



brainfinity
COLLABORATIVE PROBLEM SOLVING CHALLENGE

Step-by-step guide for the National competition



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At its core, Brainfinity introduces a unique, challenge-based learning methodology that blends interdisciplinary knowledge, teamwork, and creativity. Through engaging tasks and detective-style challenges, students are encouraged to think critically, analyze problems, and develop solutions while collaborating in teams. This approach not only fosters a love of learning but also prepares participants for the complexities of future careers.

Project Objectives:

- Increase teachers' ability to move from a traditional teaching style to a facilitator, motivator and mentor.
- Strengthen teachers' ability to motivate and involve students in the learning process.
- Help teachers understand what skills should be used to teach students innovation concepts - how to think, solve problems, search data and collaborate.
- Motivate students to search for information instead of just asking teachers, to be able to independently evaluate the information collected.
- Teach students to freely express their ideas without fearing the responses of others.
- Learn to create teams, work together, use your strengths to benefit the team, and support each other.

By organizing a national Brainfinity competition, you are not only contributing to the academic growth of students but also inspiring a generation of future innovators and leaders. This guidebook will walk you through every step of the process, from planning and preparation to execution and evaluation, ensuring a seamless and impactful event.

Let's get started on this exciting journey of empowering students to unlock their potential and shape a brighter future!



I What are the BRAINFINITY National Competitions

An integral part of Work Package 3 of the project are the BRAINFINITY Challenges National Competitions, a Problem Solving Olympiad taking place simultaneously in Schools in the four member countries. It is a collaborative problem-solving challenge, a unique competition where elementary school students 11 - 14 years old solve real-life problems in teams using all the benefits of Information Technology.

This allows students to experience problem-based learning (PBL), which enables them to explore topics they are interested in through an entirely different approach.

A problem-solving competition such as this one helps students strengthen their cognitive abilities, learn about teamwork, explore their curiosity and enhance their critical thinking skills.

Theme and Objectives of the Competition:

The Brainfinity competition aims to:

- Develop essential skills: Encourage students to engage in critical thinking, problem-solving, and teamwork, fostering habits that are vital for lifelong learning.
- Promote interdisciplinary learning: Challenge students to draw from various subjects and apply their knowledge to real-world problems.
- Encourage collaboration: Teach students the value of working in diverse teams, sharing ideas, and leveraging each other's strengths.
- Inspire innovation: Create an environment where students can experiment, fail, and improve, helping them embrace creativity and resilience.
- Celebrate talent: Provide a platform for students to showcase their abilities on a national stage and motivate others to strive for excellence.



II Organizational steps for the competition

- Defining Competition Rules: Establish a clear schedule and structure of the Brainfinity National Competition that governs the conduct and expectations for the competition.
- Task Development
- Participant Recruitment and Promotion
- Judging Panel Setup
- Logistics Planning:
 - Venue Arrangement
 - Equipment Provision
 - Support Services
- Awards and Recognition
- Competition Evaluation.



