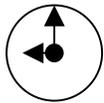


[44 minute lesson]

# United States Public Release Lesson 1 Lesson Graph [8<sup>th</sup> grade]

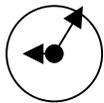


2 1/2 minutes

## Public Class Work: Discussing Today's Task of Graphing Linear Equations

The class discusses two methods for graphing equations:

- determining the slope and y-intercept or
- making a table and plotting points



17 1/2 minutes

## Private Class Work: Students Work in Groups of Three or Four on the First Page of a Yellow Three-Page Worksheet:

Using a pencil and the large piece of graph paper, graph the following linear equations:

- 1)  $y = \frac{2}{3}x + 8$
- 2)  $y = \frac{3}{5}x - 10$
- 3)  $y = 3x + 7$
- 4)  $y = \frac{1}{4}x - 4$
- 5)  $y = x - 5$

*After these five equations are graphed, check with me before proceeding.*

The teacher circulates to each group checking that their graphs are correct and providing assistance as needed.

1 minute

## Public Class Work: Teacher Assigns More Problems

Additional problems are assigned for groups to begin when they finish their first five graphs.



10 minutes

## Private Class Work: Students Continue Working Privately

Some groups begin working on additional problems (6-10), and then answering 10 questions.

Now, graph the next five equations

6)  $y = -\frac{5}{3}x + 8$

7)  $y = -4x - 1$

8)  $y = -\frac{1}{3}x + 12$

9)  $y = -\frac{3}{2}x + 14$

10)  $y = -x + 3$

Answer the questions on the next page

Page 2

- 1) What is similar about linear equations 1 through 5?
- 2) What is similar about linear equations 6 through 10?
- 3) Which line goes up the fastest?
- 4) Which line goes down the fastest?
- 5) What do you notice about the intersection between equation 1 and 9?
- 6) What do you notice about the intersection between equation 2 and 6?
- 7) What do you notice about the intersection between equation 3 and 8?
- 8) What do you notice about the intersection between equation 4 and 7?
- 9) What do you notice about the intersection between equation 5 and 10?
- 10) Are any of the lines parallel to one another? If not, why do you think so?

The teacher continues checking and assisting each group.

1 minute

## Public Class Work: Teacher Assigns an Additional Task—When students finish all the assigned problems, they start the “quickwrite” -- “write a minimum of two paragraphs on what we’ve learned today.”



12 minutes

## Private Class Work: Students Continue Working Privately

Groups continue on the assigned problems while the teacher circulates and assists.

After six minutes, the teacher encourages all students to begin the “quickwrite” written on the whiteboard.

For the remaining time, write a minimum of two paragraphs on what we learned today.

He asks, “Did you learn something about slope or y-intercepts?”

In the next lesson, they will finish the problems and discuss what they “discovered about these lines.”