



Date: School name: Post code:

UPMAP 2008

School Mathematics Questionnaire

Dear Head of Mathematics,

To further assist us in looking at possible relationships between school-related factors and post-16 participation in mathematics, please complete this questionnaire at a convenient time and return it with the student questionnaires.

Contact telephone number: and/or email address:	<input type="text"/>
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A. About you

- Your name:
- Your position:
- How many years' teaching experience do you have?
- For how many of these years have you taught mathematics?
- To which year groups?

7	8	9	10	11	12	13
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- What was your undergraduate degree subject?
- Which teaching qualification(s) do you have?
- Do you have any other postgraduate mathematics-based qualification(s)?
 No Yes Please specify:
- Do you enjoy teaching mathematics?
 Almost always Usually Rarely Almost never

B. Opportunities for progression

1a. Has your school taken part in any enrichment activities with a view to increasing AS and/or A2 participation in mathematics? No please say why Yes please specify

1b.

2. How often would students in your school have the opportunity to participate in enrichment activities in mathematics of the following kinds?	Very frequently	Frequently	Occasionally	Rarely	Very Rarely	Almost
a. Mathematics clubs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Mathematics fairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Mathematics competitions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Extra-curricular mathematics projects	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. External mathematics experts coming into the school, engaging with students about mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Students going out of school to external mathematics organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Research in mathematics education conducted by teachers in the school	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Research in mathematics education led by external organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C. Is your school's capacity to teach mathematics hindered by any of the following?

	Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
1. A shortage of qualified mathematics teachers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. A lack of Teaching Assistants or HLTAs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. A lack of other support personnel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Shortage or inadequacy of teaching equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Shortage or inadequacy of library materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Shortage or inadequacy of audio-visual resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Shortage or inadequacy of computers for teaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Shortage or inadequacy of computer software for teaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Lack or inadequacy of Internet connectivity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Limited time for professional development for mathematics staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Lack of appropriate supply cover	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Shortage or inadequacy of textbooks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

13. Other:

D. In your opinion, what are the factors that contribute to the professional satisfaction of teachers of mathematics in your school?

E. Participation

1. What do you think are the **main** reasons for students choosing to study mathematics at AS and/or A2?

a.
b.
c.

2. What do you think are the main reasons for students choosing **not** to study mathematics after the age of 16?

a.
b.
c.

3. What do you think could be done to encourage students to take AS and/or A2 mathematics?

a.
b.
c.

4. Do you, as a leader of your department, encourage students to take AS and/or A2 mathematics? No Yes

If so, what do you actually do to encourage them? If not, please give reasons.

a.
b.
c.

5. What would you say are the main benefits of studying AS and/or A2 mathematics?

a.
b.
c.

6. Which of the following factors do you believe contribute to AS and/or A2 participation in mathematics?

	Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
a. A student's natural predispositions for mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. How highly valued among students it is to be good at mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. How good the student is at mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. How good the student thinks s/he is at mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. The way mathematics is taught	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Whether the student's parents/carers promote mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. How relevant the student feels mathematics is to his/her life and career	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. The content of the school mathematics curriculum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. The school's involvement in mathematics education research projects, e.g. through collaboration with universities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. The student's psychological and personality traits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. The student's involvement in extra-curricular activities in mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. The student's enthusiasm for and enjoyment of mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. The importance attached by the school to mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. The mathematics teachers' personalities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

F. About your school's mathematics department

1. How many of the following are in your mathematics department?

Mathematics staff	Full-time (FT)	Part-time (PT)
Teachers (non-ASTs)	a.	b.
Teaching assistants	c.	d.
ASTs	e.	f.

2. What are the roles of any ASTs that may exist in your department?

<p>a.</p> <p>b.</p> <p>c.</p>

3. How many of the **FT** mathematics teachers would describe themselves as mathematics specialists?
4. How many of the **PT** mathematics teachers would describe themselves as mathematics specialists?
5. Outside of the mathematics department, how many other teachers teach mathematics?

Total	How many teach at:		
	KS3	KS4	KS5

6. How many of your staff who teach mathematics are registered members of the National Centre for Excellence in the Teaching of Mathematics (NCETM)?

7. How many of your mathematics staff are members of subject associations, such as the Association of Teachers of Mathematics (ATM) and/or Mathematical Association (MA)?

	<25%	25-49%	50-74%	75-100%
8. What proportion of KS3 mathematics classes are taught by specialist mathematics teachers?				
9. What proportion of KS4 mathematics classes are taught by specialist mathematics teachers?				
10. What is your headteacher's subject specialism?				
11. Which Awarding Body does your school use for GCSE mathematics?				

12. What are the criteria by which you allocate your mathematics teachers to different sets and year groups (e.g. specialists, part-timers, experience)?

a.

b.

c.

13. In teaching KS3 mathematics, which of the following does your department work from?

Departmental schemes of work Textbooks National Strategy guidance

Other:

14. On average, how many times per month do you get together in your department **formally** to discuss issues regarding the teaching and learning of mathematics ?

_____ per month

Please give recent examples of issues discussed:

- a.
- b.
- c.

a.

b.

c.

15. In your department meetings, do you discuss the following?

	Very frequently	Frequently	Occasionally	Rarely	Very Rarely	Almost
a. Movements of students between sets	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Resources	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Problems students have learning mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Revision sessions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Exam booster sessions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Extra-curricular activities for mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Liaising with outside organisations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Professional development for staff	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Teaching and learning mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Assessment and monitoring students' progress	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Progression to AS and A2 mathematics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

l. Other (please list):

- i.
- ii.
- iii.

