

ice
Institution of Civil Engineers

2023 Learning
Technologies
Gold Award

2024
Bett Award
Winner



CITYZEN

BUILD YOUR WORLD

2024-25 Award
Teacher Guide



For pupils aged 16-18



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Introduction

A little bit about us to begin with...

The Institution of Civil Engineers (ICE) is a professional organisation that promotes and supports civil engineering. It's where engineers come together to create solutions that enable our planet and our people to thrive.

Teacher-approved!
Teacher Rating: ★★★★★

The ICE CityZen Award

The ICE CityZen Award is an award-winning and teacher-approved scheme which is fun and easy to deliver. It gives students practical learning and problem-solving opportunities, which they'll find useful regardless of their courses of study. They will also see how these new skills could transfer into real careers, helping them reach their full potential.

There are two ways for students to get involved, making it accessible for all.

The CityZen Challenge

The first step on your student's journey is the CityZen Challenge. Four engrossing weeks of gaming tackling civil engineering challenges. It's challenging but simple to follow and supports collaboration, practical skills development and STEM subject learning.

More info
on page 12

The Project Pitch

To complete the full ICE CityZen Award, students can go a step further. They'll use their CityZen Challenge learnings to pitch an idea to help improve people's lives in their local area. The three teams with the most impressive ideas will also win great prizes.

More info
on page 13

**Winning students and schools
receive generous cash prizes
and exclusive access to ICE
headquarters.**

**Two thirds of CityZen participants
have told us they are interested or
very interested in civil engineering
after taking part in the award.**

ON-CALL SUPPORT

We know your time is precious. That's why we're here to help you deliver great mentoring with minimal preparation. Everything you need is at ice.org.uk/CityZen (or in this guide!).

If you have a question, problem or technical issue, we are always here to help too.

Please contact:
careers@ice.org.uk

So, read on to find out how you can support students with their CityZen journey!



Why take part?

Building skills for life, study and work

The ICE CityZen Award isn't just for future engineers – it's for every student, regardless of their interests or aspirations. Taking part gives/builds:

Communication skills Building skills and confidence through teamwork and presentation challenges.

Employability Collaboration, critical-thinking and ability to research are 'soft skills' highly valued in the workplace.

Creativity CityZen encourages innovative thinking and problem-solving.

Leadership Students can take charge, delegate tasks and inspire their peers.

Digital expertise Past participants have loved developing their digital skills to make videos for the Project Pitch.

Myth-busting inspiration CityZen can open the door to civil engineering for more young people, especially girls, realising it could be a career for them.

Opportunities to shine Exercising new knowledge and skills gives confidence.

Inclusive access CityZen is inclusive for neurodiverse and a wide-range of students.

What did you think of the CityZen award?

For a first-time entrant into this competition, I found it brilliant.

Teacher, Barnwell School

Thank you for organising this competition again. This is one of the most comprehensive comps we enter as a school, and it is very well-resourced.

Teacher, Upton Hall School FJC

Great competition that is really well structured.

Teacher, Guildford High School

Playing the games and finishing the video project as a group was enjoyable. It was fun to work towards a goal together and to put in as much effort as we could. It allowed me to use my analytical skills and creativity. I also learned to communicate my ideas and listen to others better.

Year 13 student
Hillcrest High School



Award timeline

You can run the activities flexibly throughout the autumn/spring terms to fit into your school timetable. As long as the game and video project are completed by the submission date below it's entirely up to you when you do them!

2024 Award submission date: 21 March 2025





Competition support and resources

Competition mentors

Having a competition mentor can help your students get more out of the CityZen experience. Mentors are usually professional or student Civil Engineers who are volunteering their time.

Mentors choose a school they can support through their CityZen online account. They offer informal support to give context to the activities and career opportunities.

A mentor in your area might be able to visit your school in person for some or all of your sessions, or join you online for Teams/Zoom calls – or a mix of both. They might also offer feedback by email for Project Pitches.