III Competition rules

Scheduling and Structure of the Brainfinity National Competition

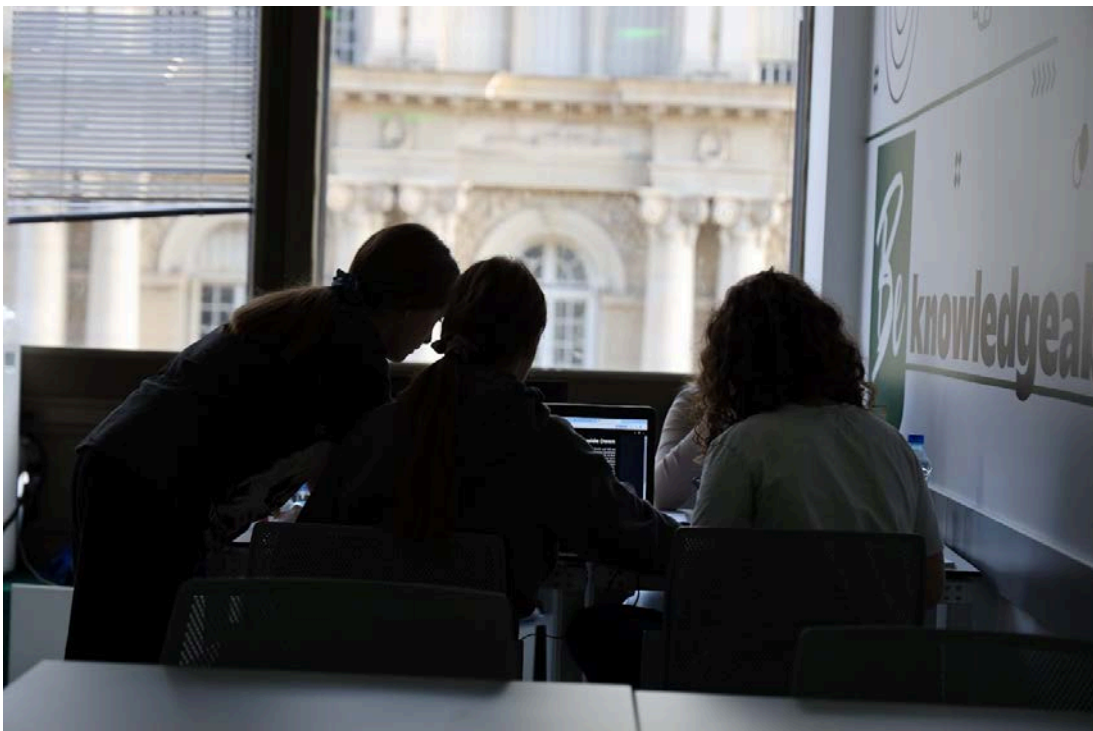
- **Timing Considerations:**
 - The competition is ideally held on weekends to ensure that the venue, typically a school, is vacant. This setup minimizes distractions such as school bells or noise from non-participants, creating a conducive environment for the competing teams.
 - Given that teams travel from various cities and towns, starting the competition later in the morning accommodates those arriving from nearby locations. Teams from distant locations may need to arrive a day earlier and require overnight accommodation.
- **Competition Duration:**
 - Teams will have 2.5 hours to complete the three tasks. The entire event, however, runs from 9 AM to 5 PM, as outlined in the proposed agenda (see page 27).
- **Competition Environment:**
 - Each team will operate in a separate room to ensure privacy and focus, with teachers and mentors prohibited from entering during the task-solving period.

- **Task Details:**

- During the competition, teams will tackle three specific tasks:
 - i. A logic puzzle
 - ii. A deciphering challenge
 - iii. An open-ended detective task
- Teams must not only solve these tasks but also prepare presentations detailing their solutions and the methodologies used, particularly for the open-ended task.

