 2 spaces, move down 1 space, then move right 1 space.”

Teacher / peer assessment



To be able to describe movement along straight lines

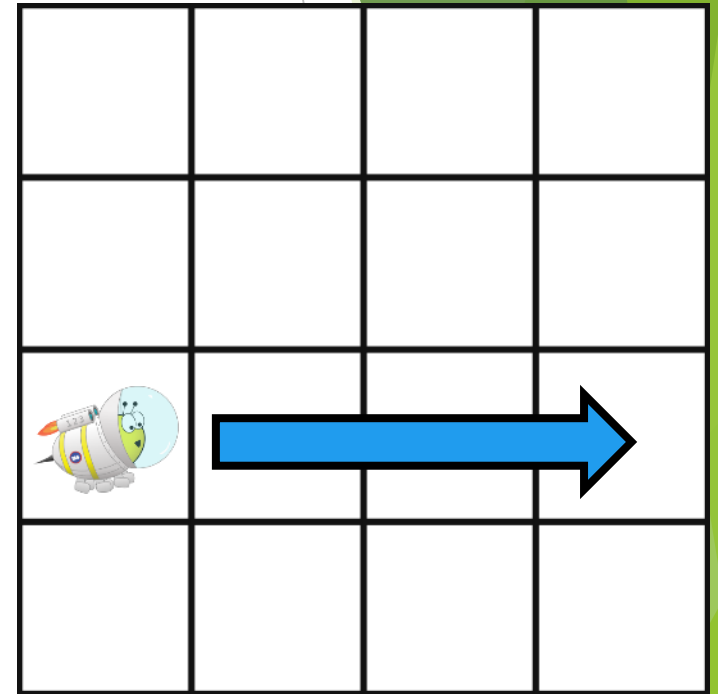
Evaluation:



Do you agree with Astrobee's directions?
Explain your answer.

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Evaluation:



No, I do not agree. Although Astrobee has moved three spaces, the movement is to the right not to the left.

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Success criteria:

- ✓ I can use terms like “forwards”, “backwards”, “up”, “down”, “left” and “right” to describe an object’s movement in straight lines on a grid
- ✓ I can explain my reasoning when using terms like “forwards”, “backwards”, “up”, “down”, “left” and “right” to describe an object’s movement in straight lines on a grid