Important

All official CityZen competition mentors are registered STEM Ambassadors (with STEM Learning) who have undergone engagement training and safeguarding checks. Mentor-student interactions should nevertheless be supervised at all times however by a teacher* and any email communication should be through the responsible teacher*.

*or responsible school representative

Unfortunately, due to availability not all schools will be offered an official competition mentor so if you are contacted by one with an offer, please respond to them quickly so that in the unlikely event they can't support your planned sessions, they can work with another school.



Leicester High School for Girls team with their mentor Jonathon Simons, Principal Engineer at AECOM.

Maximise your chances of getting a competition mentor by registering your teams early and including some info about when (month/day of the week) you are planning to hold your sessions in the new school info box in the CityZen account manager. You can also let us know if you don't need a competition mentor.

For help with mentors please contact us at careers@ice.org.uk



Competition resources

You can find the following resources at ice.org.uk/CityZen

ICE CityZen competition resources	Teacher use	Mentor use	Student use
Competition poster	✓		
Student registration form (Found in this teacher guide)	✓		
Teacher guide	✓		
Student guide			✓
Mentor guide		✓	
Game guide	✓	✓	✓
Project Pitch guide		✓	✓
CityZen introduction presentation	✓	✓	
Further learning links		✓	✓

Webinars

We'll be offering several live webinars throughout the competition period. These will also be available as recordings after.

The times for these webinars will be confirmed early in September 2024 and updated on the ICE CityZen website: ice.org.uk/CityZen

Keep an eye on your competition update emails to be first to know all about these.

Send in students' questions in advance to careers@ice.org.uk

- **Meet the mentor 1** – hear from a civil engineer about their job to get insight for the competition.
- **Crack your communications** – award-winning communications training organisation Loud Speaker give an interactive masterclass for your students in expressing yourself so they can create compelling videos for their project pitches.
- **Meet the mentor 2** – hear from a civil engineer about their job to get insight for the competition.
- **Project Pitch Perfection** – ICE CityZen judges from 2023 give top tips to on how to wow.



Prizes

No competition is complete without great prizes. The ICE CityZen Award rewards winning teams and acknowledges the efforts of their schools and mentors. So, students can share their success with their community. Exactly the kind of mentality they need as a civil engineer!

There are two ways to take part, so there are also two sets of prizes.

The CityZen Challenge prizes

For the three highest scoring teams who complete the CityZen Challenge:

1st Place: £50 Waterstones voucher for each student

2nd Place: £35 Waterstones voucher for each student

3rd Place: £20 Waterstones voucher for each student



Every team who completes the CityZen challenge receives a certificate



2023 CityZen Award winners on their VIP visit to ICE Headquarters

The ICE CityZen Award prizes

Our top three teams will enjoy a tour of ICE's headquarters, including lunch with the ICE president.

Winners will also be featured in CityZen publicity. What's more, there are cash prizes for students and their schools too.

The architecture and history of the building were really impressive and it was great to meet the other winning teams and hear their ideas.

Lara McDonald, Highly Commended 2023

Thanks for the amazing hospitality at the winner's dinner. We felt well rewarded for our hard work!

Team Canon Slayer, Silver Award Winners 2023



£2,000*
PRIZE MONEY



£1,000*
PRIZE MONEY



£500*
PRIZE MONEY

There's also more special prizes on the next page!

*Shared equally between students and school.



Additional prizes

The following special prizes will be awarded by the final CityZen judging panel - alongside those for the Gold, Silver and Bronze Awards (whose winners are ineligible for these additional prizes).

JBA Trust Special Award for Nature and People Positive Innovation

JBA Trust sponsors this special prize for the project pitch which suggests highly creative and practical ways to support nature and the environment, as well as considering how the project can have inclusive positive impacts on society. This could include, for example, nature-based and/or community based initiatives to strengthen resilience or deliver environmental benefits.