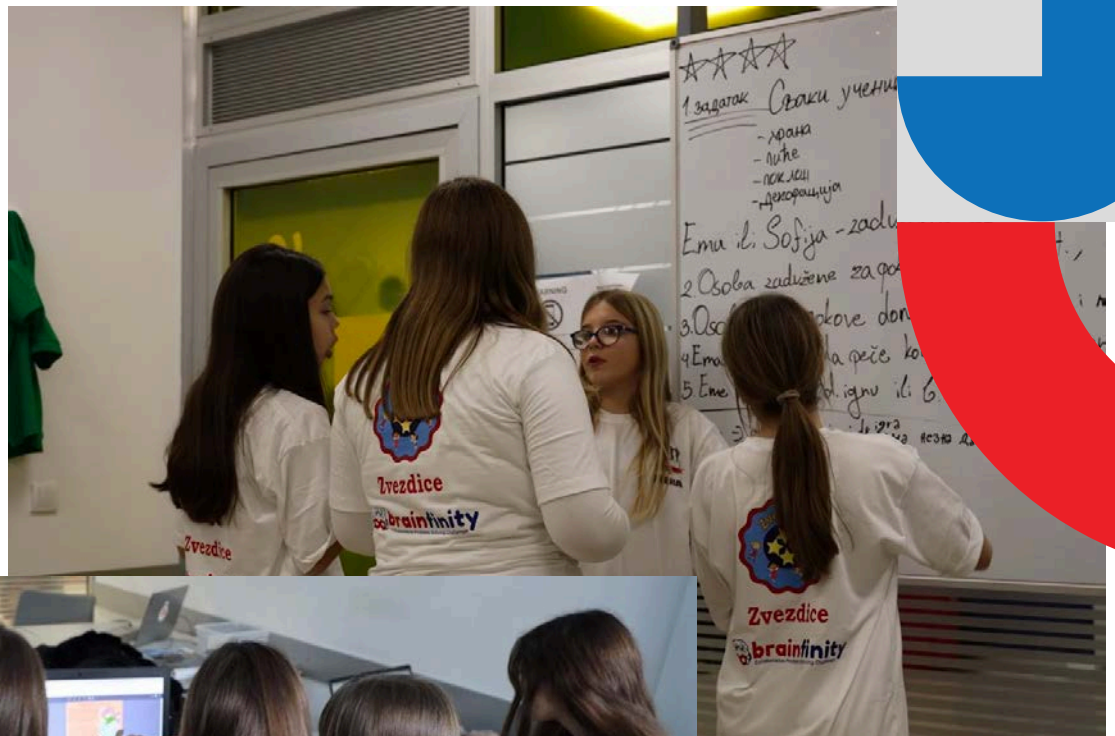
- **Technical Arrangements:**

- Organizers will provide each team with one laptop and an internet connection. Teams are permitted to use their own IT equipment to aid in task resolution.
- Upon completing each task, teams should name their solution files in the format: team name-task title and save them as PDF files.



- **Submission Protocol:**

- Solutions must be submitted individually for each task to a designated organizer's email address (example: brainfinity-srb@gmail.com), which will be communicated to all teams prior to the competition.
- Submissions should be in PDF format and not exceed 10MB in size.
- Submissions should be named in the following format: **team name-task title**



IV Tasks development

For the creation of the Brainfinity tasks, please refer to the booklet “Training Methodology Brainfinity”.

Specifically for the creation of:

- Logic puzzles, refer to pages 39-42
- Brainfinity detective tasks, refer to pages 43-49

Task Requirements for Brainfinity Nationals:

- **Diversity and Relevance:** Develop three distinct tasks for the competition, each covering different knowledge and skill areas suitable for the participant's age group.
- **Age-Specific Competitions:** Although all age groups will tackle the same three tasks, competitors will only be judged against peers within their own age group, with winners declared for each category.
- **Originality of Tasks:** Ensure that the tasks for the competition are original and have not been published or used elsewhere. This is crucial to maintain fairness and ensure all participants have equal opportunities.
- **Challenge Level:** Design tasks to be challenging yet approachable, encouraging participants to engage fully without feeling overwhelmed. Consider reviewing the Collection of Brainfinity Detective's tasks from the project consortium for inspiration.

V Participants recruitment and promotion

Who Participates in the Brainfinity Competition?

- The competition is open to students aged 11 to 14, organized into teams of four members from the same age group. Each team must have a Teacher/Mentor responsible for guiding them through the preparation, participating in the competition, and supporting the winning students in the international competition.
- Each team is required to have a unique name, a logo, and an email address.

How to Register Teams?

- Develop a registration form for participants that includes the following details:
 - Team name and logo
 - Team email address
 - Full name, age of each team member (total of 4 members)
 - School details: name and location
 - Mentor details: name, email address, and optional cell phone number
- Ensure that the mentor has access to the team's email address and maintains the credentials to access the account in case the team members forget their password or need similar information.

Registration Category Note:

- If team members vary in age, the team will be categorized based on the age of the youngest member.

