

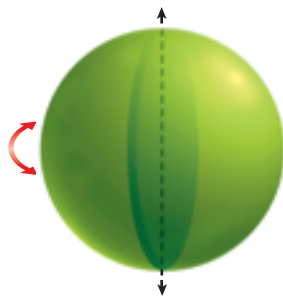
Game Time

Planes in Space

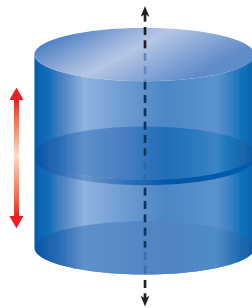
Some three-dimensional figures can be generated by plane figures.

Experiment with a circle first. Move the circle around. See if you recognize any three-dimensional shapes.

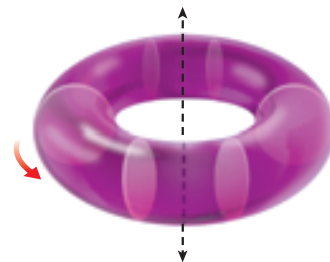
If you rotate a circle around a diameter, you get a sphere.



If you translate a circle up along a line perpendicular to the plane that the circle is in, you get a cylinder.



If you rotate a circle around a line outside the circle but in the same plane as the circle, you get a donut shape called a *torus*.



Draw or describe the three-dimensional figure generated by each plane figure.

- 1 a square translated along a line perpendicular to the plane it is in
- 2 a rectangle rotated around one of its edges
- 3 a right triangle rotated around one of its legs

Magic Cubes

Four magic cubes are used in this fun puzzle. A complete set of rules and nets for making the cubes can be found online. Each side of the four cubes has the number 1, 2, 3, or 4 written on it. The object of the game is to stack the cubes so that the numbers along each side of the stack add up to 10. No number can be repeated along any side of the stack.

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Game Time Extra
KEYWORD: MT8CA Games