The winning team will receive £500 – split equally between students and school.

The winners of this prize will also be invited to the VIP CityZen winners lunch at ICE Headquarters (see main prize page for more info!).



It will be awarded for a project pitch that strongly demonstrates at least one of the following:

- A positive impact on nature and/or biodiversity.
- An innovative/original solution that will positively impact the environment for both people and nature.
- A solution that uses natural processes or materials in an impactful and/or original way.

For more information on JBA Trust, visit:
www.jbatrust.org



Loud Speaker Prize for Communication Skills

One team will be awarded this special prize which celebrates excellence in communication skills (demonstrated in their project pitch).

It will be awarded for a project pitch that demonstrates at least one of the following:

- Has an outstanding presenter(s).
- Uses a highly original and effective communication style.

That also demonstrates a genuine passion for the project – showing how much you care about making a difference.



LOUDSPEAKER

The winners of this prize will be invited to the VIP CityZen winners lunch at ICE Headquarters (see main prize page for more info!). Their school will also be offered Loud Speaker's brilliant 'For Love or Money' workshop for 100 students – their flagship workshop for building students' confidence and public speaking skills! For more information on Loud Speaker visit: www.loudspeaker.org.uk



Taking part in the ICE CityZen Award and your data

To participate in the ICE CityZen Award your school must agree to share the following student data, with all appropriate permissions sought from parents/guardians, with ICE:

- Names.
- Dates of birth.
- Name and address of your school.
- The year in which each student entered the Competition and their school-year at the time of participation.

How is personal data collected?

Taking part in the ICE CityZen involves registering on the online platform so student and teacher personal data* is shared with the platform provider who processes this data on our behalf.

Participant data will also be shared with UCAS for the purposes of conducting data analysis to track named individuals through the UCAS application process (results of which are anonymised in the report provided).

Parents/guardians of participants should indicate in writing to you (the school) that they have been made aware of the use of their data and consent to it's use as stated above before such data is shared with ICE.

*Your (teacher) personal data is also collected on registration on the ICE CityZen platform which includes your name and email.

For more information on data use in the competition please read the full Competition Terms and Conditions which can be found at: ice.org.uk/cityzen

Permission form - Copy text below for emails or letters to parents:

I hereby give permission for the young person (under 18 years) named below to take part in the 2024-25 ICE CityZen Award and for the use of the supplied data by ICE and it's processors for the purposes of taking part in the competition and measuring competition effectiveness.

Permission is also granted for participation in and usage of content related to the project pitch.

NAME.....

DATE OF BIRTH.....

SCHOOL YEAR.....

AGE.....

Signed by.....

Name.....

Date signed.....

Visit <https://bit.ly/CityZen-permission> to access a printable version of the permission form.



Promoting Career Learning & Aspirations

Connecting learning to careers

The ICE CityZen Award gives students valuable insights into careers in civil engineering. They will learn about different roles and how to be successful in them. They will also discover how their school subjects connect to those roles.

The ICE CityZen Award aligns with the Gatsby Benchmarks:

- Learning from career and labour market information
- Linking curriculum learning to careers
- Encounters with employers and employees

Students will also have access to industry mentors where possible who will share their insights into civil engineering.

It was really helpful for the students to be able to email their mentor with questions about their projects.

Teacher, Comberton Village College

Our mentor has been fantastic. He brought a different colleague each week to give further advice and guidance to our students. It has been an excellent relationship which we hope will continue to develop."

Teacher, Chelmsford College

Supporting every student

This experience is made for all kinds of learners. It shows that civil engineers come from all walks of life, breaking stereotypes and providing encouragement.

It also caters to neurodiverse learners. Students can feel safe and confident in a digital space with clear rules. They will work in teams with different roles, so students of all abilities can join in.

The Project Pitch task is completely student-led, with a wide brief which gives students the freedom to use their strongest skills and create content which reflects their passions.