16. On average, how many times per month do members of the department meet **informally** to discuss issues regarding the teaching and learning of mathematics?

per month

17. How many teachers

- a. **left** the mathematics department during the school year September **2007** - July **2008**?
- b. **joined** the mathematics department during the school year September **2007** - July **2008**?
- c. **have so far joined** the mathematics department during the school year September **2008** - July **2009**?

Number	FTE

18. What are the strategic priorities of your mathematics department?

- a.
- b.
- c.
- d. How do you seek to implement them?

19. To what extent do the mathematics and the physics departments in your school communicate and/or collaborate, whether formally or informally? e.g. cross-departmental teaching, choice of examination boards, talking together in the staff room about common curricular or pedagogical issues, approaches or policies, etc.

- a.
- b.
- c.

19. What form of academic selection does your school operate?

No selection Some selection Full selection

20. What do you consider your school's progression rate to AS / A2 mathematics to be?

Above average Average Below average

21. If you offer mathematics post-16, what would your advice be if the following categories of students expressed an interest in studying AS and/or A2 mathematics?

GCSE mathematics grade		Advice / Policy		
Predicted	Actual	Recommended	Not recommended	Not allowed
C	C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C	B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B	C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
B	B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A*/A	C	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A*/A	B	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

22. Please comment on the above advice or policy.

a.	
b.	

23. If you offer mathematics post-16, please indicate the approximate number of students taking post-16 mathematics and mathematics-related courses

Subject	Year 12	Year 13
Mathematics AS/A2		
Use of mathematics		
Statistics		
Further mathematics		
Other (please specify)

24. In 2008, how many students did you enter for the following maths-related GCSEs:

				Other Yr. 10	Other Yr. 11
Maths Yr.10	Maths Yr.11	Stats Yr. 10	Stats Yr.11		

25. How does the mathematics department divide students into mathematics classes?

	Mixed ability	Banding (how many bands?)	Setting (how many sets?)	Other (please specify)
Year 7	<input type="checkbox"/>	<input type="checkbox"/> - bands	<input type="checkbox"/> - sets	
Year 8	<input type="checkbox"/>	<input type="checkbox"/> - bands	<input type="checkbox"/> - sets	
Year 9	<input type="checkbox"/>	<input type="checkbox"/> - bands	<input type="checkbox"/> - sets	
Year 10	<input type="checkbox"/>	<input type="checkbox"/> - bands	<input type="checkbox"/> - sets	
Year 11	<input type="checkbox"/>	<input type="checkbox"/> - bands	<input type="checkbox"/> - sets	
Year 12	<input type="checkbox"/>	<input type="checkbox"/> - bands	<input type="checkbox"/> - sets	
Year 13	<input type="checkbox"/>	<input type="checkbox"/> - bands	<input type="checkbox"/> - sets	

26. If you split your year 8 mathematics students into sets, what criteria do you use?

27. If you split your year 10 mathematics students into sets, what criteria do you use?

28. If you split your year 12 mathematics students into sets, what criteria do you use?

29. If you split your year 13 mathematics students into sets, what criteria do you use?

30. Are any of the **Year 8** students on accelerated learning plans so as to take mathematics GCSEs early? No Yes

30a. If yes, which students are in these plans? If no, please give reasons for this.

31. Are any of the **Year 10** students on accelerated learning plans so as to take mathematics GCSEs early? No Yes

31a. If yes, which students are in these plans? If no, please give reasons for this.

G. Your department's links with outside establishments

1. Does your department have links with mathematics departments in other schools? No Yes
2. Does your department have links with any 16-19 institutions (e.g. FE or Sixth Form Colleges)? No Yes

2a. If yes, describe these links briefly:

3. Does your department have links with any higher education institutions? No Yes

3a. If yes, describe these links briefly:

4. How much is your department involved with external projects in maths education?

Very often Sometimes Occasionally Almost never

5. Has anybody in the department conducted their own studies on teaching mathematics?

No Yes please specify:

H. Mathematics-related careers

In your opinion, to what extent do teachers in your school concentrate on developing in students the skills and knowledge that will help them progress towards mathematics-related careers?

1. These skills and knowledge are incidental to the teaching of mathematics
2. These skills and knowledge occur within the teaching of mathematics but are not emphasised
3. These skills and knowledge are important aspects of the teaching of mathematics in our school

Strongly Agree	Agree	Slightly Agree	Slightly Disagree	Disagree	Strongly Disagree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I. Continuing Professional Development (CPD)

How satisfied are the teachers of mathematics in your school with:	Completely satisfied	Very satisfied	Somewhat satisfied	Somewhat dissatisfied	Very dissatisfied	Completely dissatisfied
1. Their overall mathematics-specific CPD opportunities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Time to engage with CPD?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Funds to support specific CPD?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The overall quality of the mathematics-specific CPD available?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The availability of a variety of professional development opportunities for teachers?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The overall focus of the mathematics CPD?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. The time and opportunity teachers have to learn with colleagues within the mathematics department?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. The time teachers have to engage in school-based research to improve the way they teach mathematics?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. The time and opportunity teachers have to participate in networking with mathematics teachers in other schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

J. Further Comments

We would welcome any other comments that you feel may help with this study.

Thank You