UK Bebras Challenge

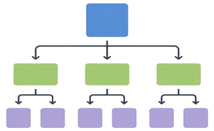
Building Computational Thinking Skills for Every Secondary Learner

Raspberry Pi Foundation

Computational Thinking

Abstraction

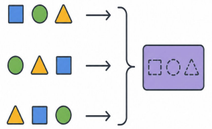
Decomposition



Debugging

Evaluation

Generalisation



Logical reasoning

Pattern recognition

Read more about Computational Thinking

Raspberry Pi Foundation

Bebras and Computational thinking

Bebras is an international initiative aiming to **promote Computer Science** and **computational thinking** among school students at all ages.

The Bebras challenge **promotes problem solving skills** and **Computer Science** concepts including the ability to break down complex tasks into simpler components, algorithm design, pattern recognition, pattern generalisation and abstraction.

“Computational thinking is really about thinking, and sometimes about computing.”
– Aman Yadav, Michigan State University

“ Educators are increasingly realising Computational Thinking skills don’t just apply to writing computer programs, and that Computational Thinking is a fundamental approach to problem-solving that can be extended into other subject areas” (Raspberry Pi Foundation)

International challenge

UK Bebras challenge

Free

Computational thinking challenge for students.

Open to all students **aged 6-19**

The 2025 UK Bebras challenge had **526,915 participants**

Each participant has **45 minutes** to tackle a series of **interactive tasks**

Challenge is conducted **online** and **marked automatically**

The UK Bebras challenge is organised by the Raspberry Pi Foundation.

Raspberry Pi Foundation

Challenge groups

Kits*
(age 6-8)

Juniors
(age 10-12)

Castors*
(age 8-10)

Intermediates
(age 12-14)

Seniors
(age 14-16)

Elites
(age 16-19)

SSI
Severely Sight Impaired
(age 10-18)

***Kits and Castors can enter individually or as a small team of 3**

Cloudy day

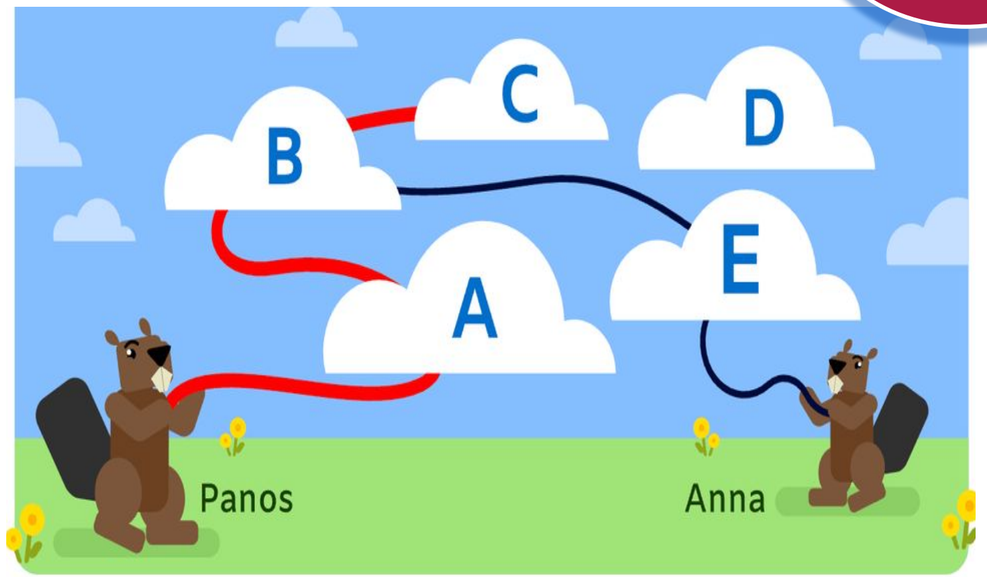
Beavers Panos and Anna are flying their kites. Each of the kites is tied to the end of a long piece of string.

