WORKSHEETS FOR PUPILS

Name of activity	Estimated time needed	Difficulty of activity	Age of children for whom the activity is suitable	Tools and used materials	Objective of activity
Comet	20 – 30 minutes	medium	14 – 15	encyclopaedia, atlas or internet, calculator, spreadsheet	concept of comet, tail, movement around the sun
Minor Planet Velocity	30 – 40 minutes	very hard	14 – 15	encyclopaedia, atlas or internet, calculator, spreadsheet	3. Kepler's law, unit conversions
Energy	20 – 30 minutes	medium	14 – 15	paper, computer, calculator	law of conservation of mechanical energy, kinetic and positional energy
Impact Craters	20 – 30 minutes	medium	14 – 15	metre ruler, calculator, spreadsheet, graph paper	work with map, kinetic energy, volume, weight, density
Gravitational Force	20 – 30 minutes	medium	14 – 15	calculator, spreadsheet, graph paper	gravitational force, sphere volume, unit conversions

Worksheet 2: MINOR PLANET VELOCITY

Practical Exercise: The minor planet X is located at a distance of 2.5 au from the Sun. Assume a circular orbital trajectory. What is its orbital period in seconds?

Practical Exercise: Estimate the velocity of a minor planet on an orbiting trajectory around the Sun, assuming that the trajectory of the minor planet around the Sun is circular.

Practical Exercise: How would the orbital velocity of the minor planet change if it were at a distance of the planet Jupiter?