Prisms vs. Pyramids Recording Sheet
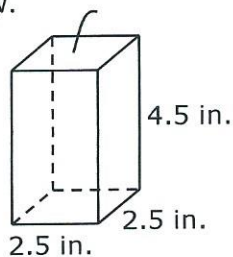
Station A: Square Prism and Square Pyramid Investigation
Materials
- Square Prism and Square Pyramid Solid
- Rice (or other pourable material)

Use the square prism, square pyramid, and rice to answer the following questions.

1. How do the heights of the 2 solids compare?

2. How do the bases of the 2 solids compare?

3. Which geometric solid do you predict has the greatest volume? Why?

4. How many square pyramids do you predict it would take to fill the square prism? Explain your reasoning.

5. Conduct an investigation to verify your prediction. How many square pyramids does it take to fill the square prism?

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1. A local candle producer makes candles in the shape of a square prism. The most popular size candle sells for $4.50 and is shown below.

4.5 in.

2.5 in.

2.5 in.

How many cubic inches of wax are required to make this candle?

2. The candle producer decides to make a candle in the shape of a square pyramid that has the same base area and height as the square prism candle.

a. Based upon the investigation above, predict how many cubic inches of wax will be required to make the new square pyramid candle. Justify your answer.

b. If the candle producer charges for candles based upon the number of cubic inches required to make the candle, how much should the new candle sell for? Justify your answer.

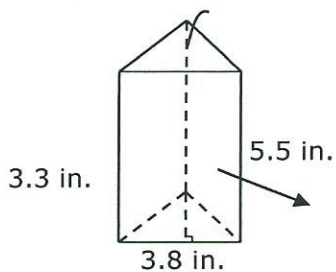Station B: Triangular Prism and Triangular Pyramid Investigation
Materials
- Triangular Prism and Triangular Pyramid Solids
- Rice (or other pourable material)

Use the triangular prism, triangular pyramid, and rice to answer the following questions.

1. How do the heights of the 2 solids compare?

2. How do the bases of the 2 solids compare?

3. Which geometric solid do you predict has the greatest volume? Why?

4. How many triangular pyramids do you predict it would take to fill the triangular prism? Explain your reasoning.

5. Conduct an investigation to verify your prediction. How many triangular pyramids does it take to fill the triangular prism?

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1. A local candle producer makes candles in the shape of a triangular prism. The most popular size candle sells for $5.25 and is shown below.

3.3 in. 5.5 in.

3.8 in.

How many cubic inches of wax are required to make this candle?

2. The candle producer decides to make a candle in the shape of a triangular pyramid that has the same base area and height as the triangular prism candle.

a. Based upon the investigation above, predict how many cubic inches of wax will be required to make the new triangular pyramid candle. Justify your answer.

b. If the candle producer charges for candles based upon the number of cubic inches required to make the candle, how much should the new candle sell for? Justify your answer.