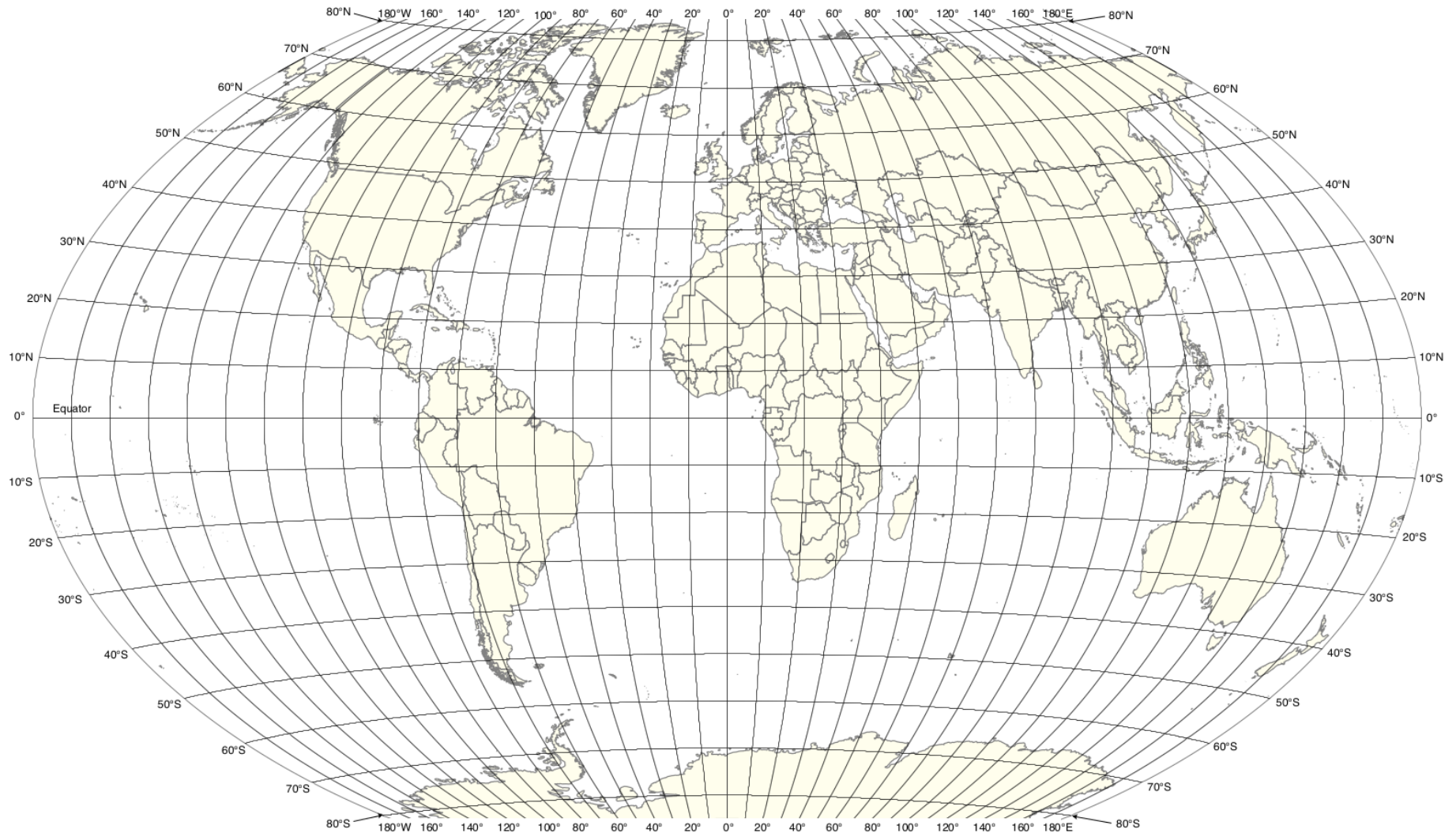


WHERE DOES IT LIVE? CHECKING MY WORK

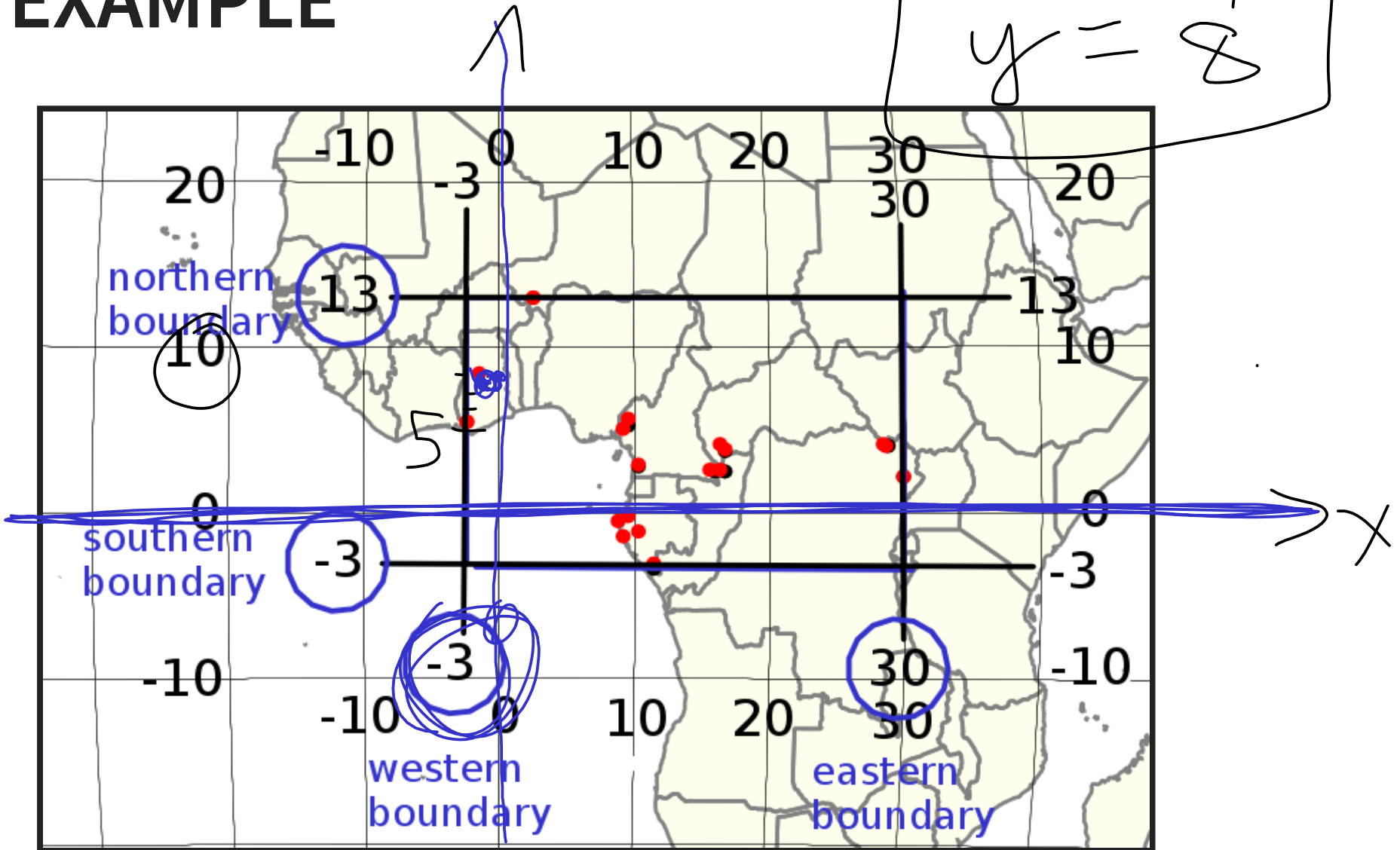
LEARNING GOAL

1. I can test my model by checking whether a point is a solution to my inequalities.
2. I can revise my model if it does not work.

