

# Today's Plan:

**Learning Target (standard):** I will describe and graph functions as composites of transformations.

**Students will:** Complete practice problems over previous concepts at the boards, put up homework problems on the board and make necessary corrections to their own work, and take a quiz.

**Teacher will:** Provide practice problems over previous concepts, check homework problems for accuracy and provide students feedback, describe and provide quiz problems.

**Assessment:** Board work, homework check and quiz

**Differentiation:** Students will work at the board, go over and correct homework at their seats, actively engage in assessment problems on quiz.

Graph using Transformations. Find the domain and range.

$$f(x) = -2\left(\frac{1}{2}x - 2\right)^2 + 5$$

parent:  $f(x) = x^2$

- 1)  $f(x) = -x^2$  r\_x
- 2)  $f(x) = -2x^2$  v.s. by 2
- 3)  $f(x) = -2\left(\frac{1}{2}x\right)^2$  h.s. by 2
- 4)  $f(x) = -2\left(\frac{1}{2}(x-4)\right)^2$  shift right 4
- 5)  $f(x) = -2\left(\frac{1}{2}x - 2\right)^2 + 5$  shift up 5

$x$	$y$
-2	4
-1	1
0	0
1	-1
2	-4

D:  $\mathbb{R}$

R:  $\{y \mid y \leq 5\}$