Activity for Translation Practice

Materials: 0.25 inch double sided graph paper (have students draw and label "x" and "y" axes)
Index cards – with printed pre-image/image coordinates
Rulers (or any straight edge)
Colored pencils
Envelopes (to hold two index cards)
SMART document camera for sharing results

Directions: Student pairs will receive an envelope with their two index cards. On each side, there will be pre-image points and image points needed for each translation.

Ex.

Pre-image	Image
Point A (3, 10)	Point A' (-5, 6)
Point B (8, 10)	Point B' (0, 6)
Point C (8, 2)	Point C' (0, -2)
Point D (3, 2)	Point D' (-5, -2)

Students will plot and label the points for each pre-image and image listed on each card on the same coordinate grid. The pre-image shape should be drawn using one color, the other should be drawn using a different color.

Upon completion of the translations, students will complete questions on accompanying sheet. Presentations can be made by each group using the SMART document camera to share their translations and discuss questions from sheet.

***Groups I & III, II & IV, V & VII, VI & VIII have the same translations Print them out and glue/tape onto index cards (pre-image on front, image on back)

GROUP I	GROUP I
Shape 1 Pre-Image	Shape 1 Image
	1 0
A (3, 6)	A' (-3, 10)
B (10, 9)	B' (4, 10)
C(12, 4)	C'(6,5)
D(5, 4)	D(-1, 5)
GROUP I	GROUP I
Shape 2 Pre-Image	Shape 2 Pre-Image
Shupe 2 The Image	Shupe 2 1 to muge
A (-5, 3)	A' (1, 5)
B (-5 -4)	B'(1, 2)
C(-1, 3)	C'(5,5)
GROUP II	GROUP II
Change 1 Dry Lynger	oneer n
Snape I Pre-Image	Shane 1 Image
A (-4 8)	Shape 1 Image
Shape 1 Pre-Image $A(-4, 8)$ B (1, 8)	Shape 1 Image A (1, 4) B (6, 4)
Snape 1 Pre-Image A $(-4, 8)$ B $(1, 8)$ C $(1, 2)$	Shape 1 Image A (1, 4) B (6, 4) C (6, -2)
Snape 1 Pre-Image A $(-4, 8)$ B $(1, 8)$ C $(1, 2)$ D $(-4, 2)$	Shape 1 Image A (1, 4) B (6, 4) C (6, -2) D (1, -2)
Shape 1 Pre-Image A (-4, 8) B (1, 8) C (1, 2) D (-4, 2)	Shape 1 Image A (1, 4) B (6, 4) C (6, -2) D (1, -2)
Shape 1 Pre-Image A (-4, 8) B (1, 8) C (1, 2) D (-4, 2)	Shape 1 Image A (1, 4) B (6, 4) C (6, -2) D (1, -2)
Shape 1 Pre-Image A (-4, 8) B (1, 8) C (1, 2) D (-4, 2)	Shape 1 Image A (1, 4) B (6, 4) C (6, -2) D (1, -2)
Shape I Pre-Image A (-4, 8) B (1, 8) C (1, 2) D (-4, 2) GROUP II	Shape 1 Image A (1, 4) B (6, 4) C (6, -2) D (1, -2) GROUP II
Shape 1 Pre-Image A (-4, 8) B (1, 8) C (1, 2) D (-4, 2) GROUP II Shape 2 Pre-Image	Shape 1 Image A (1, 4) B (6, 4) C (6, -2) D (1, -2) GROUP II Shape 2 Image
Shape 1 Pre-Image A (-4, 8) B (1, 8) C (1, 2) D (-4, 2) GROUP II Shape 2 Pre-Image A (4 -2)	Shape 1 Image A (1, 4) B (6, 4) C (6, -2) D (1, -2) GROUP II Shape 2 Image A (-4, 3)
Shape 1 Pre-Image A (-4, 8) B (1, 8) C (1, 2) D (-4, 2) GROUP II Shape 2 Pre-Image A (4, -2) B (8, -2)	Shape 1 Image A (1, 4) B (6, 4) C (6, -2) D (1, -2) GROUP II Shape 2 Image A (-4, 3) B (0, 3)
Shape 1 Pre-Image A (-4, 8) B (1, 8) C (1, 2) D (-4, 2) GROUP II Shape 2 Pre-Image A (4, -2) B (8, -2) C (10, -8)	Shape 1 Image A (1, 4) B (6, 4) C (6, -2) D (1, -2) GROUP II Shape 2 Image A (-4, 3) B (0, 3) C (2, -3)
Shape 1 Pre-Image A (-4, 8) B (1, 8) C (1, 2) D (-4, 2) GROUP II Shape 2 Pre-Image A (4, -2) B (8, -2) C (10, -8) D (2, -8)	Shape 1 Image A (1, 4) B (6, 4) C (6, -2) D (1, -2) GROUP II Shape 2 Image A (-4, 3) B (0, 3) C (2, -3) D (-6, -3)
Shape 1 Pre-Image A (-4, 8) B (1, 8) C (1, 2) D (-4, 2) GROUP II Shape 2 Pre-Image A (4, -2) B (8, -2) C (10, -8) D (2, -8)	Shape 1 Image A (1, 4) B (6, 4) C (6, -2) D (1, -2) GROUP II Shape 2 Image A (-4, 3) B (0, 3) C (2, -3) D (-6, -3)
Shape 1 Pre-Image A (-4, 8) B (1, 8) C (1, 2) D (-4, 2) GROUP II Shape 2 Pre-Image A (4, -2) B (8, -2) C (10, -8) D (2, -8)	Shape 1 Image A (1, 4) B (6, 4) C (6, -2) D (1, -2) GROUP II Shape 2 Image A (-4, 3) B (0, 3) C (2, -3) D (-6, -3)
Shape 1 Pre-Image A (-4, 8) B (1, 8) C (1, 2) D (-4, 2)	Shape 1 Image A (1, 4) B (6, 4) C (6, -2) D (1, -2) GROUP II Shape 2 Image A (-4, 3) B (0, 3) C (2, -3) D (-6, -3)
Shape 1 Pre-Image A (-4, 8) B (1, 8) C (1, 2) D (-4, 2) GROUP II Shape 2 Pre-Image A (4, -2) B (8, -2) C (10, -8) D (2, -8)	Shape 1 Image A (1, 4) B (6, 4) C (6, -2) D (1, -2) GROUP II Shape 2 Image A (-4, 3) B (0, 3) C (2, -3) D (-6, -3)

