

Maths4Prisons

Maths Mentor Handbook

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21 De Montfort Street
Leicester LE1 7GE

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A new independent policy and research organisation dedicated to lifelong learning, full employment and inclusion.

We research what works, develop new ways of thinking and implement new approaches. Working with partners, we transform people's experiences of learning and employment. What we do benefits individuals, families, communities and the wider economy.

We bring together over 90 years of combined history and heritage from the 'National Institute of Adult Continuing Education' and the 'Centre for Economic & Social Inclusion'.

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'Maths Matters', p. 21, reproduced with kind permission of the author.

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Section 1 – The Maths Mentor project

The Maths Mentor project

Led by Learning and Work Institute (L&W) and funded by the Department for Business, Innovation & Skills, the Maths Mentor scheme has been running since September 2012. We trained mentors in a number of prisons and also ran train-the-trainer sessions in prisons so that prison educators could train their own mentors. Trainee mentors were chosen by the prison staff as people who were confident enough in their maths skills to informally support other prisoners who lacked confidence or were not convinced of the benefits to them of learning maths. They have worked on the wing – for example, to help with money management and to encourage peers into classes – and in prison classrooms and industrial workshops. Given what we know about the skills of prisoners, we focused our materials on topics such as times tables, adding and subtracting money, reading and writing dates and times, as well as on practical problems like handling personal budgets. We also included some mathematical magic activities, which have proved very popular.

After their initial training, mentors were provided with this Mentor Handbook, four Learning Activities booklets and equipment (a simple calculator, some counters and a one metre tape measure). Mentors, together with prison staff, successfully supported other prisoners to handle everyday maths situations, helped them to become more confident about their own mathematical ability, encouraged them to join maths classes, and acted as informal classroom assistants.

Working with prison education staff we have now revised this Handbook so that our activities will, together with some generic mentoring activities supplied by the prison / YOI, enable prisoners to obtain Mentoring qualifications. We have mapped our activities to a range of Mentoring (and related) qualifications; our aim is not to design a new qualification or to ‘deliver’ a full qualification, but to offer training activities which will be useful as part of all these qualifications.

About this Maths Mentor Handbook

We hope this handbook will be useful to maths mentors during and after their initial training, and will also be useful to prison staff who are establishing and running a Maths Mentor project.

The *Maths Mentor Handbook* includes:

- Background information about the Maths Mentor project:
 - Does maths matter?
 - Why maths mentors?
 - The role of the mentor
 - Getting a Maths Mentor project started

- A training programme for new maths mentors, with trainer notes and handouts. This could be run as a one-day programme or as a series of sessions spread over a longer period. Prisons / YOIs may alternatively prefer to select some activities and integrate them into a generic mentor training programme. As a result, although we have indicated timings for each activity, these are just indications.

- An introduction to the learning activities booklets – *Money*, *Whole Numbers*, *Time and Distance*, and *Mathematical Magic*.

- A ‘route map’ which we hope will help mentors and mentees to choose activities.

Why maths mentors?

‘If we can improve prisoners’ literacy and numeracy levels it will improve their chances of getting a job following release. Keeping employment is a key factor in helping to reduce re-offending.’

Crispin Blunt, Justice Minister

For a variety of reasons, some people inside and outside prison choose not to join maths classes even if their maths skills cause them difficulties. Maths mentors in prisons can help engage those people in maths learning. In addition, the one-to-one support that a mentor can

offer will help those in maths classes to make better progress and become more confident with using maths. Outside prisons, community-based Maths Champions promote the benefits of maths for adults, but mentors go further because they directly help adults with maths.

The Maths Mentor project trialled a new way of supporting maths in prisons, by training prisoners who are confident in their maths skills to support others who are less confident. The data gathered suggested that learners' attitudes towards maths improved greatly throughout the course of the pilot programme. Learners were overwhelmingly positive about their mentors' support and agreed that the mentors had helped them to understand maths, keep up in their maths class and feel more confident with their maths. This support had made some learners feel more positive about themselves as well as their maths skills. The majority of learners expressed a feeling of achievement at the end of their sessions and felt encouraged about their maths skills. They were motivated to continue learning, with many saying that they were looking forward to their next mentoring session.