The kites are sometimes hidden behind cl

Task

Click on the cloud that hides Panos' kite.

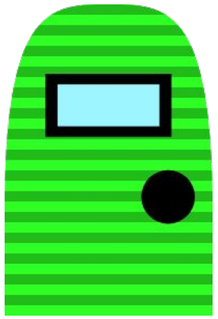
Kits (6-8)
2025 Bebras Challenge



Magic House

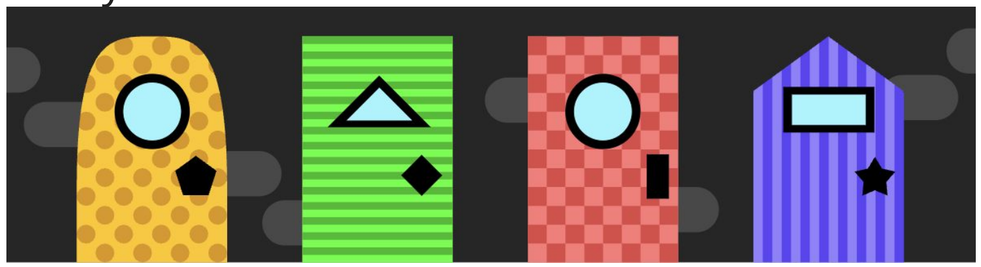
Beaver Josie is trapped in a magic house. She wants to get out but can only open a door if it is completely different from the door she just came through. Two doors are completely different if their shape, pattern, window shape, and handle shape differ.

Josie just came through this door:

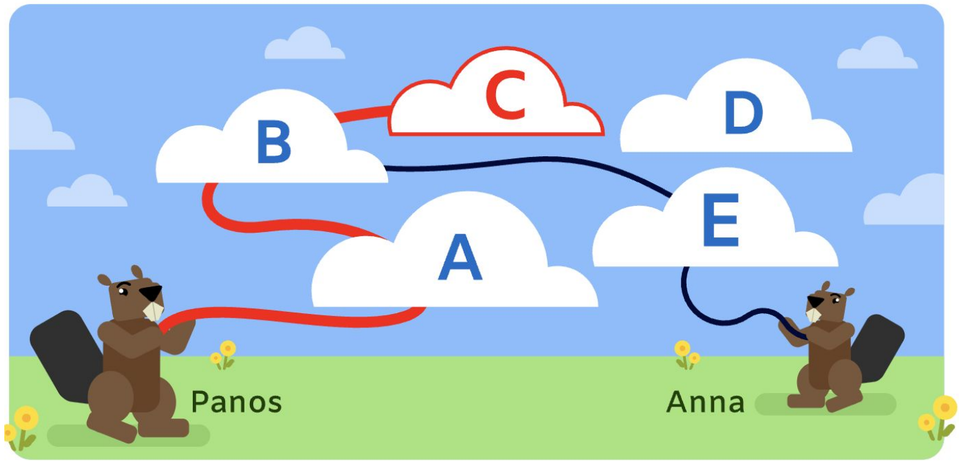


Castors (8-10)
2025 Bebras Challenge

Click the door Josie can go through next. Click Save when you are done.



Cloudy Day



Computational thinking skills

Abstraction

Pattern Recognition

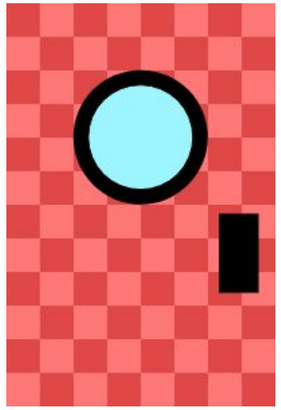
Kits (6-8)
2025 Bebras Challenge

Computer Science

Graphs (nodes/edges)

Network Routing

Magic House



Computational thinking skills

Decomposition

Pattern Recognition

Abstraction

Castors (8-10)
2025 Bebras Challenge

Computer Science

Data Representation

Machine learning

Incorrect sequence

Xavier is programming his first app and is writing code to transform a picture. At first, he programs only two operations:

- M (Mirror) reverses the image along the vertical axis
- R (Rotate) turns the image 90° clockwise

Input	Operation	Output
	Mirror	
	Rotate	

Inter's (12-14)
2025 Bebras Challenge

You can transform this original picture  into this final picture  with several different command sequences.