Registration Timeline and Call for Participants:

- Initiate a call for participants at least two months before the competition. This call should include the text outlining the competition rules and registration instructions.

Instructions for competitors on forming teams:**1. Think of a team name**

Create a four-member team and think of an original team name. If you register a team name that already exists, you will also be assigned a number. So, be as original as possible!

2. Find a mentor

One of the rules is to find a teacher who will guide through the competition. Discuss it with your teammates and vote, and check whether the teacher is willing to embark on this adventure with you.

3. Create a team logo

Think of what best describes your team, what your favorite colors are and try to incorporate all these elements into a team logo. Use an online editor to create a distinctive visual identity for your team and let your imagination run wild. Remember: creativity is also assessed when awarding points to the teams!

4. Make a team photo

A group photo will represent your team throughout the competition. Here we expect you to employ innovation and creativity. Ask your parents or friends to help you make the best shot. And don't forget – the mentor is also a part of the team.

5. Create a team email

We suggest you name your email after your team name. This will allow you to not only remember your email easily, but to strengthen your team image as well. Surely you know that almost every company in the world has an official email address?

6. Role of the Mentor

Mentors should make sure that team members are familiar with basic operations with documents and presentations: creation, naming and uploading procedures.



How to reach participants?

See marketing plan document ([LINK](#)), specifically section VI Marketing plan outline.

The approach could be to reach participants through their teachers or to reach students directly.

Approaching participants through teachers:

Establish Social Media Presence: Set up profiles for the Brainfinity National competition on Facebook, Instagram, and LinkedIn.

Dedicated Email Address: Create an email address specifically for teachers to ask questions about the competition.

Use of Templates: Utilize provided templates ([LINK](#)) to communicate each step of the competition's preparation.

Weekly Task Publication: Publish previous Brainfinity tasks weekly on social media, helping teachers become acquainted with them and prepare their students.

Promotion at Conferences: Present the Brainfinity methodology at various teacher conferences and seminars.

Registration for Teachers: Invite teachers to register for more information about the competition.

Create Mailing List: Develop a mailing list of potential participants and send a monthly newsletter with updates and information.

Approaching participants/students directly:

Social Media Setup: Establish accounts on the platforms most frequented by your target audience, including X, TikTok, and Instagram.

Design and Publicize Tasks: Craft attractive designs for the tasks and share them on social media bi-weekly. Utilize the collection of previously used Brainfinity tasks for this purpose ([LINK](#)).

Engage Past Participants: Encourage students who have previously engaged with Brainfinity tasks to record their positive experiences. Ask them to use these testimonials to invite their peers to register for the Brainfinity Nationals.



Parental Consent for Brainfinity Nationals:

- Develop a Google Form for parents of each minor competitor to provide consent for their child to be photographed and filmed during the competition.
- This consent also includes permission to use the photo and video material for future promotional activities related to the competition.

The consent text proposal:

I, who is filling out this form, declare that I AGREE that all photos of my son/daughter, made for the purpose of promoting Brainfinity competition, can be used by the organizers of Brainfinity competition (you may name the organizer here) without mutual claims.

Fields in the form:

Name and Family name of the child

Name and Family name of the parent

Email address of the parent

Parent's personal ID number

SAMPLE PARENTAL CONSENT (word doc)



VI Judging panel setup

Composition: The judging panel is comprised of a coordinator, a supervisor, and a minimum of nine reviewers. Both the supervisor and the coordinator should be representatives from the organization hosting the competition.

Jury Member Profile:

- **Impartiality:** All jury members must be unaffiliated with the participating teams to ensure fairness and neutrality.
- **Diverse Representation:** The panel should include:
 - Representatives from educational institutions, ministries, and educational institutes.
 - Professionals from the business sector.
 - Members from non-governmental organizations in the education sector
 - High school or Higher education students can also be included in the jury



Jury's tasks

To ensure an organized and effective evaluation process for the Brainfinity competition, the following structured approach is implemented:

Jury Assignment and Task Allocation:

- The supervisor organizes the jury into three groups, each comprising a minimum of three members.
- Each group is assigned to review the solutions of one specific Brainfinity task across all age groups.