Students can choose whether to work in teams or individually, so there are no barriers to taking part.



Links to Curriculum

The ICE CityZen Award empowers students to cultivate teamwork, strategy, and digital skills – while developing critical skills that are useful across their studies. It connects with key curriculum elements, particularly in Design & Technology and Geography.

Design & Technology

- The ability to be innovative and creative in design and technology within a clear set of constraints
- An awareness of the significance of design and technology to society
- The ability to make informed choices as a discerning consumer
- Positive attitudes of co-operation and citizenship and the ability to work collaboratively
- The ability to apply essential knowledge, understanding and skills of design production processes to the design of civil engineering solutions
- The ability to use information and communications technology (ICT), as appropriate, to enhance their design and technological capability
- Critical evaluation skills in technical, aesthetic, economic, environmental, social and cultural contexts

Geography

- The ability to recognise and analyse people-environment interactions, and appreciate how these underpin some of the key world issues
- An understanding of the ways in which values, attitudes and circumstances have an impact on the relationships between people, place and environment
- Engage, as citizens, with the questions and issues arising from these relationships
- Apply geographical knowledge, understanding, skills and approaches in a rigorous way to a range of geographical questions and issues
- Develop as critical and reflective learners, articulate opinions, suggest relevant new ideas and provide evidenced arguments
- Apply a range of quantitative and qualitative skills and approaches

Media Studies

The project pitch task is also particularly relevant to Media Studies as it includes film-making skills (optional), story-crafting and journalistic/documentary evidence gathering and presentation elements.

I loved the real examples of decisions that civil engineers get to make every day. I was particularly surprised by how closely intertwined the gameplay was with my geography lessons in how big a role human experience plays in a 'good' design decision

Joseph Dixon, past CityZen participant and now
civil engineering student at University of Southampton



The CityZen Challenge

Our award-winning CityZen Challenge spans four weeks. Your students navigate a virtual city, tackling engineering challenges. There's a different theme every week to keep it fresh. They explore STEM subjects and learn how civil engineering can create change in their community. It's an experience designed to captivate and inspire.

CityZen game features:

3D action

Web-based 3D gameplay transports students into their own virtual city.

Empowerment through decision-making

In CityZen, every decision matters. Students will see how their choices impact the lives of virtual citizens. It also fosters teamwork and critical thinking skills.

Diverse challenges

CityZen offers a range of challenges to keep students engaged and motivated. They will build bridges, renovate parks, and consider sustainable housing and crisis management.

You can find more detailed advice for playing the CityZen game in the separate Game Guide found at ice.org.uk/CityZen

I really enjoyed the game. It was fun and informative, and it was satisfying being able to implement lessons that you had learnt in previous lessons.

Year 12 Student,
Guildford High School

Student Rating: ★★★★★



Award winning

CityZen is the winner of not one, but two national international awards.

- Best Learning Game, Learning Technologies Awards
- Best Secondary Free Digital Content App or Open Educational Resource, Bett Awards



Read on for important information about how to register and get started in the competition...



Registering for the award

As soon as you know which students will be taking part in the CityZen Challenge please create their teams in the CityZen Account Manager. You'll want to do this before the first session, so that students can play the game straight away.

Find the CityZen Account Manager at bit.ly/CityZen-login

You will use this portal to:

- register your school and students
- generate game access codes
- potentially match with an ICE mentor

You'll need some information about all your team members to be able to register them:

Their full names; dates of birth; current school year and permission to share this information with us (see page on data and award terms and conditions included in this pack.)

Teams can be between 1 and 4 students. Go to the 'teams' tab and click on the + button to add students. When you've added all the students in a team don't forget to click 'Add team' to finish.

Useful tip: Add in any info about when you might hold your CityZen sessions to the 'more school info' box – this will help prospective mentors choose who they can support.

