3D Figures and Their Cross-Sections
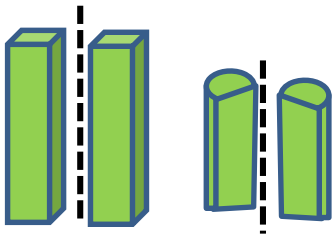
How are cross-sections formed?

A cross-section is formed when a 3D shape is sliced. The cross-section is the shape that results from the cut. Think about slicing an apple in half and looking at the inside. This white meat of the apple is the cross-section. There are 3 ways to form a cross-section.
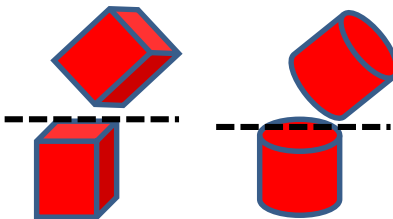
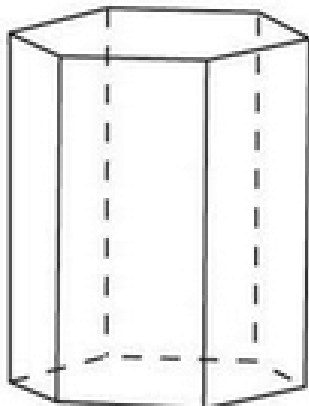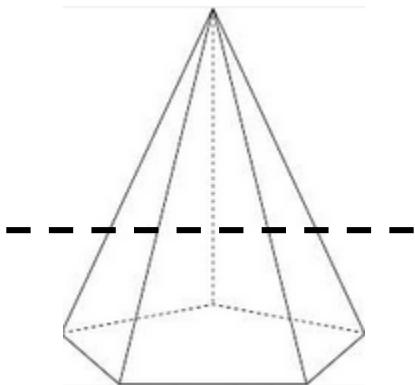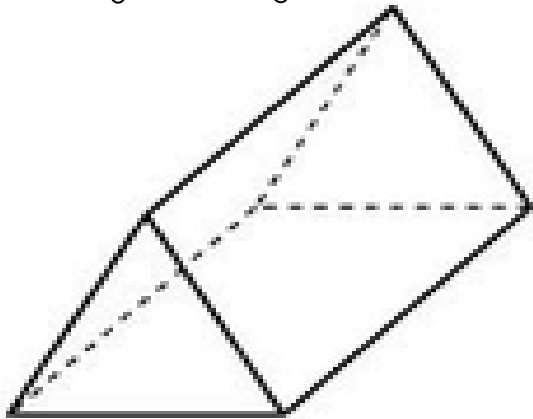| Perpendicular to the Base	Parallel to the Base	Tilted Away From the Base
When you slice a 3D shape perpendicular to the base, the 2D shape formed will be the same shape as the sides.	When you slice a 3D shape parallel to the base, the 2D shape formed will be the same shape as the base.	When you slice a 3D shape tilted away from the base, you may get many different shapes. Pay close attention to how many edges and how many corners the resulting shape would have.

1. Identify the figure shown below.

2. What is the 3D figure that contains 2 triangular faces and 3 rectangular faces?

3. What 2D shape would be formed by the cross-section below?

4. What 2D shape would be formed by slicing a rectangular prism parallel to the base?
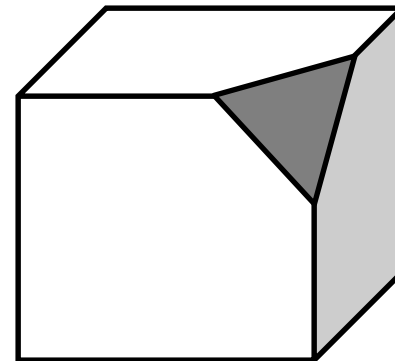
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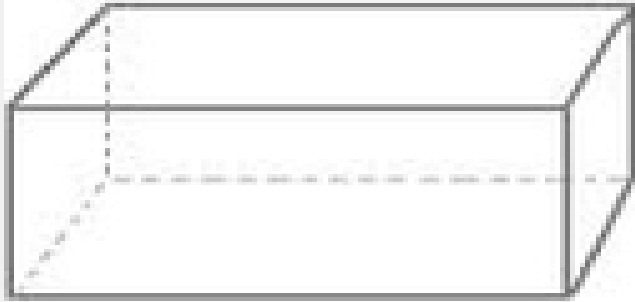**5.** Identify the figure shown below.

6. What 2D shape would be formed by slicing a square pyramid perpendicular to the base?

7. Identify the 3D figure that contains 5 triangular faces and one pentagonal face.

8. What 2D shape would be formed by the cross-section below?
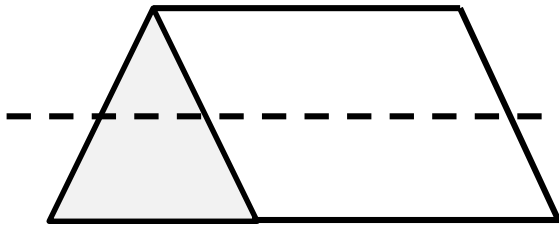
9. Identify the figure shown below.

10. ~~Identify the 3D figure that is formed by translating (sliding) a circle through space.~~

11. What 2D shape would be formed by the cross-section shown below?
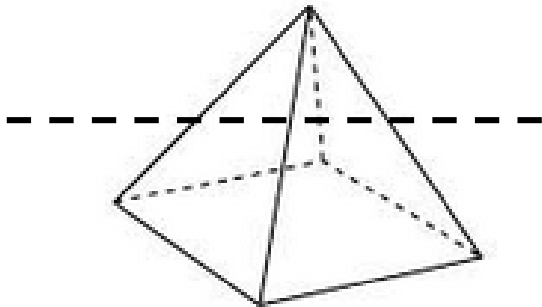
12. What 2D shape would be formed by slicing a cylinder perpendicular to the base?

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13. What 2D shape would be formed by slicing a cylinder parallel to the base?

15. What 2D shape would be formed by the cross-section shown below?

16. What 2D shape would be formed by slicing a hexagonal prism parallel to the base?

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3D Figures and Cross-Sections Student Answer Key

1. Hexagonal Prism	2. Triangular Prism	3. Pentagon	4. Rectangle
5. Triangular Prism	6. Triangle	7. Pentagonal Prism	8. Triangle
9. Rectangular Prism	10. Cylinder	11. Rectangle	12. Rectangle
13. Circle	14. Octagonal Prism	15. Square	16. Hexagon

3D Figures and Cross-Sections Student Answer Key

1.	2.	3.	4.
5.	6.	7.	8.
9.	10.	11.	12.
13.	14.	15.	16.