Pre-Competition Meetings:

- At least three days before the competition, the jury coordinator schedules preparatory meetings for each group with the supervisor, which can be held either in person or online.
- During these meetings, the groups are briefed on their respective Brainfinity tasks and align on evaluation criteria such as originality, practicality of solutions, and teamwork.
- It is recommended to ask the jury members to solve the tasks, as a control test before the competition, to identify and correct any flaws in the tasks.
- This way their evaluation of the solutions on the day of the competition will not be lengthy.

Submission and Review Platform:

- If no specific platform is available for submission and review, the coordinator sets up a Google directory for each task.
- A spreadsheet listing all competing teams is prepared within each directory for jury members to record the points awarded.
- All submitted solutions received via email are uploaded into the respective directories by the coordinator.

Distribution of files for evaluation:

- The jury coordinator ensures that all members are present in the designated jury room at least half an hour before the competition concludes.
- Jury members decide who will review which files; typically, if there are 30 teams, each of the three members will evaluate 10 teams.
- Jury members enter scores based on the pre-agreed criteria into the spreadsheet.



Handling Atypical Solutions:

- If a team's solution deviates from the expected and the planned criteria are not applicable, the responsible jury member consults with their group to decide on the appropriate scoring method.

Finalization and Announcement of Results:

- Once the review process is completed, the jury group informs the coordinator.
- The coordinator compiles a summary table of all team results and forwards it to the supervisor.
- The supervisor oversees the review process, assists with any uncertainties, and makes final decisions in cases of non-consensus.
- After final verification, the supervisor presents the results to the jury members, and the results are formally announced.

This structured approach ensures a fair, transparent, and efficient assessment of the participants' solutions, contributing to the overall success of the Brainfinity competition.



VII Logistics for the competition

Venue arrangements

Considering the National competition will host a minimum of 30 teams, the venue must provide adequate facilities. Specifically, the space should include:

- At least 30 separate rooms allocated for the teams.
- A dedicated room for the judging panel.
- A designated room for teachers.
- Four distinct rooms designated for solution presentations across each age category.
- A large hall capable of accommodating at least 200 people for the final ceremony and winner announcements.

It is important to note that the large hall is versatile enough to be utilized both as one of the presentation rooms and as a team room, provided these activities are scheduled at different times to avoid any overlap.



Equipment provision

For the National competition, the following arrangements are necessary:

- **Team Rooms:** Each team should be allocated a room equipped with a laptop, charger, and stable Wi-Fi connection.
- **Presentation Rooms:** Each room designated for solution presentations must be equipped with a laptop and a projector.
- **Judging Panel:** Every member of the judging panel should have access to a laptop with an internet connection.
- **Final Ceremony Hall:** The hall where the final ceremony will take place should be set up with a projector and audio equipment.
- **Preparation for Judging:** An online form should be prepared and made available to the judging panel members at least a week before the competition to allow adequate time for familiarization.
- **Additional Equipment:** Ensure there are sufficient chargers for laptops and cell phones, as well as extension cords to meet the needs of all participants.



Material needed

- ID cards for volunteers and organizers
- Medals
- Cups
- Certificates for participants, mentors, Jury members, volunteers and for winning teams in each age group
- Bags for awards
- Promo material from organizers/sponsors

Support services (volunteers and technical support)

Volunteers

Approximately one month prior to the Brainfinity Nationals, initiate a recruitment drive to enlist volunteers who will assist in both the preparation and execution of the competition. We aim to secure the support of 10-15 volunteers.

Volunteer Tasks for the Brainfinity Competition

Pre-Competition Tasks:

- Room Preparation: Print and attach the names of the teams to the doors of their designated rooms.
- Agenda Distribution: Print the agenda for each room to be displayed on the door. Alternatively, email the agenda to mentors for distribution to their teams.
 - Award Collection: Collect awards and promotional materials from sponsors and package them appropriately.