Which sequence of operations does not transform the original picture into the final picture?

MR | RRRM | RM | MRMRMR

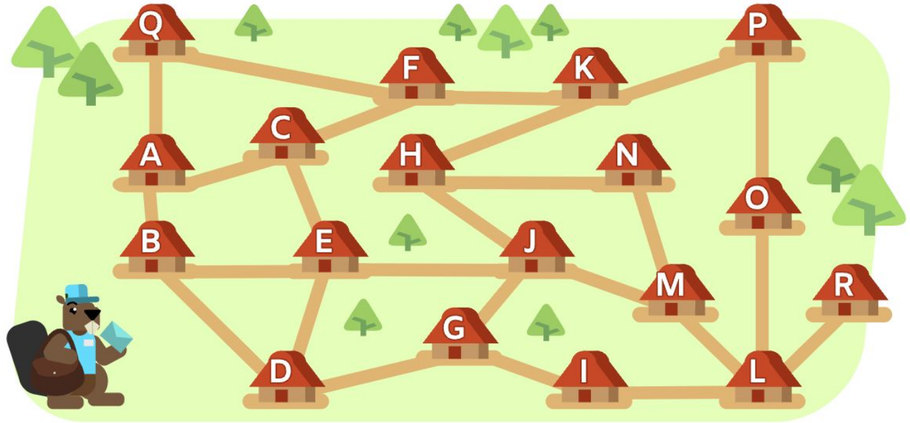
Beaver Island bulletin

There are 18 villages on Beaver Island, as shown in the picture below. Each village has many mail carriers; whenever a village needs to send a message or receive a new one, its mail carriers will deliver the message to all connected neighbouring villages on the next day.

Seniors (14-16)
2025 Bebras Challenge

For example, if Village A sends a message, it takes 1 day for the message to reach Villages B, C, and Q. It takes 2 days to reach D, E, and F; and so on, until all villages have received the message.

If a new message starts from Village J, how many days does it take to reach all villages?



Incorrect sequence

MR

RRRM

RM

MRMRMR

Computational thinking skills

Decomposition

Abstraction

Algorithms

Logical reasoning

Computer Science

Image processing

Transformation algorithms

Inter's (12-14)
2025 Bebras Challenge

Beaver Island bulletin

Answer = 4

Computational thinking skills

Algorithms

Abstraction

Computer Science

Graph traversal
Breadth first traversal

Seniors (14-16)
2025 Bebras Challenge

Challenge structure

45 Minutes to answer as many questions as possible

Questions split into categories:

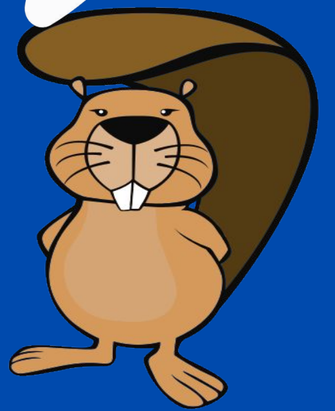
- A (Easy) - 6 points
- B (Medium) - 9 points , -2 for incorrect answers
- C (Hard) - 12 points , -4 for incorrect answers

Questions can be answered in any order

Additional time can be allocated

Why deduct marks for incorrect answers?

This discourages students guessing answers to gain points. Students are not deducted for not answering.