GROUP III	GROUP III
Shape 1 Pre-Image	Shape 1 Image
1 0	1 0
A (3, 6)	A' (-3, 10)
B(10, 9)	B' (4, 10)
C(12, 4)	C'(6,5)
D(5, 4)	D(-1, 5)
	D(-1, 3)
	СРОИРШ
Shape 2 Pre-Image	Shape 2 Pre-Image
A (-5, 3)	A'(1,5)
B (-5, -4)	B' (1, -2)
C (-1, 3)	C' (5, 5)
GROUP IV	GROUP IV
Shape 1 Pre-Image	Shape 1 Image
A (-4, 8)	A(1, 4)
B (1, 8)	B(6, 4)
C(1,2)	C(6, -2)
D(-4, 2)	D(1, -2)
CROUDIN	CDOUDIV
GROUP IV	UKUUP IV
Snape 2 Pre-Image	Snape 2 Image
A(4, -2)	A(-4, 5)
$ \mathbf{B}(8, -2) $	B(0,3)
C(10, -8)	C(2, -3)
D (2, -8)	D (-6, -3)

GROUP V	GROUP V
Shape 1 Pre-Image	Shape 1 Image
A (2, 3)	A' (-3, 3)
B (8, 3)	B' (3, 3)
C (8, -4)	C' (3, -4)
D (2, -4)	D (-3, -4)
GROUP V	GROUP V
Shape 2 Pre-Image	Shape 2 Pre-Image
A (3, 1)	A' (3, -4)
B (8, 1)	B' (8, -5)
C (12, 9)	C' (12, 4)
GROUP VI	GROUP VI
Shape 1 Pre-Image	Shape 1 Image
A (1, 1)	A (-3, 4)
B (1, 5)	B (-3, 8)
C (6, 8)	C (2, 11)
D (6, 1)	D (2, 4)
GROUP VI	GROUP VI
Shape 2 Pre-Image	Shape 2 Image
A (-8, 3)	A (1, -1)
B (-6, 8)	B (3, 4)
C (-2, 8)	C (7, 4)
D (-4, 3)	D (5, -1)

GROUP VII	GROUP VII
Shape 1 Pre-Image	Shape 1 Image
	1 0
A (2, 3)	A' (-3, 3)
B (8, 3)	B'(3,3)
C(8, -4)	C'(3, -4)
D(2, -4)	D(-3, -4)
GROUP VII	GROUP VII
Shape 2 Pre-Image	Shape 2 Pre-Image
Shape 2 Tre-Image	Shape 2 Tre-Image
A(3,1)	A'(3 - 4)
R(3, 1) R(8, 1)	R'(8, 5)
$\begin{bmatrix} D & (0, 1) \\ C & (12, 0) \end{bmatrix}$	D (0, -3) C' (12 4)
C(12, 9)	C(12, 4)
CPOUD VIII	CPOUD VIII
Shana 1 Dra Imaga	Shana 1 Imaga
Λ (1, 1)	Λ (2, 4)
A(1, 1) B(1, 5)	A(-3, 4)
D(1, 3) C(6, 9)	D(-3, 6)
$C(0, \delta)$	C(2, 11)
D(0, 1)	D(2, 4)
GROUP VIII	GROUP VIII
Shape 2 Pre-Image	Shape 2 Image
A (-8, 3)	A(1, -1)
B (-6, 8)	B(3,4)
C (-2, 8)	C(7, 4)
D (-4, 3)	D (5, -1)

NAME GROUP #

Directions: Discuss and answer the questions when you have finished plotting the translations.

SHAPE #1:

What is the name of the polygon in both the pre-image and image?

Are they congruent (same shape, same size)? How can you tell?

In which direction did the shape move (be specific (right/left, up/down)?

Write the rule for the translation (x _____, y ____)

What is the area of the pre-image? The image? Show your work.

SHAPE #2:

What is the name of the polygon in both the pre-image and image?

Are they congruent (same shape, same size)? How can you tell?

In which direction did the shape move (be specific (right/left, up/down)?

Write the rule for the translation (x _____, y ____)

What is the area of the pre-image? The image? Show your work.