The project also had a positive impact on some learners' family members. For example, one mentor reported that some of his mentees had passed on a Mathematical Magic exercise to their children.

Maths mentors were overwhelmingly positive about their experiences of mentoring and a number of mentors had developed their teaching and mentoring skills through their participation in the programme. Others spoke of their increased awareness of how many of their peers need support with their maths, which reinforced their belief that the work they were doing was valuable and appreciated.

Tutors reported that having a mentor in the classroom improved learners' attitudes to their work and that some learners preferred to be helped by a maths mentor and needed the extra support they could provide. Some maths mentors had also helped to mediate learners' behaviour in class. One mentor described a situation where the two learners he was sitting between ended up in an argument. He managed to calm one down and the other was temporarily removed from the class. He felt that if he had not been there both learners would have been taken off the course.

Getting a Maths Mentor project started – and keeping it going

Firstly, the project needs the support of prison and education staff; this booklet can help raise awareness among both groups. Secondly, the first group of mentors must be identified. They need to have a helpful, supportive manner and be confident in their maths skills. No formal maths qualifications are necessary.

The training programme included in this handbook can be delivered by education or prison staff who are confident in training; at least one trainer needs to be maths confident. It uses some materials from the Learning Activities Booklets.

We have found that the project works best if the prison can identify and support a mentor co-ordinator who is willing to take responsibility for the mentors and give feedback to prison staff on any issues that arise. We recommend that mentors meet regularly to share experiences and develop their skills.

The next section in this handbook provides training notes and handouts for a one-day training programme for trainee mentors. The final section in this handbook makes some suggestions about how to support maths mentors after their initial training.

Section 2 – Training maths mentors

Maths mentor training programme

Aims

To provide an awareness and understanding of the role of a maths mentor

To develop the skills and confidence to act as a maths mentor

Outcomes

By the end of the training, trainee mentors will:

- be more aware of their own attitudes to maths and the attitudes of others
- understand the role of a maths mentor
- be ready to start being a maths mentor
- ready to plan their development as a mentor

Programme outline

- Welcome, Introductions, Icebreakers
- What's a mentor and what makes a good one?
- Benefits for mentors and mentees
- Boundaries and responsibilities
- Active listening; Equality, Diversity and Respect; the Skills, values and knowledge that mentors need to bring to the role
- You and maths – looking back, looking forward; personal maths histories
- Trying out some activities you could use with others
- Keeping records
- Next steps and future meetings

Resources needed for this training programme for trainee maths mentors

- copies of this *Maths Mentor Handbook* (one for each trainee mentor and each staff member)
- copies of the outline programme (one for each trainee mentor and each staff member)
- the Maths Mentor learning activities booklets (one set for each trainee mentor)
- card sets (each trainee mentor needs a cut-out set of all the cards – available in the Appendix of each booklet)
- a calculator for each trainee mentor (scientific calculator not required)
- tape measures (one for each trainee mentor)
- some A4 paper
- pens/pencils
- flip-chart sheets and thick marker pens
- if mentors don't want to write on their handbooks, photocopies of individual activities will need to be made beforehand (see the training programme for details)
- Maths Mentor t-shirts if available (two per trainee mentor)

After the training session, mentors should keep their handbook, learning activities booklets, card sets, t-shirts, calculator and tape measure, and appropriate handouts.

Maths Mentor Initial Training Programme

For all these activities we recommend the following:

- tables arranged cabaret, 4 or 5 to a table
- flip chart, stand, pens
- mini-whiteboards and pens if possible
- A4 paper and pens
- calculators (basic); one for each trainee

Additional equipment / resources for individual activities are specified later.

Activity number and title	Indicative duration (mins)	Trainer notes	Indicative learning outcomes / assessment criteria	Equipment and resources
1 Welcome and Introduction	5	Introduce yourself Outline the project, including: <ul style="list-style-type: none"> • how / why the trainees have been chosen as trainee mentors • the roles the trainees might play, e.g. as informal mentors on the wing or more formally in classrooms or workshops • the scope for gaining a qualification, • the work involved in working towards the qualification • the support which will be available to them as mentors 	As a result of this activity and related activity after the programme, the trainees can: <ul style="list-style-type: none"> • outline how and why mentors are identified for the role • describe the internal sources of support available to mentors 	n/a
2 Hearing from current mentors and mentees	5	Invite participants to read aloud 'Maths Matters' and some of the quotes from previous maths mentors and mentees. Encourage the group to make initial responses and comments.	As a result of this activity, the trainees can: <ul style="list-style-type: none"> • describe the terms mentor and mentee • identify some of benefits of 	'Maths Matters' poem, p 21.