Achievements

Distinction	Top 25% based on school performance
Merit	Top 50% based on school performance
Participation	Remaining 50% based on school performance
Best in School	Best score in school for each category
Gold	Top 10 % nationally in each category

How to join

- [x] **Now** - Register as a coordinator for your school
- [ ] **September** - Import student information
- [ ] Use the practice challenges with your students
- [ ] Create quizzes
- [ ] **November** Live challenge - Provide student logins
- [ ] **Two weeks** post challenge – Review results

Expert feedback

"As an all-girls school, Bebras gives us a great opportunity to **break the stereotypes around Computer Science.** Every year we have students asking when the competition will begin"

Head of Computer Science
Nonsuch School

"Bebras provides us with incredibly useful insights and conversations about our students who might, otherwise - **have struggled with accessing traditional CS materials."**

Head of ICT and Business
Emerson Park Academy

"The BEBRAS challenge has become an integral part of our Autumn term, it **challenges my students computational thinking and their perception of Computer Science.** They can see now that logical and creative ways of thinking are just as important as Programming Skills"

Head of Computing
Woolmer Hill School

"Even if a child is under confident in their ability to code or understand computing concepts, the preparation for this challenge demonstrates that they are able to **develop these skills with resilience and perseverance**. A brilliant tool that challenges all!"

Head of Computing
The Manor Preparatory School

Key points

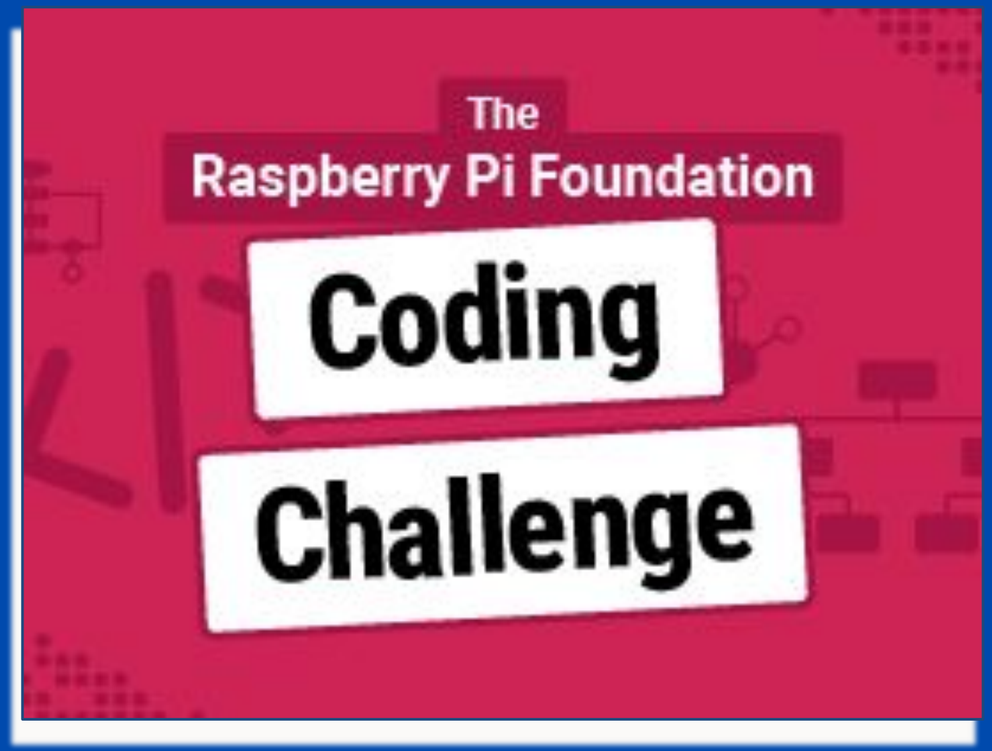
2026 UK Bebras challenge: Monday 8th November - Friday 20th November

Register as a coordinator anytime

Upload student data from 1st September

Use past challenges and create quizzes for practice

Post challenge



All participating students of the Bebras challenge are invited to take part in the Raspberry Pi foundation Coding Challenge