

The Mathematical Futures Call for Views

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Respond by: 11 January 2021

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Introduction

The Society's focus in [education policy](#) has been on creating the conditions for a broad and balanced education and on addressing priority areas such as mathematical and quantitative skills, sciences and computing education. As the independent scientific academy of the UK, the Society is ideally placed to extend this work with the launch of [the Mathematical Futures programme](#) which aims to build a new vision of mathematics education that anticipates needs and reinforces the role of mathematics in society, for economies, and for individuals, and strengthens diversity and equity. The programme is seeking to answer two core questions:

- **What mathematical competences will be needed for society to thrive in the future?**
- **How should education systems develop these mathematical competences?**

The programme is overseen by [the Royal Society Advisory Committee on Mathematics Education](#) and covers the phases between the start of compulsory education and entry into higher or further education. The programme aim is to look at mathematical competences across disciplines, not only from different areas of natural science and mathematics, but also from the social sciences and humanities

In this call for views, we hope to garner a range of views, opinions, information and evidence on how mathematics, described in a broad sense, is changing, and what the impact of such changes may be on the future of education, society, and work.

Who this is for

This call for views is for anyone with an interest in the future of mathematics and its education, including

- Primary Schools
- Secondary schools
- 6th Form Colleges and FE Colleges
- Higher Education Institutions
- School and college staff, including governors
- Other educational professionals including academics and researchers
- Parents and carers
- Young people
- Businesses
- Organisations providing activities for children and young people
- Other interested parties.

Issue date

The call for views launched on 9 October 2020.

Enquiries

If you have any questions about the call for views, please contact the secretariat to the Royal Society Advisory Committee on Mathematics Education by email educationpolicy@royalsociety.org.

Confidentiality of your response

Before you start answering the questions, please note that it would be helpful if you would first give us some information about yourself as context to your responses. We will not publish any information that could identify you without your permission. There is also the option for your response to be anonymous.

Information provided in response to this call for views, including personal information, may be subject to publication or disclosure under the Freedom of Information Act 2000, the Data Protection Act 2018 or the Environmental Information Regulations 2004. If you want all, or any part, of a response to be treated as confidential, please explain why you consider it to be confidential. If a request for disclosure of the information you have provided is received, your explanation about why you consider it confidential will be taken into account, but no assurance can be given that confidentiality can be maintained. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Royal Society.

The Royal Society will process your personal data (name and any other identifying material) in accordance with the Data Protection Act 2018 and, your personal information will only be used for the purposes of this call for views. Your information will not be shared with third parties unless the law allows it. You can read more about what the Royal Society does when we ask for and hold your personal information in our [privacy policy](#).

About this call for views

Part of the Mathematical Futures Programme, this call for views seeks your opinions, information and evidence on the changing nature of mathematics and implications for education, society and employment. Your comments will be used to help [the Advisory Committee on Mathematics Education](#) to further refine their thinking in relation to the future of education.

Questions

We will use the findings of this call for views to identify key themes to support the development of further activities and projects.

The call for views consists of eight open-ended questions which are very broad in nature to allow you to think freely about the future. You do not need to respond to all of the questions if they are not all relevant to you. This is to give you the scope to focus on a specific issue or priorities, according to your own, or your organisation's, area of expertise.

There is no minimum word limit, and we strongly encourage a maximum limit of **200 words per answer**. We expect it will take approximately **10 to 20 minutes** to complete the full set of questions.

How to submit your response

Responses should arrive no later than **11:59pm on Monday 11th January 2021**, with early responses encouraged where possible. The results from the call for views will be published in summer 2021.

Respond online

Please follow [this link](#) to submit your response. To help us analyse the responses, please use the online system wherever possible. If for exceptional reasons, you are unable to use the online system, for example because you use specialist accessibility software that is not compatible with the system, you may download this PDF version of the call for views document and respond either via email or post.

Other ways to respond

If you are not responding via the online survey, please can you ensure you provide:

- your name
- your occupation
- relevant contact details
- whether you are responding as an individual or on behalf of an organisation, along with your role
- whether you would like your responses to be kept confidential within your response.