Activity number and title	Indicative duration (mins)	Trainer notes	Indicative learning outcomes / assessment criteria	Equipment and resources
			mentoring for mentors and mentees	
3 Icebreaker 1: about you	5	Invite participants to introduce themselves and say one thing about why they want to be involved in this project. You may wish to encourage the participants to do this in plenary, or initially in table groups. Tell participants that there will be additional opportunities to discuss what they want to gain from the project – this is just an ice-breaker. You might like to extend this activity to include discussion about any concerns they may have as they approach this training.	As a result of this activity, the trainees can: <ul style="list-style-type: none"> • identify some benefits of mentoring to mentors • identify some of the skills a mentor needs to develop • self-assess their own potential as mentors • identify some benefits of mentoring to mentees 	
4 Icebreaker 2: about your favourite number	10	Ask participants ‘What’s your favourite number, and why?’ Be prepared to contribute your own favourite. Participants might like to produce posters – during or after the session – about their favourite(s). Encourage flexible responses – people like numbers for all sorts of reasons – birthdays, prime numbers, biggest concert they’ve ever been at, triangular numbers, nice shape, etc.	As a result of this activity, the trainees can: <ul style="list-style-type: none"> • understand and extend their own relationships with numbers – this is part of self-assessing personal maths skills. • become aware of some of the attitudes trainee mentors may bring to the mentoring arrangement 	
5 What’s in it for mentees?	5	Ask participants to discuss what peer support is, and how it’s similar to / different from other forms of learning support. Flip chart the responses, discuss, and if possible agree a definition. Ask what mentees might gain from being mentored (as distinct for example from being formally taught in a classroom / industrial workshop). Flip chart the responses, discuss.	As a result of this activity, the trainees can: <ul style="list-style-type: none"> • understand the advantages and disadvantages of mentoring for the mentee • understand the difference between a formal and informal learning opportunity 	‘What the first mentees said’, p. 22.

Activity number and title	Indicative duration (mins)	Trainer notes	Indicative learning outcomes / assessment criteria	Equipment and resources
6 What's in it for mentors?	10	<p>Ask participants to articulate more fully what they hope to gain from becoming a mentor. Responses are likely to be very varied, e.g. 'to do something useful', 'to gain new skills', 'to get a qualification', 'to enjoy doing some maths', 'to share my knowledge'.</p> <p>Outline the requirements for any relevant awards or certificates, and indicate that there will be plenty of detail on this to come later.</p>	<p>As a result of this activity, the trainees can:</p> <ul style="list-style-type: none"> state the advantages of mentoring for the mentor 	<p>'What the first mentors said', p. 22.</p>
7 Boundaries, responsibilities and support	30	<p>Tell participants they are going to discuss what they should and shouldn't do as a mentor.</p> <p>Invite participants to share, in plenary, any experience they have in a mentoring role. If nobody has formal mentoring experience, encourage them to talk about ways in which they have 'mentored' others informally.</p> <p>Ask them to work in groups of 3 or 4 to sort the 'Boundaries and Responsibilities' cards into 'Things to do', 'Things to avoid' and 'Maybes'. Discuss in a plenary session. Use this activity to introduce any legislation that might affect how mentors carry out their role.</p> <p>Note: It is likely that, during the Boundaries and Responsibilities activity, participants will have identified some situations in which they might feel challenged. Let them know that a later activity, 'Did these mentors get it right?' offers scope to consider and deal with these challenges.</p>	<p>As a result of this activity, the trainees can:</p> <ul style="list-style-type: none"> describe what is meant by the boundaries of a mentor's role describe any difficulties that might arise in a mentoring context describe some safety issues that might arise in a mentoring context describe how to deal with any difficulties that might arise in a mentoring context describe any ethical issues that might arise in a mentoring context describe key points of equality and diversity legislation outline the limits of confidentiality that are appropriate in a mentoring 	<p>'Maths mentor roles – boundaries and responsibilities cards', p. 23.</p>