Competition Day Tasks:

- Room Setup: Ensure each room is well-ventilated before the competition begins.
- Promotional Displays: Install roll-up banners from sponsors and the Brainfinity roll-up.
- Team Welcoming: Greet teams upon arrival and guide them to their assigned rooms.
- Registration: Manage the registration desk to track team arrivals using a single list.
- Judging Panel Assistance: Welcome judging panel members and show them to their room.
- Catering Support: Assist with the setup and management of catering services.
- Award Ceremony: Distribute awards and certificates to the winning teams.
- Media Coverage: Assign one person to film and take photos during the competition, ensuring all content is uploaded to the designated folder.
- Problem Resolution: Remain available to assist teams with any issues that arise during the competition.
- Post-Competition Cleanup: Pack up all equipment and leftover materials after the competition concludes.



Technical Support Responsibilities:

- IT Assistance: Assign two individuals to manage Wi-Fi connectivity, troubleshoot laptop issues, and distribute passwords to the teams.
- Judging Panel Support: Create and maintain the Excel sheet to be used by the judging panel for scoring.

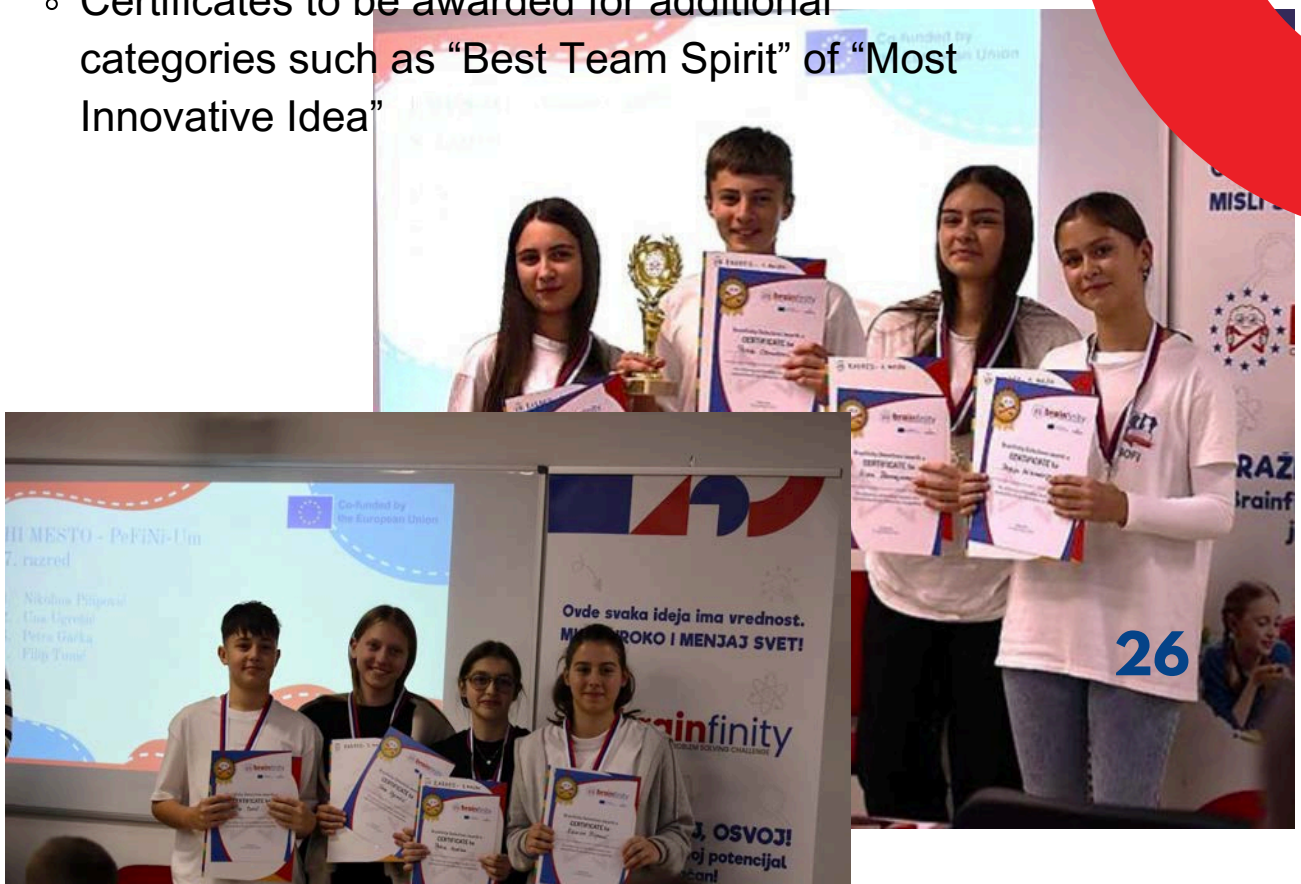
Organizing Team Duties:

