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GEOMETRY IN ELEMENTARY SCHOOL

KHursanova Zilola Mirzaxolmatovna
Teacher, Fergana State University, Fergana, Uzbekistan
Akramova Durdona
Student, Fergana State University, Fergana, Uzbekistan

Abstract: The article expresses the concept of geometry studied in elementary grades. Geometric material in the primary school curriculum is not allocated as a separate section; it is included in the curriculum of each year of study. Geometric material is arranged concentrically: students' knowledge gradually expands, practical skills improve, and mathematical speech is formed.
Keys words: Geometry, point, line, ray, segment, ball, pyramid and magnitude.

Familiarization with various geometric shapes and geometric quantities, students will learn to recognize and depict a point, straight and curved lines, a segment, a ray, an angle, a broken line, a polygon, and distinguish between a circle and a circle. They will master the skills of working with measuring and drawing tools (ruler, drawing square, compass)

The content includes an introduction to the simplest geometric bodies: ball, cube, pyramid. The study of geometric content creates conditions for the development of children's spatial imagination and lays the foundation for the successful study of a systematic geometry course in primary school. The program is extremely easy to learn and is basic. This benefits students who find it difficult to excel in math.

Traditionally, the study of geometry in school begins with the measurement of geometric quantities. This corresponds to the historical course of development of geometry. This approach in a consistent presentation of the material is called deductive.

Let's look at the geometric concepts that children learn in 1st grade.

A point is an indefinable concept in geometry. A dot is usually introduced by demonstration - drawn or pierced with a pen in a piece of paper. It is believed that a point has neither length, nor width, nor area.

Line is an indefinable concept in geometry. The line is introduced by the demonstration method - modeled from a cord, or drawn on a board or on a sheet of paper.

It is convenient to model a straight line by bending any sheet of paper - the fold line is always straight.. The main properties of a straight line is that it is endless. It is convenient to model a curved line from a cord. It is also infinite (if not closed).

It is convenient to model a broken line using counting sticks. A broken line contains a finite number of links. The link of the broken line is a segment. The connecting points of the ends are called the vertices of the polyline.

A segment is a part of a line bounded by two points. A segment has a certain length that can be measured. Broken and curved lines can be closed or not closed. A closed polyline on a plane bounds a polygon. A polygon is a figure that has many angles. Further progress in acquaintance with geometric material is closely related to the relative position of various lines, especially straight lines, rays and segments, which leads to acquaintance with various new geometric figures (angles, broken lines, polygons, etc.).

In 1st grade you can work in the following areas:

– comparison of various real objects and identification of groups of objects similar in shape. For example, the following set may be offered: a ball, a jar, a round pencil, an apple, a piece of pipe, a round balloon. They need to be divided into two groups according to some criterion. Among the proposed solutions (and there can be many of them, since children can be guided by different signs - size, weight, color, transparency, etc.), the teacher draws special attention to the students to the

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option when objects are combined by shape. This preference can easily be justified by the fact that when studying geometry, great attention is always paid to the shape of the figures under consideration;

– selection of other objects suitable in shape for the selected groups. This part of the work can take place in the classroom with a real set of objects or with their names, or can be given as a home assignment - find suitable objects among toys or household items;

– comparison of objects identified by similarity of shape with models of three-dimensional geometric figures and selection of appropriate models, familiarity with the names of the selected models. So, as a result of completing the task given above, children will identify two groups of things that are similar in shape: a ball, an apple and a balloon; jar, pencil, pipe. The teacher shows several models - a cone, a sphere, a prism, a cylinder - and offers to choose those that are most suitable in shape to the selected groups.

Obviously, children easily identify a ball and a cylinder with them, after which the names of the corresponding geometric shapes are introduced - ball, cylinder. As always, before reporting the names of the selected models, you need to ask if any of the students know them.

In second grade, children are introduced to the following concepts.

The perimeter of a polygon is the sum of the lengths of all sides.

The length of the broken line is the sum of the lengths of the links of the broken line. A right angle is an angle that by definition contains 90^{o}. Most often, the concept of a right angle in elementary school is given by demonstration. Children get a right angle by folding a piece of paper in half twice.

A rectangle is a quadrilateral with all right angles. A square is a rectangle with all sides equal. In 3rd grade, children are introduced to the following concepts: Area of a rectangle. Circle. Circle. Radius. Diameter. Square. Units of area. Triangles are equilateral, isosceles and scalene.

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