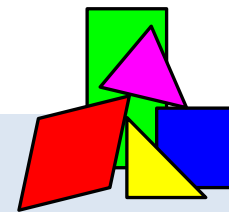


Angle Mangle



Strands:

Number & Quantity	
Algebra	
Functions	
Geometry	X
Statistics & Probability	

Combine angles to accomplish goals and win this game for 3 or 4 players.

Materials:

- Attribute blocks
- Tangram puzzle pieces
- Attribute and tangram pieces, alternative to print and cut out if plastics sets are not available
- Angle Mangle* cards
- Scrap paper
- Tokens for score keeping

Where:

Outside	
Inside	X
On-line	
On-site	



Set-Up:

- Shuffle the *Angle Mangle* cards. Place them face down on the playing surface.
- Place the shapes in the middle of the playing surface. Mix them up.
- Each player takes five shapes with at most 2 congruent shapes.
- Youngest player goes first.

Object of the Activity: Analyze angles that arise in geometric shapes. Put angles together to make other angles.

On Your Turn:

- Turn up an *Angle Mangle* card. Combine some or all of your angles to complete the task on the card.
- If you successfully complete the task, you earn a token.
- If you cannot complete the task on the card, the next player can attempt to steal the card.
- If you choose an **Everyone** card:
 - Everyone completes the card.
 - Each player who correctly fulfills the task on the card wins a token.
- Your turn ends.
- Play moves to the player on the left. Repeat steps 1 through 4 until each player has had the opportunity to complete a task on a card that is not for **Everyone**.
- Return your shapes to the pile of shapes. Pick five new shapes for the next round. Play continues as in Steps 1 through 6 until all cards have been used.

To Win: Be the player with the most tokens at the end of the last round.

Think About It:

- Is there more than one way to complete a task with your shapes?
- How many ways can you complete a task?
- What is the sum of all the angles in each shape?
- What is the measure of each angle in a shape?

Variations:

Sorting Angles: In this variation for young players, use only the *Angle Mangle* cards with words: acute, obtuse, right, and straight. Play as above.

All Around the House: Find flat objects of different shapes. Use those shapes to play the game. Challenge yourself to find several objects that are not rectangles or squares

Helpful Hints:

- Use the corner of a sheet of paper to help you think about a 90-degree angle.
- Combine a variety of angles to get the angles you are trying to make.