## Lesson 14: Nets and Surface Area

Let’s use nets to find the surface area of polyhedra.

### 14.1: Matching Nets

Each of the nets can be assembled into a polyhedron. Match each net with its corresponding polyhedron, and name the polyhedron. Be prepared to explain how you know the net and polyhedron go together.





### 14.2: Using Nets to Find Surface Area

1. Name the polyhedron that each net would form when assembled.
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1. Your teacher will give you the nets of three polyhedra. Cut out the nets and assemble the three-dimensional shapes.
2. Find the **surface area** of each polyhedron. Explain your reasoning clearly.

#### Are you ready for more?

1. For each net, decide if it can be assembled into a rectangular prism.
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1. For each net, decide if it can be folded into a triangular prism.
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### Lesson 14 Summary

A net of a *pyramid* has one polygon that is the base. The rest of the polygons are triangles. A pentagonal pyramid and its net are shown here.



A net of a *prism*has two copies of the polygon that is the base. The rest of the polygons are rectangles. A pentagonal prism and its net are shown here.



In a rectangular prism, there are three pairs of parallel and identical rectangles. Any pair of these identical rectangles can be the bases.



Because a net shows all the faces of a polyhedron, we can use it to find its surface area. For instance, the net of a rectangular prism shows three pairs of rectangles: 4 units by 2 units, 3 units by 2 units, and 4 units by 3 units.



The **surface area** of the rectangular prism is 52 square units because $8+8+6+6+12+12=52$.



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