

**Lecture guide: Science Introduction Workshop 1 Geometry**

Werner Nater

Day/Lesson	Topic of Lesson	Room/Duration
<b>Date:</b>	<b>Geometry: Symmetry - mirroring</b>	<b>2 x 60 minutes</b>
Goals for Students	Teachers Focus	
.Get a first contact to geometric drawing and construction Learn to handle ruler, protractor and learn to measure Get an understanding of axial symmetry	Go slowly and careful drawings an board or with visualizer	
Remarks		
Student should bring rulers		

Phase/Goals, Content		Activity Teacher		Activity Students	Media
Time	Sub-steps (Keywords)	Organizing, Informing, Activating	Accompany Learning process	Class, Group, Person: Activity/Social Form	Resources etc.
5	What is geometry (Plain, space)	Teacher-Student discussion		Teacher focused, Follow the drawings and discussions	Whiteboard or Visualizer
15	Elements: Dot, straight line, distance, ray, parallel line, (curved line) area	Draw different lines, and areas and name them		ditto	Large scale + protractor
5	One Point: How many lines through one point?	Ask, Construction		ditto	ditto
5	Straight line between 2 dots (Distance)	Construction, name it		ditto	ditto
30	Introduce scale, measure distances,		Use of scale		ditto
15	Parallel lines	Construction	Show in room		ditto
15	Normal lines	Construction	Show in room		ditto
15	Mirroring one point on straight line Drawing a normal Using the right angel (rectangular) Measure same distances Axial symmetry	Construction		ditto	ditto
15	Mirroring triangle on straight line 1. Hypotenuse parallel to axis use mirror to prove 2. Hypotenuse not parallel to axis	Construction Transfer the triangle from board on a sheet of paper and compare the picture on the board with object	Change of direction ABC to CBA	ditto	ditto
If time	Identify symmetric figures	Give different figures and find symmetry axis		ditto	ditto
If time	Rotation symmetry			ditto	ditto

