MATHEMATICAL SCIENCES: MMSC4

LESSON 17

UNIT STANDARD 7464
SO 4

TOPIC: Similarities and Comparison of shapes

BY THE END OF THE LESSON, YOU SHOULD BE ABLE TO:

- Recognize and name different shapes.
- Identify different shapes that they see in their classroom and beyond.
- Discuss characteristics of different shapes.
- Draw different shapes.
- Compare and contrast different shapes.

Introduction

Geometry is all around us - from the repeating pattern of the Moon's orbit to the complex shapes found in a spider-web. Ancient people certainly saw these things and many more, and came up with rules to measure and explain what they saw. **Geometry** is the branch of mathematics that studies shapes and their relationships to each other.
Now in this lesson we are going to compare and contrast different shapes

List of basic geometric shapes

The Circle

The circle is a shape that can be made by tracing a curve that is always the same distance from a point that we call the center. The distance around a circle is called the *circumference* of the circle.

The Triangle

The triangle is a shape that is formed by 3 straight lines that are called sides. There are different ways of classifying triangles, according to their sides or angles.

1. According to their angles:
   - Right triangle: the largest of the 3 angles is a right angle.
   - Acute Triangle: the largest of the 3 angles is an acute angle (less than 90 degrees).
   - Obtuse Triangle: the largest of the 3 angles is an obtuse angle (more than 90 degrees).

2. According to their sides:
   - Equilateral Triangle: all 3 sides are the same length.
   - Isosceles Triangle: it has 2 sides that are of equal length.
   - Scalene Triangle: no 2 sides are of equal measure.

The Rectangle

The rectangle is a shape that has 4 sides. The distinguishing characteristic of a rectangle is that all 4 angles measure 90 degrees.

The Square

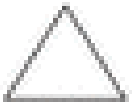
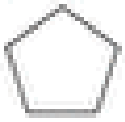
The square is a type of rectangle, but also a type of rhombus. It has characteristics of both of these. That is to say, all 4 angles are right angles, and all 4 sides are equal in length.

ACTIVITY 1

Name: _____ Date: _____

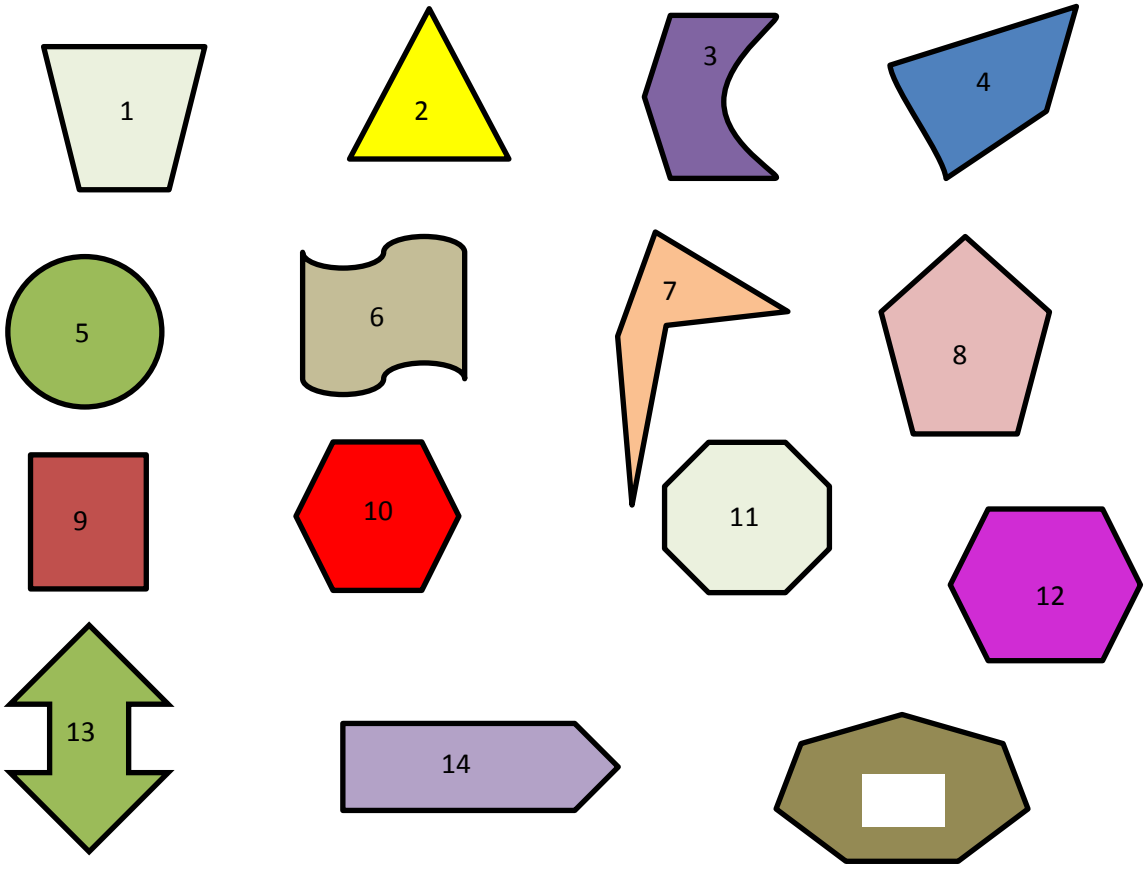
Comparing 2-D Shapes

Draw or label each shape and write how many edges and vertices it has in the table below. Remember: vertices are corners.

Shape	Name	Number of Edges	Number of Vertices
			
	Triangle	3	3
	Square		
			
			
			
	Hexagon		

ACTIVITY 2

Examples of plat plane shapes



2.1 2.1.1 How many of the following shapes given above are not polygons?

_____ (1)

2.1.2 Explain how a polygon is recognised.

_____

_____ (1)

2.1.3 State ONE property that all of the above polygons have in common.

_____ (1)

2.1.4 Give the names of SHAPE 2 and SHAPE 8 given/shown from the examples of plat plane shapes in the diagram above.

_____

_____ (2)

2.1.5 Indicate whether the following statement is TRUE or FALSE. Choose the answer and write only 'true' or 'false' next to the question number (1.15) in the ANSWER BOOK.

All equilateral triangles no matter what size they are have angles that are equal to 60°. (1)

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