

All Ireland Linguistics Olympiad
The Problem Solvers' Challenge

A World
Leading SFI
Research
Centre



<https://ailo.adaptcentre.ie/>



**Test your
mind...**
against the world's
toughest puzzles
in logic, language
and linguistics



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Could you be Ireland's top young problem solver?

DO YOU THINK YOU HAVE A KNACK FOR LOGIC, LATERAL THINKING AND LANGUAGES? COULD YOU DECIPHER AN ANCIENT SCRIPT, OR DECODE THE LOGICAL PATTERNS OF SWAHILI?

The All Ireland Linguistics Olympiad (AILO) is the problem solvers' challenge. The national contest sees secondary school students develop their own strategies for solving complex problems in unfamiliar languages from around the globe.

No prior knowledge of linguistics or foreign languages is required. Even the hardest problems require only logical ability, patient work and a willingness to think around corners.

AILO introduces students to the application of logic and linguistics (i.e. the study of human language) to problems of language understanding and translation. The goal is to develop students' problem-solving skills and to inspire them to consider the fascinating range of careers at the intersection of computing, language and linguistics.

AILO is run by ADAPT, the world-leading SFI Research Centre for AI Driven Digital Content Technology, which brings leading academics, researchers and industry partners together to deliver excellent science, engage the public, develop novel solutions for business across all sectors and enhance Ireland's international reputation. Hosted by Trinity College Dublin, ADAPT's partner institutions include Dublin City University, University College Dublin, Technological University Dublin, Maynooth University, Munster Technological University, Athlone Institute of Technology, and the National University of Ireland Galway.



33,000+
Contestants Since 2009

**Compete to represent Ireland
in the Isle of Man 2022**



Who is eligible?

All second-level students from schools on the island of Ireland are eligible. There are Junior (under 16) and Senior (16 and over) categories, so students can participate at any stage in their second-level studies. Both Junior and Senior Category students take the same puzzles and are marked in the same way. However, we award prizes and trophies for the winners of each category. The overall top four students will be invited to represent Ireland at the International Linguistics Olympiad. Students may only participate in one national linguistics Olympiad (at any level) in a school year.

Why take the challenge?

- Most importantly, because it's great fun! You'll enjoy solving the challenging puzzles while learning about the languages of the world.
- AILO's learning outcomes are closely linked with the curriculum and the OECD PISA (2014/7) creative and collaborative problem-solving competencies. The example below shows the links with the Junior Certificate curriculum, key skills and statements of learning. See full details at www.adaptcentre.ie/ailo
- Sharpen your problem-solving skills in our free problem-solving regional workshops. This will benefit you whatever career path you take, but will be particularly useful if you are thinking of a career in Computing, Linguistics, Languages, Engineering, Maths, Science or a combination of these disciplines.
- Enhance your CV or university application form by showing you have a logical mind and an ability to think outside the box.
- Win the chance to represent Ireland at the International Linguistics Olympiad 2022 on the Isle of Man.

Overview of AILO Learning Outcomes linked to Junior Cert (JC) Curricula, JC Key Skills & Statements of Learning (SoL) and the PISA Problem Solving Competencies (2014/7)

| Students learn about | JC Key Skills | JC Modern Foreign Languages | JC Coding | JC Maths | JC SoL | PISA | Students should be able to: |
|--|---------------|-----------------------------|-----------|----------|--------------|------|---|
| Developing a positive disposition towards investigating, reasoning and problem-solving | ✓ | | ✓ | ✓ | | ✓ | 1. Discuss the importance of problem-solving skills as a key component in a STEM career. |
| Seeing patterns and trends in language | ✓ | ✓ | | ✓ | SoL 15 | ✓ | 2. Recognise patterns in language that make a language rule e.g. the 'code' of the language. |
| Tackling linguistics puzzles in unfamiliar languages | ✓ | ✓ | | ✓ | SoL, 2,15,16 | ✓ | 3. Complete logic & AILO puzzles |
| Problem solving strategies for each of the 6 types of AILO puzzle | ✓ | ✓ | ✓ | ✓ | SoL 17 | ✓ | 4. Understand when and how to use tables and charts to decipher data for each problem type (number systems, semantics, writing systems, phonetics, syntax, morphology.) |
| Gathering, interpreting and representing data | ✓ | ✓ | ✓ | ✓ | SoL 1,18 | ✓ | 5. Describe the observations they made about the language with concise and complete rules. |
| Expressing ideas clearly and accurately | ✓ | ✓ | | ✓ | SoL 1 | ✓ | 6. Monitor and reflect on language and how it affects their own language learning. |
| Collaborative problem-solving techniques (National Final, IOL) | | | | ✓ | SoL 17 | ✓ | 7. Work as a team and reflect on their role in the team (National Final, IOL) |

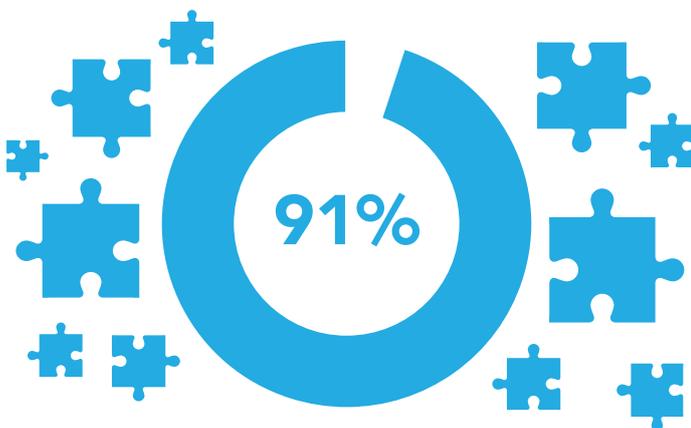
What Past Contestants Say

"Being involved with AILO helped teach me some of the necessary problem-solving skills used in software programming. Some of the AILO questions were even used by my lecturers [at DCU] to demonstrate how to approach problems you have never seen before."

