
Patternblocks



What's it about?

The material



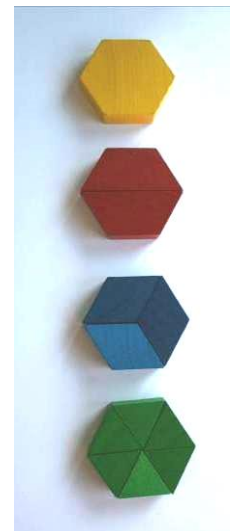
Patternblocks are small pieces of wood in five different geometrical shapes:

- equilateral triangle (green)
- square (orange)
- two different diamonds (blue, natural)
- symmetrical trapezium (red)
- equilateral hexagon (yellow).

With the exception of the symmetrical trapezium, all the edges of the blocks are of equal lengths; in the case of the trapezium, the non-parallel sides are the same length as the edges of the other five figures. These equal edges and suitably chosen angles lead to further relations between the shapes:

- Three green triangles can form the shape of a red trapezium.
- Two red trapeziums form a yellow hexagon.
- One blue diamond is the same as two green triangles.
- Three blue diamonds can be formed into the same shape as a yellow hexagon.

The Patternblocks lend themselves especially for the creating of two-dimensional patterns (circular, ribbon shapes, mosaics).



What should be stimulated?

Guiding Principle of Space and Layers

- Constructing concepts to describe positional relationships (beside, above, always in the middle, right, left ..), in order to communicate with others
- Visual perception
- Development of the idea of space

- Pursuing axis symmetry and figure displacements
- Relating shapes to each other

Guiding Principle of Patterns and Structures

- Sorting
- Designing a pattern
- Constructing a pattern
- Developing a pattern
- Describing a pattern

Suggestions for the use of the materials

Free Access

What can be done?

The children can either work alone or in a group

The child/ The group occupy themselves with the materials without instructions



Suggestions for observation

- Is the material sorted by shape or colour?
- Does the child make abstract or concrete shapes?
- Does the child create a complete or incomplete pattern?
- How many dimensions is the child working in?
- Does the child use selected shapes/colours?
- Has the child been symmetrically consistent?
- Does the child know the geometrical names of the blocks?

How to continue?

The objects which the children have created can serve as a starting point for further activities.

Material

The patterns or items created by the children

Social form

Work individually or with a partner

Task

- Encourage a child to explain the system he/she has used to produce the pattern.
- A second child should copy the pattern.
- A third child should continue the pattern.
- Yet another child should explain the pattern formation.
- The first child should draw a picture of his/her pattern (by using the Pattern blocks as a template, or as a stamp). The picture can be used as a model for other children.
- The created shapes and patterns can be photographed. The photos are available for further activities:
 - The photo serves as a model for other children.
 - With the help of a piece of paper sections of the pattern can be covered up. The task is then to fill in these “gaps” in a fitting way.

Suggestions for observation

- Can the child explain his/her pattern formation?
- Can the child copy the pattern?
- Can the child continue the pattern? Does he/she understand the basic rules of the pattern? Can he/she verbalize the rules?

Following Instructions

What can be done?

The children can work alone or in groups.

Invent, create and continue patterns

Material

Patternblocks

Task

- The child should create a complete pattern.
- The children should create a complete pattern.
 - The children should develop „rules of play“ during the course of the activity.
- One child creates a pattern. Another child copies the pattern.
- One child creates a pattern. Another child continues the same pattern.



Suggestions for observation

- Is the child/are the children able to create a complete pattern?
- Did the children develop rules to play by during the activity?
- How does the child/do the children cope with the irregular angles on the blocks?
- What conversations are the children having as they work? What are the topics of discussion?
- Are the patterns consistently continued?
- If two children are working together – is the continuation of the pattern in keeping with the initial idea of the child who “invented” it?

Copying pictures



Material

Patternblocks, Templates from Patternblock examples (photos or painted documentation from the children’s previous activities/ from designs previously prepared by the educator.)

Task

- The child should copy a pattern.
- The child should continue a pattern.

Suggestions for observation

- Is the child able to copy a given pattern?
- Is the child able to continue a given pattern?

Documentation

- Documentation with stencils, stamps or punches
- Description/Designation of patterns in text form
- Documentation with the help of photographs