Activity number and title	Indicative duration (mins)	Trainer notes	Indicative learning outcomes / assessment criteria	Equipment and resources
			context <ul style="list-style-type: none"> • identify situations in which a mentor should refer matters to another person or organisation • identify sources of support for mentors 	
8 Active listening	30	Agree a topic for conversation. Work in threes. The Talker talks about the topic for an agreed time (perhaps two minutes), the Listener listens actively and the Observer observes the Listener, making notes using the 'Active Listening Skills Observer Checklist'. The Observer gives one or two pieces of feedback to the Listener. The activity is repeated with roles rotated so that everybody tries out each role, perhaps with a new topic each time.	As a result of this activity, the trainees can: <ul style="list-style-type: none"> • self-assess and develop one of the key skills needed for mentoring • give feedback on colleagues' mentoring skills • respond to feedback on their own mentoring skills 	'Active listening', p. 24-25.
9 Equality, diversity, respect	20	Lead a discussion about different ways of subtracting whole numbers. Start by asking the group to give you a whole number subtraction problem that they find easy and invite participants to show each other their methods using mini-whiteboards or a big whiteboard. Then ask them to think of a harder subtraction, and ask why it's harder (anticipate 'more digits' and things like '7 from 4 you cannot do'). Ask participants to work out the answer and then demonstrate their method to the group. Discuss why different people do it differently, discuss where each participant learned their method and, if time permits, explore why the methods work. But remind participants that the aim	As a result of this activity, the trainees can: <ul style="list-style-type: none"> • give an example of how a life event might influence how people behave • state why it is important to be non-judgemental and accept differences in others • identify situations where a mentor may need to seek support • identify development needs for mentors 	'Number methods, p.26-28.

Activity number and title	Indicative duration (mins)	Trainer notes	Indicative learning outcomes / assessment criteria	Equipment and resources
		<p>is for them to become aware that different methods exist rather than – today – learning lots of new methods.</p> <p>Distribute ‘Number methods’ and invite participants to choose one problem and try to understand some of the various layouts. Do they know any other ways of writing down calculations like these?</p> <p>Invite them to talk about any other examples where people express mathematics differently in different cultures.</p> <p>Lead a short plenary on the following questions: What are the implications of different methods of solving problems for them as mentors? Will they need to learn all these different methods before they even start?</p> <p>Mentors sometimes feel under pressure to ‘know everything’ or ‘explain everything’ to mentees; remind them that good mentors listen to the mentee and help them develop their own approaches; and that teachers can help mentors and mentees develop their knowledge of how maths is presented in different cultures / countries.</p>	<ul style="list-style-type: none"> compare their own knowledge with that of other mentors 	
10 What skills, values and knowledge should mentors bring to the role?	30	Ask the group to give one example of a skill that a mentor should bring to the role. Repeat for ‘value’ and ‘knowledge’; the aim here is to help participants distinguish between these. Offer some ideas if necessary, e.g. ‘skill’ - active listening; ‘value’ – respect for the mentee; ‘knowledge’ – enough mathematical knowledge to be able confidently to	As a result of this activity, the trainees can: <ul style="list-style-type: none"> list the personal skills that are needed to be a mentor list the personal skills that they already possess compare their skills against 	n/a

Activity number and title	Indicative duration (mins)	Trainer notes	Indicative learning outcomes / assessment criteria	Equipment and resources
		<p>support the mentee or knowledge of equality and diversity legislation. Ask participants, building on all the activities so far and working in small groups, to make a poster showing all the skills, values and knowledge that they need to bring to the role. Discuss in plenary, and create an agreed list which reflects your institution's needs. Ask participants, working in pairs or threes, to identify one skill, one value and one piece of knowledge that they already bring to this role, and one of each that they need to develop. Ask participants to make notes – they will need these as starters for a later self-assessment activity.</p>	<p>the personal skills that are needed to be a mentor</p> <ul style="list-style-type: none"> • describe key points of equality and diversity legislation 	
<p>11 Did these mentors get it right?</p>	<p>10</p>	<p>Distribute 'Mentor challenges'. Invite participants (in small groups and then in plenary) to:</p> <ul style="list-style-type: none"> • choose a challenge • say which response they might make, or offer a new response • justify their choice by identifying the skills, values and knowledge involved. 	<p>As a result of this activity, the trainees can:</p> <ul style="list-style-type: none"> • describe how good practice has been implemented within a mentoring relationship • review their own practice as a mentor • give examples of how to improve their own practice • compare their own skills against those needed by a mentor 	<p>'Mentor challenges', p.29-30.</p>
<p>12 Maths and society: Quick quiz</p>	<p>10</p>	<p>Ask participants, working in pairs, to try the 'Quick quiz'. Indicate that for some questions there may be no obvious 'right' answer; the purpose of the quiz is to stimulate discussion.</p>	<p>As a result of this activity, the trainees can:</p> <ul style="list-style-type: none"> • describe the benefits to a mentee from mentoring • describe the benefits to society of learning maths 	<p>'Quick quiz', p.31.</p>