By email educationpolicy@royalsociety.org

By post Mathematical Futures call for views
6-9 Carlton House Terrace
London SW1Y 5AG

Call for views questions

Before you start answering the questions in this call for views, please note that:

- It would be helpful if you would first give some information about yourself as context to your other responses. This information is confidential and we will not publish any information that could identify you without your permission.
- You may want to answer all or just some of the questions, but please note that some questions may not be particularly relevant to you.
- The call for views is structured into five sections:
 - Section 1. Questions 1 – 10 are for everyone responding to the call for views
 - Section 2. Questions 11 – 14 are about the nature of mathematics in employment, society and citizenship
 - Section 3. Questions 15 – 17 are about the future of mathematics in education
 - Section 4. Question 18 is about other things the Mathematical Futures programme should consider
 - Section 5. Questions 19 – 21 are about further contact.

Section 1. Personal details

1. Consent

I agree to the Royal Society processing my information for the purpose of informing the Mathematical Futures programme, as set out in its [privacy policy](#).

Yes

No

2. What is your name?

Name:

Please note: It is helpful to have your name if we want to contact you about your answers to the questions in this call for evidence. You do not have to give your name, and your views will be considered whether or not you give your name.

3. What are your contact details?

Email:

Please note: It is helpful to have your email address if we want to contact you regarding your response. You do not have to give your email address, and your views will be considered whether or not you give your email address. Please indicate whether you consent to your details being used for this purpose at the end of this online survey.

4. Are you responding as an individual or on behalf of an organisation?

Individual

Organisation

Responses from individuals

5. If you are responding as an individual, how would you describe your occupation?

Your occupation:

Responses from organisations

6. If you are responding for an organisation, what type of organisation is this?

Type of organisation:

7. What is the name of your organisation?

Organisation name:

8. What is your role?

Your role:

Confidentiality

9. Would you like us to keep your responses confidential? [Privacy notice](#)

Yes No

10. If yes, reason for confidentiality

Your response:

Section 2. The nature of mathematics in employment, society and citizenship

This section relates to the programme's first core question: What mathematical competences will be needed for society to thrive in the future?

In the Mathematical Futures programme, the term **mathematics** is used inclusively, covering a variety of ways of thinking, reasoning and solving mathematical problems which touch on many aspects of everyday life, work and study (in mathematics as well as in other subjects/disciplines). It includes quantitative skills and other activities of a mathematical nature such as those associated with numeracy, statistics, computing, and data analysis. **Mathematical competences** cover the way mathematical concepts, skills and understanding as well as attitudes are brought together when applying mathematics to solve problems.

11. Which mathematical competences are most useful to you (or your employees) and why?

Your response:

12. What are the most useful mathematical competences that citizens need now and why?

Your response:

13. Do you think the nature of mathematics, and the role it plays, have changed over the past twenty years? If so, how?

Your response:

14. Thinking about the needs of citizens, how should mathematics enable the next generation to participate in society?

Your response:

Section 3. The future of mathematics in education

This section relates to the programme's second core question: how should education systems develop these mathematical competences? **Mathematical competences** cover the way mathematical concepts, skills and understanding as well as attitudes are brought together when applying mathematics to solve problems.

15. What should be the main goals of mathematics education, and why?

Your response:

16. What do you expect to be the challenges facing mathematics education in the next twenty years?

Your response:

17. How could the challenges you have set out in your response to the previous two questions be addressed in practice?

Your response:

Section 4. What else should the Mathematical Futures programme consider?

The two core questions of the Mathematical Futures Programme are:

- What mathematical competences will be needed for society to thrive in the future?
- How should education systems develop these mathematical competences?

18. What else should the programme consider in order to answer the two core questions?

Your response:

If you have any supporting evidence you would like to share, please attach it to your response.

Section 5. Further contact

We may wish to speak to you directly about your responses to help our understanding of the issues or in order to provide you with further information about the Mathematical Futures programme. If we do, we will use the email address you have given above. You will be able to opt out of communications at any time.

19. Would you be willing for us to contact you about your response to this call for views if required?

Yes

No

20. Would you be happy for us to contact you in future about the Mathematical Futures programme?

Yes

No

21. Please add any further comments

Your response:

Thank you!

Thank you very much for completing the call for views. The results will be used to help us better understand the changing nature of mathematics and implications for education, society and work.

Please let us know any further comments or thoughts that you would like to share with us by emailing us at: educationpolicy@royalsociety.org