EURO SPACE CENTER

ROCKET CAMP

LEVEL 1

11 TO 18 YEARS OLD

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www.eurospacecenter.be

ACTIVITIES

ROCKET CAMP 1

PROGRAMME

Introduction	1 hour
Knowledge sharing	1 hour
Propulsion experiments	1 hour
Construction and launch of simple water rockets, study of basic techniques	4 hours
Launch pad construction	7 hours
Construction of a reusable water rocket	8 hours
Technical inspection and adjustments	1 hour
Launch, adjustments, repairs	3 hours
Powder rocket construction	6 hours
Final launch	1.5 hour
Diploma ceremony	30min.
Space activities total (subject to change)	35 hours

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ACTIVITIES

ROCKET CAMP 1

ACTIVITY SCHEDULE

TIME	PROGRAMME
	SUNDAY
17:00	Arrival and reception of trainees with room and board - Set-up in rooms - Briefing
18:30	Dinner
20:00	Evening

	MONDAY THROUGH THURSDAY
7:30	Wake up
8:00	Breakfast
9:00	Reception of daytime trainees and start of rocket construction
12:00	Lunch
13:00	Rocket construction with a 30 min. break at 16h00
17:30	Free time
18:30	Dinner and evening activities

	FRIDAY
7:30	Wake up
8:00	Breakfast
9:00	Rocket construction
12:00	Lunch
13:00	Rocket construction
15:00	Presentation to parents, rocket launches and diploma ceremony
16:30	Departure

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ACTIVITIES

ROCKET CAMP 1

DESCRIPTION OF ACTIVITIES

PROPULSION EXPERIMENTS

The trainees become familiar with the principles of propulsion and action-reaction (Newton's third law) through several fun experiments.

CONSTRUCTION AND LAUNCH OF SIMPLE WATER ROCKETS

The trainees build a basic water rocket while learning to use paper glue, a cutter, scissors, a mitre saw and a glue gun. When all of the rockets are finished, launch pads are installed and the trainees learn to use them while experimenting with different pressurised water/air dosages to launch the rockets.

LAUNCH PAD CONSTRUCTION

After making all of the parts needed for the group, each trainee will assemble their launch pad. The tools used include saws, cordless drills, drill presses, PVC glue, spanners, screwdrivers, etc.

CONSTRUCTION OF A REUSABLE WATER ROCKET WITH PARACHUTE

The trainees build a stronger, customised water rocket with a parachute that should deploy at the apogee of its flight thanks to an automatic release system.

TECHNICAL INSPECTION AND ADJUSTMENTS

When the trainee feels that they are ready, the instructor will do a technical inspection of their rocket launch pad.

LAUNCH, ADJUSTMENTS, REPAIRS

All of the launch pads are set up outdoors and each trainee has the opportunity to launch their rocket a few times. In the event of a crash, they can make any repairs needed between launches.

POWDER ROCKET CONSTRUCTION

Depending on their technical level and manual dexterity, each trainee will have the opportunity to build a single-stage and/or two-stage powder rocket. The trainee must calculate the static margin for each rocket to ensure its stability.

FINAL LAUNCH (WITH PARENTS)

After receiving important safety instructions for the use of the launch pad and rockets at home, a few water rockets and all of the powder rockets are launched.

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