Activity number and title	Indicative duration (mins)	Trainer notes	Indicative learning outcomes / assessment criteria	Equipment and resources
13 Maths and society: Everyday life	10	Ask participants, working in pairs, to complete 'Maths in everyday life'. Encourage participants to think about maths inside and outside prison. Discuss the results in a short plenary. Invite participants to say exactly what maths they might use in each situation.	As a result of this activity, the trainees can: <ul style="list-style-type: none"> describe how maths is used in everyday life become aware of how they use maths themselves 	'Maths in everyday life', p.33.
14 Maths and society: Skill levels and tasks	10	Ask participants what they know about the 'Skill levels' in functional maths. Ask for examples of Entry and Level 2 tasks. Give them the 'Tasks' list, and ask them to write them in the right 'Skill level' section. This is likely to lead to discussion – the 'levels' are not sharply distinct and many tasks can be completed at several different levels. Mentors don't need detailed knowledge of this area, but the intention here is to give an indication of how maths skills might relate to a range of everyday tasks. P.35 offers some answers.	As a result of this activity, the trainees can: <ul style="list-style-type: none"> become aware of some terminology used in maths education 	'Skill levels and tasks', p.34.
15 You, maths and mentoring		The focus in this session is on the participants' personal maths histories and on any mentoring experiences they have had. There are, of course, implications for how they will approach the mentoring role, but the initial focus here should be on the participants' own experiences.		
15a	10	Invite participants to read and respond to 'Looking back, looking forward'. Discuss in plenary; what feelings are being described here? When they look back on their own experiences of learning maths, what feelings does that evoke?	As a result of this activity and related activity after the programme, the trainees can: <ul style="list-style-type: none"> become aware of how a life event can influence a person's behaviour and attitudes reflect on their personal learning history and plan 	'Looking back, looking forward', p.36-37.

Activity number and title	Indicative duration (mins)	Trainer notes	Indicative learning outcomes / assessment criteria	Equipment and resources
			personal development	
15b	10	Ask participants to begin to reflect on and describe their personal maths histories, using one of the supplied formats on p.38, or any other appropriate format. Allow at least ten minutes for this and let participants know that they are expected to do more work on this after the session. Then encourage them to share some of their reflections with the group.		'Maths histories formats', p.38.
16 Your self-development plan	30	Using the list of skills, values and knowledge agreed by the group, ask participants to self-assess themselves and make a self-development plan, using the 'Mentor skills, values and knowledge' template provided.	As a result of this activity, the trainees can: <ul style="list-style-type: none"> • create a personal development plan, stating how they will develop as mentors • create a timeline for the development of their skills, values and knowledge • 	'Mentor skills, values and knowledge', p.39-40.
17 Gaining a mentor qualification	10	Outline the requirements of the mentoring qualification available in your prison. Outline the support that will be available to mentors. Remind participants of the list of skills, values and knowledge they created earlier and let them know that all of these will be validated and assessed and developed as part of the qualification. Outline how the work of trained mentors will be supervised and monitored.	As a result of this activity, the trainees can: <ul style="list-style-type: none"> • identify the person who the mentor can directly consult for support • state the type of support the person can provide • identify others who can provide support for a mentor • state the type of support that those others can provide 	Prison to supply resources and documentation; we have offered some ideas based on our experience, but we are aware that prisons need to make their own arrangements. See p.52-53.