If you are **changing/leaving your school** please transfer your CityZen account to another teacher. You can change the password to something that you can share with your colleague when you update the account with their email address. If you're not transferring your account please let us know to delete it. If you need any support with using the CityZen account manager get in touch at careers@ice.org.uk.

Getting started (playing the game)

To start playing the game, teams need their unique access codes.

You create codes when you enter your teams details using the CityZen Account Manager (as above).

To easily pass on the codes to your student teams, click on each to open an email in your default email programme containing a weblink to the game with the code pre-populated in the entry window.

Find the CityZen game website at: bit.ly/play-CityZen

If you want to better understand the ICE CityZen Game why not read the Game Guide resource found at ice.org.uk/CityZen before starting?



The CityZen Award – Project Pitch

Applying knowledge

For the project pitch, students must apply their understanding of civil engineering to effect change in their community. They will present an original idea to solve challenges faced by people where they live. This could relate to infrastructure, transportation, environmental sustainability or public amenities. They then need to find an innovative and sustainable solution to address it.

Students should demonstrate:

- the problem their team wants to solve
- an innovative solution
- how they think it will benefit the community.

Encourage creativity

In their teams, your students will craft compelling project pitches. These can include video if they want. The more creative the pitch, the better. Encourage them to explore various mediums to convey their ideas - visuals, animations, voiceovers or testimonials. Or maybe they will do something we haven't seen before!

Pitches must be submitted in a PowerPoint file format of up to 10 slides. They can contain a maximum of three videos, totalling three minutes (e.g. 3x 1 minute videos or 1x 3 minute video).

Emphasise realism

Remember, this is all about civil engineering in the real world. So while creativity is essential, the solutions must be grounded in reality. Encourage students to think about the feasibility and cost-effectiveness of their ideas, possible challenges and what they could do to overcome them. Students should research their ideas well. They can ask their competition mentor, or us, for feedback on their proposals before submitting.

We're looking for:

- original and practical ideas
- a really clear explanation
- creative presentation/design skills
- ideas that will have a BIG impact on the problem you're trying to solve
- a clear demonstration of learnings from the CityZen Challenge

Each of these criteria is marked out of a score of five, with equal weighting.

Making your submissions

Project Pitches should be submitted by a teacher or school representative.

Submissions can be made between 4 November 2024 – 21 March 2025.

Find the submission form at:
bit.ly/CZ-2024_25-submission



You can find more detailed advice in the separate Project Pitch Guide found at ice.org.uk/CityZen



Careers support resources

If you're looking for more information and support to explore careers in civil engineering we've got it here!

Virtual work experience

Take part in our on-demand civil engineering virtual work experience to learn why civil engineering is such an exciting and rewarding career. **The Civil Engineers Shaping the World programme** is free and available to all young people via the Springpod platform.

bit.ly/ICE-virtworkexp



The ICE Inspire 360° website

Visit our virtual careers building to find out loads more about civil engineering. Watch a film in the cinema, visit the virtual gallery and meet plenty of real Civil Engineers and hear their stories, plus there's an extra CityZen game to play if you want to hone your skills for the main competition.

Explore the ICE Inspire virtual careers centre
ice-inspire.co.uk



Loud Speaker - communication skills

Loud Speaker envisions a world where young people have the confidence and tools to speak out and speak well, making their lives less daunting and more fulfilling.

Speaking is easy when we're chatting away to our best friend, but put us on a stage or in an interview and words become hard.

Public speaking ranks on many surveys as people's number 1 fear; ahead of being broke and death... For the young people that we interact with, the future is a beautiful mystery. The only thing that's certain is that they will have to source opportunities and convince people to take a shot on them.

Loud Speaker's goal is to give them the confidence to aim high and the tools to make the most of every opportunity that comes their way. Since 2019, by showing that they have a voice, they have helped over 100,000 young people realise that they are ballers, and can speak their way to success.

LOUDSPEAKER



loudspeaker.org.uk



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