

BALL GEOMETRY

Course code	ECTS	Lecturer	Department	Language of Instruction
ERA12E	4	István Lénárt lenart.istvan@lenartgomb.hu	Mathematics	English

MODULE AIMS

The development of the early formation of geometrical concepts with the help of spherical or spheroidal bodies such as fruits, balls, spherical construction tools, etc.

Remarks on continuing the topic in higher grades.

Freehand drawing and geometric constructions on spherical surfaces.

Spherical games on 3D models and on the computer screen.

Gaining practical experience in primary school. The relevant methodology of dealing with young children.

RECOMMENDED READING:

- Lénárt, I.: Alternative models on the drawing ball. In: Educational Studies in Mathematics, 24/3 pp.277-312 1993.
- The Plane-Sphere Project. Mathematics Teaching, MT 187, pp. 22-26, England, 2004.
- Paper Geometry Vs Orange Geometry - Comparative Geometry on the Plane and the Sphere. Mathematical Association of Victoria. Annual Conference 2009. La Trobe University, Bundoora Australia.
<http://www.mav.vic.edu.au/files/conferences/2009/21Lenart.pdf>
- Lénárt, I.: Adventures on the Lénárt Sphere. Blackline masters for the middle and high school. Key Curriculum Press, Berkeley, California (1996).
- Lénárt, I. - Anna Rybak: Hungarian Perspectives – Comparative Geometry in Primary and Secondary School. In: The Pedagogy of Mathematics in South Africa: Is There a Unifying Logic? Eds.: Paul Webb, Nicky Roberts. Real African Publishers on behalf of MISTRA (2017), Johannesburg, Ch.5. pp. 107-122.
- Anna Rybak - Lénárt, I.: COMPARATIVE GEOMETRY: BREAK BARRIERS BETWEEN MATH AND MATH PHOBICS. Also in Polish: GEOMETRIA PORÓWNAWCZA: PRZEŁAMYWANIE BARIER POMIĘDZY MATEMATYKĄ I FOBIĄ MATEMATYCZNĄ. Studia Psychologiczne. t. 55 (2017), z. 3, s. 3–16 PL ISSN 0081-685X DOI: 10.2478/V1067-010-0165-5.