Robert Devereux, Amazon Web Services

"I first got involved with the AILO and the IOL last year when I heard about it in my school. It was recommended to me by former IOL contestant Luke Gardiner. I quickly developed a love for this form of problem solving. I enjoyed the experience and so was eager to participate in AILO again, despite having a Leaving Cert to study for!"

Padraig Sheehy, Theoretical Physics, TCD.



of AILO participants reported that they now have more effective strategies for solving complex problems*



AILO Timeline

The AILO season runs from September to March. Registration closes on 21st January 2022. It is important to register as early as possible to receive monthly training materials and for information on accessing our regional linguistics problem solving workshops. These free workshops will take place between November 2021 and January 2022.

The Preliminary Round of competition will be held in your own school on the week of the 24th January 2022. These free workshops will take place in schools all over the island (with some online) between November 2021 and January 2022. Online sample tests are available at <https://ailo.adaptcentre.ie/puzzles/>. The top 100 students from the Preliminary Round will qualify to compete at the National Final in Dublin in March 2022 in individual and team competitions. AILO will follow all public health guidelines.

The top four students from the individual contest will win the opportunity to represent Ireland at the International Linguistics Olympiad (IOL) 25th - 29th July 2022 on the Isle of Man.

International Linguistics Olympiad

Castletown on the Isle of Man has been selected to host the International Linguistics Olympiad 2022 (IOL 2022). IOL 2022 will bring together 220 of the world's top young problem solvers from 36 countries to pit their wits against the languages of the world. Students will compete in individual and team contests. The fun-packed week also includes sightseeing, parties and cultural experiences.

For more, see <http://www.ioling.org>

Linguistics Transition Year Module

AILO is planning to launch a linguistics Transition Year (TY) module for next season, September 2022. The module, developed with Post-Primary Languages Ireland (PPLI) and AILO teachers, will be designed as teacher-led online resources, hosted on the www.ppli.ie website. Depending on evaluation, future phases of this project may lead to a student-directed online module. To register your interest in the module for September 2022, please go to ailo.adaptcentre.ie/tymodule2022/

Register Now!

Teachers and individuals can register online at <https://ailo.adaptcentre.ie/>



Try out this sample puzzle for yourself!

Nǐ XǐHUĀN FOOTBALL MA?

Chinese words are written in symbols ("characters") that represent meaning rather than sound, and the Chinese writing system consists of thousands of these characters. When writing foreign names in Chinese, a selection of these characters is used based not on what they mean, but on how they sound. In the table below you will see how some names of English football teams are written in Chinese. The transliteration system is not entirely straightforward however:

- (1) Generally each character represents a syllable (V, CV or CVC), but
- (2) some English consonant combinations are not possible in Chinese, so they are split into two syllables, e.g. "spin" might be "s(u)+pin".
- (3) Chinese does not have the same set of vowel and consonant sounds as English, so some sounds are mixed up – you probably know that R and L sound the same to a Chinese speaker. There are a few other pairs like that.
- (4) Finally, sometimes meaningful characters are used instead of phonetic ones. For example, in the Chinese for "Liverpool", the sign for "pool" is used – it's not pronounced "pool".

Study the following examples. Remember that the renderings are phonetic: they are based on pronunciation, not spelling.

| | | | |
|-------|--------------|--------|------------------|
| 阿森纳 | Arsenal | 莱斯特城 | Leicester City |
| 阿斯顿维拉 | Aston Villa | 利物浦 | Liverpool |
| 博尔顿 | Bolton | 曼彻斯特城 | Manchester City |
| 切尔西 | Chelsea | 米德尔斯堡 | Middlesbrough |
| 富勒姆 | Fulham | 纽卡斯尔联队 | Newcastle United |
| 利兹联队 | Leeds United | | |

To view the solution to this problem, and to try out more puzzles, visit <https://ailo.adaptcentre.ie/>

(1) Identify the following four names from the list of seven possible answers given on the right.

- | | |
|-----------|-------------------|
| a. 曼彻斯特联队 | Birmingham |
| b. 物阿米姆 | Blackpool |
| c. 埃弗顿 | Charlton |
| d. 查尔顿 | Doncaster |
| | Everton |
| | Manchester United |
| | Preston |

(2) How do you think the place name Boston would be written in Chinese?

(3) Fill in the table below showing the correspondence between individual characters and English sounds

| | |
|---|----|
| 森 | |
| | KA |
| 西 | |
| | LA |
| 顿 | |



Have you got what it takes to represent Ireland at the International Linguistics Olympiad 2022?

Could you be Ireland's top young problem solver?

Enter the search for Ireland's top language decoder at <https://ailo.adaptcentre.ie/>

Win the opportunity to represent Ireland at the International Linguistics Olympiad!

The International Linguistics Olympiad 2022 will take place in Castletown, Isle of Man, 25-29 July 2022. There, the top 4 Irish problem-solvers will test their wits against talented language sleuths from around the world during a week packed with puzzles and social and cultural experiences. For details, see www.ioling.org

The All Ireland Linguistics Olympiad (AILO) is run by:

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"AILO provides an unparalleled training in scientific thinking. The puzzles have never failed to challenge and amuse me.

After taking part in and learning from AILO for many years, I was delighted to win a bronze medal as part of the Irish team at the 2021 International Linguistics Olympiad. "

**Oscar Despard, Bronze Medalist,
International Linguistics Olympiad 2021**

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