Activity number and title	Indicative duration (mins)	Trainer notes	Indicative learning outcomes / assessment criteria	Equipment and resources
			<ul style="list-style-type: none"> explain why a 'contract' is important for a mentoring relationship 	
18 Planning for meetings with mentees	15	<p>Ask participants to:</p> <ul style="list-style-type: none"> imagine they've been matched with a mentee who has said that they 'want to get better at' a particular topic use the 'Route map' on p.44 to find the nearest match from the 'I want to get better at' list browse the Learning Activities Booklets and find one of the recommended activities start completing Page 1 of the Maths Mentoring Planning Sheet 	<p>As a result of this activity, the trainees can:</p> <ul style="list-style-type: none"> state the benefits of good preparation for mentoring sessions prepare all documents and other resources for use during a mentoring session respond appropriately to the needs of the person being mentored complete all necessary documentation become skilful in the selection and use of learning resources 	<p>'Introducing the Maths Mentor learning activities booklets' p.43 and 'Learning activities booklets – a route map', p.46-51.</p> <p>'Maths mentoring planning sheet', p.41-42.</p>
19 Trying out Maths Activities	60	<p>Note: the trainer either needs to have available ALL the resources including cut-out cards, equipment, etc., or should steer the participants to choose a particular topic for which resources are available.</p> <p>Introduce the four Learning Activities Booklets. Explain and discuss the 'Do, Say, Discuss, Reflect and Record' format and explain how it relates to the Maths Mentoring Planning Sheet</p> <p>Invite participants, working in threes (mentor, mentee, observer), to try out an activity. Give each participant a few copies of 'Maths mentoring planning sheets'. Ask the observer to make notes using the 'Maths mentor meeting observer sheet'.</p>	<p>As a result of this activity, the trainees can:</p> <ul style="list-style-type: none"> become knowledgeable about how to make best use of learning resources become skilful in using learning resources with a mentee identify the means of securely storing mentoring documentation 	<p>Four 'Maths4Prisons' booklets: Mathematical Magic, Money, Time and Distance, Whole Numbers.</p> <p>'Maths mentoring planning sheet', p.41-42.</p> <p>'Maths mentor meeting observer sheet', p.43-44.</p>

Activity number and title	Indicative duration (mins)	Trainer notes	Indicative learning outcomes / assessment criteria	Equipment and resources
		<p>Let the mentoring session run for a few minutes, then let everybody know that time is nearly up. Either ask each threesome to discuss their experience or lead a short plenary discussion. Make sure 'mentors' get first chance to comment! Swap roles so that everybody gets a chance to try out being a mentor.</p> <p>Remember that in this Activity mentors may be developing their personal maths skills as well as their mentoring skills – be ready to help mathematically if necessary.</p> <p>Discuss how the completed 'mentoring planning sheets' will be stored by the mentor / your organisation.</p>		
<p>20 Organising and monitoring the mentoring scheme in your organisation</p>	<p>We haven't indicated how long this session might last, because we think it will vary widely from prison to prison.</p>		<p>As a result of this activity, the trainees can:</p> <ul style="list-style-type: none"> • explain why a 'contract' is important for a mentoring relationship • maintain an effective mentoring relationship over a given period • demonstrate good practice has been implemented when mentoring • review their own practice as mentors • describe the process for ending a mentoring relationship 	<p>We haven't supplied any resources for this activity because we know that different prisons / YOIs will want to plan to suit local conditions and that these may entail, after the initial training, further meetings with the trained mentors to establish various protocols. For example different organisations may wish to establish more/less formal mentoring systems, with or without written mentoring agreements,</p>

Activity number and title	Indicative duration (mins)	Trainer notes	Indicative learning outcomes / assessment criteria	Equipment and resources
				with protocols for matching mentors and mentees and for beginning and ending mentoring partnerships, and with arrangements for supervising and monitoring the activity of mentors. We have, however, offered some ideas on p.43-44 of the Mentor Handbook.

