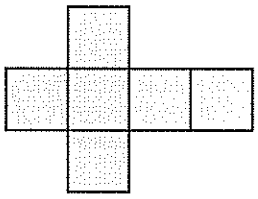
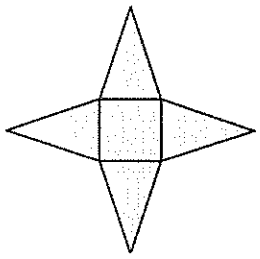
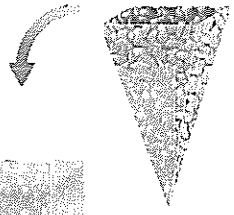
EXPLORE ACTIVITY 2 TEKS 7.8.A

In this activity, you will compare the volumes of a pyramid and a prism with congruent bases and equal heights. Remember that congruent figures have the same shape and size.





STEP 1 Make three-dimensional models. Make larger versions of the nets shown. Make sure the bases and heights in each net are the same size. Fold each net, and tape it together to form a prism or a pyramid.



STEP 2 Fill the pyramid with beans. Make sure that the beans are level with the opening of the pyramid. Then pour the beans into the prism. Repeat until the prism is full. How many times did you fill the prism from the pyramid? _____

STEP 3 Write a fraction that compares the volume of the pyramid to the volume of the prism.

$$\frac{\text{volume of pyramid}}{\text{volume of prism}} = \frac{\square}{\square}$$

Math Talk Mathematical Processes

Describe ways in which a prism and a pyramid are different.

Reflect

7. **Draw Conclusions** A rectangular pyramid has a base area of B and a height of h. What is a formula for the volume of the pyramid? Justify your reasoning.

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8. **Communicate Mathematical Ideas** The prism and the pyramid in this activity have congruent bases and equal heights. Are they congruent three-dimensional shapes? Explain.

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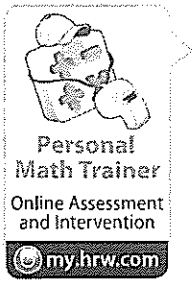

YOUR TURN

9. The volume of a rectangular prism is $4\frac{1}{2}$ in^3. What is the volume of a rectangular pyramid with a congruent base and the same height? Explain your reasoning.

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