Plot the points where your species has been seen here.



EXAMPLE



TASK 1: CHOOSE A TEST POINT

Choose a point on your map, where your species lives. This will be your **test point** that you will use to check your model.

Identify the coordinates of your **test point**. Write the x and y coordinates below.

COORDINATES OF TEST POINT

$$x = -1$$

$$y = 8$$

TASK 1: CHOOSE A TEST POINT

Choose a point on your map, where your species lives. This will be your **test point** that you will use to check your model.

Identify the coordinates of your **test point**. Write the x and y coordinates below.

COORDINATES OF TEST POINT

$x =$

$y =$

Copy your answers from **Where Does it Live, Part 2, Task 3** here.

SENTENCES

1. The range of my species is *south* of 13 ° N.
2. The range of my species is *north* of 3 ° S.
3. The range of my species is *west* of 30 ° E.
4. The range of my species is *east* of 3 ° W.

INEQUALITIES

1. Inequality for northern boundary: $y < 13$
2. Inequality for southern boundary: $y > -3$
3. Inequality for eastern boundary: $x < 30$
4. Inequality for western boundary: $x > -3$

TASK 2

Check each of your inequalities by plugging in the x or y coordinate of your **test point**. If your inequality is **false** circle it.

INEQUALITIES

1. Inequality for northern boundary:

$$y < 13$$

$$8 < 13 \quad \checkmark$$

2. Inequality for southern boundary:

$$y > -3$$

$$8 > -3 \quad \checkmark$$

3. Inequality for eastern boundary:

$$x < 30$$

$$-1 < 30 \quad \checkmark$$

4. Inequality for western boundary:

$$x > -3$$

$$-1 > -3 \quad \checkmark$$

Test point

$$x = -1$$

$$y = 8$$

TASK 2

Check each of your inequalities by plugging in the x or y coordinate of your **test point**. If your inequality is **false** circle it.

INEQUALITIES

1. Inequality for northern boundary:
2. Inequality for southern boundary:
3. Inequality for eastern boundary:
4. Inequality for western boundary:

Copy your answers from **Where Does it Live, Part 3, Task 3** here:

SENTENCES FROM TASK 2

1. The **center** of the latitudes is 13.5,
and the distance from the center to the
northern boundary is 16.5°.
2. The **center** of the longitudes is
5, and the distance from the
center to the eastern boundary is
8°.

ABSOLUTE VALUE INEQUALITIES

1. Inequality for latitudes:

$$|y - 13.5| < 16.5$$

2. Inequality for longitudes:

$$|x - 5| < 8$$

TASK 3

Check each of your absolute value inequalities by plugging in the x or y coordinate of your **test point**. If your inequality is **false** circle it.

ABSOLUTE VALUE INEQUALITIES

1. Inequality for latitudes:

$$|y - 13.5| < 16.5$$

2. Inequality for longitudes:

$$|x - 5| < 8$$

$$|-1 - 5| < 8$$

$$|-6| < 8$$

$$6 < 8 \quad \checkmark$$

$$|8 - 13.5| < 16.5$$

$$|-5.5| < 16.5$$

$$5.5 < 16.5 \quad \checkmark$$

Test point

$$x = -1$$

$$y = 8$$

TASK 3

Check each of your absolute value inequalities by plugging in the x or y coordinate of your **test point**. If your inequality is **false** circle it.

ABSOLUTE VALUE INEQUALITIES

1. Inequality for latitudes:
2. Inequality for longitudes:

TASK 4: REVISE YOUR WORK

1. Go back through your work, and find any inequalities you circled.
2. Go back through your steps, and use your test point to check for any mistakes.
3. Once you find your mistake, correct it and write a correct inequality.