- Preparation of Attendance Lists
- Parental Consent Collection: Gather signed consent forms from all teams for filming and photographing participants.
- Follow-up on Consents: Contact teams that have not submitted parental consents for filming or photographing their children.
- Shared Folder Setup: Establish a shared Google Drive folder for volunteers to upload photos.
- Handling Submission Delays: Coordinate with the jury to establish a protocol for managing late task submissions by teams.
- Winner Announcement Preparation: Develop a PowerPoint presentation for announcing the winners at the competition.



Awards and Recognition

- **For Participants:**
 - Certificates for all participating students.
 - Medals and cups for top performers.
- **For Teachers/Mentors:**
 - Certificates for all teachers/mentors.
 - Optional awards: 12 items distributed among 3 teachers.
- **For Support Staff and Partners:**
 - Certificates of appreciation for judging panel members, sponsors, and volunteers.
- **Prize Categories:**
 - 1st Place: 16 packages (4 x 4 items each).
 - 2nd Place: 16 packages (4 x 4 items each).
 - 3rd Place: 16 packages (4 x 4 items each).
- **Additional Prizes:**
 - IT gadgets, books, interesting games.
 - Vouchers for various courses and IQ testing.
 - Certificates to be awarded for additional categories such as “Best Team Spirit” or “Most Innovative Idea”



Agenda proposal

Day Before the Competition (Saturday):

- Prepare the venue.

Day of the Competition (Sunday):

- 8:00 AM: Volunteers gather.
- 9:00 - 9:45 AM: Teams arrive and register.
- 10:00 AM - 12:30 PM: Teams work on solving tasks.
Concurrently, a workshop for teachers possibly showcasing other Erasmus+ projects.
- 12:00 - 12:30 PM: Lunch break for the judging panel, provided by catering.
- 12:30 - 13:30 PM: Lunch break for participants, also catered.
- 12:30 - 13:30 PM: Judging panel assesses results and enters scores into the spreadsheet.
- 13:30 - 14:30 PM: Teams present their results to the judging panel, who then directly award points into the spreadsheet.
- 14:30 - 15:30 PM: Judging panel deliberates, finalizes the winning teams, and prepares the PowerPoint presentation for the winner announcement.
- 15:30 - 16:30 PM: Announcement of winners and awarding of prizes.
- 17:00 PM: Teams depart.

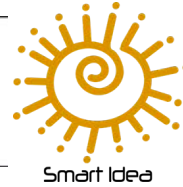
VIII Evaluation of the competition

All participants should be sent the evaluation form to collect their feedback and get their proposal for improving the Brainfinity experience.

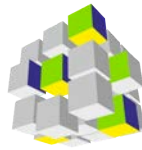
[Template Evaluation Form](#)



Partners



Institut za
moderno obrazovanje
Institute for
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