

Puzzle Parts

Student Handout

Objective: Use tangram pieces to construct a square and name each as a fractional part of the whole.

All work should be:

- Neat
- Trace each part
- No overlapping of parts
- Use ruler for straight lines
- Stay in your group and ask the others in your group for help

For each task:

- Make a prediction about how many **Triangles** fit into the square.
- **Label each part.**
- Design an equation
- Discuss different solutions among your group.

Directions:

1. Building the square (5 minutes)
 - Students use the seven tangram pieces to build a square.
 - Place all tangram pieces in the tub.
2. Large triangle (15 minutes)
 - Take out the large triangles
 - Each student in the group gets one handout with 4 x 4 squares
 - Predict how many times the large triangle will fit into the square.
 - How many times can you draw the large triangle in the square without overlapping or gaps?
 - Make sure you fill in the entire square.
 - How many pieces does it take to fill the entire square?
 - Label each piece as its fractional part of the whole.
 - Write an equation.
 - Complete the table.
 - Discuss your findings with everyone in your group.
 - Prepare a group summary for the class.
 - Be ready to discuss your findings with the class. (5 – 8 minutes for sharing)
 - Place all tangram pieces into the tub.
3. Medium Triangle (10 minutes)
 - Take out the medium triangles
 - Each student in the group gets one handout with 4 x 4 squares
 - Predict how many times the medium triangle will fit into the square.
 - How many times can you draw the medium triangle in the square without overlapping or gaps?
 - Make sure you fill in the entire square.
 - How many pieces does it take to fit the entire square?

- Label each piece as its fractional part of the whole.
 - Write an equation.
 - Complete the table.
 - Discuss your findings with everyone in your group.
 - Prepare a group summary for the class.
 - Be ready to discuss your findings with the class. (5 – 8 minutes for sharing)
 - Place all tangram pieces into the tub.
4. Small Triangle (10 minutes)
- Take out the small triangles
 - Each student in the group gets one handout with 4 x 4 squares
 - Predict how many times the small triangle will fit into the square.
 - How many times can you draw the small triangle in the square without overlapping or gaps?
 - Make sure you fill in the entire square.
 - How many pieces does it take to fit the entire square?
 - Label each piece as its fractional part of the whole.
 - Write an equation.
 - Complete the table.
 - Discuss your findings with everyone in your group.
 - Prepare a group summary for the class.
 - Be ready to discuss your findings with the class. (5 – 8 minutes for sharing)
 - Place all tangram pieces into the tub.
5. Constructing the square (10 minutes)
- Get from teacher, handout with placement of small triangles.
 - Use this handout to lay the seven tangram pieces on the 4 x 4 square.
 - Draw the placement of your seven pieces on the handout labeled “Tangram Fraction”
 - Label each piece as a fractional part of the whole.
 - Discuss your finding with the rest of the class. (5 – 8 minutes for sharing)