Training programme resources

Maths Matters

*We work out in the gym
So as to be fit and trim
But can we do addition and subtraction
Or how about multiplication and division?*

*If we learn how to do our sums
Whilst doing our prison term
It will help us here upon our release
And make us feel at ease.*

*Long- or short-term prisoners
Can get 1-2-1 help from Maths Mentors
Who will work with you at your pace
Which can be in your own space.*

*So don't be afraid to ask.
A Maths Mentor will be given the task
To assist you with improving your maths
And not being able to do sums will be a thing of the past.*

Nasser (Maths mentor)

What the first mentors said

“Some are scared of coming to maths classes. Some don’t want to come into a classroom. The one-to-one might encourage them. One-to-one helps people to be more confident.”

“I feel as though I am quite advanced in maths and would like to pass on any help that I can.”

“Making a list of what the mentee wanted to buy and then looking at what they could afford to buy... was good, as it enabled the mentee to add up and take away and know exactly what they could afford to buy with the money they had.”

“The mentee was buzzing and felt that he had ‘genuinely achieved something’ himself.”

“To be honest with you, I look forward to it all the time. When you wake up in the morning and you plan your day I think ‘that’s a thing I’ll be able to do today’, and it makes me feel good, feel empowered.”

What the first mentees said

“Perimeter, area and volume was easier to remember when it was explained in the way of the fence, football pitch and pool.”

“My maths mentor is helping me gain a good insight into basic maths.”

“My maths mentor helped me very much when needed and made maths so much easier to understand.”

“I feel more confident with my times tables now and look forward to doing some more work.”

Maths mentor roles – boundaries and responsibilities cards

The cards below show various things a mentor might consider doing – or avoiding! Discuss the cards and sort them into piles: ‘Things to do’, ‘Things to avoid’ and ‘Maybes’.

Explain everything to do with maths	Stimulate and support people to think things through for themselves	Show you are listening	Encourage people to show you how they tackle a bit of maths and help them improve their method
Encourage independence	Be the person who works out maths problems for people who need it	Point to other sources of support or referral	Encourage people to join classes
Help informally	Help formally	Encourage dependence	Discuss with people what it's like to be in a maths class
Give advice and guidance	Impose your own ideas and values	Use humour	Show people your mathematical methods before finding out about theirs
Pass messages from mentees to other prisoners	Teach all the maths the mentee will ever need	Promise mentees total confidentiality	

Active listening

In your group, agree who's going to be the Listener, the Talker and the Observer in Round 1 of this exercise. You'll all get turns at each role eventually.

Talker: please tell the others about something you disliked at school and why. You can talk for about two minutes.

Listener: please practise your 'active listening' skills – see opposite for ideas.

Observer: please observe the Listener and notice whether he/she is demonstrating good listening skills. The 'observer checklist' opposite has some ideas for things to look for, and you might like to make notes next to each one.

After two minutes, discuss the Observer's notes – what did the Listener do well, and where might there be room for improvement?

Repeat the exercise twice more, so everyone gets a turn at each role.

Active listening: observer checklist

Active listening skills

Some things a listener should do

Observer checklist

How is the listener demonstrating this skill?

1. Pay attention to the person speaking

2. Show that you're listening
(verbal responses and body language)

3. Provide feedback
(paraphrase, summarise, ask questions)

4. Defer judgement (allow speaker to finish each point)

5. Respond appropriately

Number methods

Can you understand the learners' methods?

	Problem	How learners from different countries may present their work				
		Thai	Turkish	Hungarian	Saudi Arabian	Malaysian
1	$2879 + 1345$	$\begin{array}{r} 2,879 + \\ 1,345 \\ \hline =4,224 \end{array}$	$\begin{array}{r} 2879 \\ + 1345 \\ \hline 4224 \end{array}$	$\begin{array}{r} 2879 \\ + 1345 \\ \hline 4224 \end{array}$	$\begin{array}{r} 1218179 \\ 1\ 3\ 4\ 5\ + \\ \hline 4\ 2\ 24 \end{array}$	$\begin{array}{r} 1218179 \\ 1\ 3\ 4\ 5 \\ \hline 4\ 2\ 24 \end{array}$
2	27×19	$\begin{array}{r} 27 \\ 19\ x \\ \hline 513 \end{array}$	$\begin{array}{r} 27 \\ \times 19 \\ \hline 243 \\ + 27 \\ \hline 513 \end{array}$	$\begin{array}{r} 27 \cdot 19 \\ 243 \\ + 27 \\ \hline 513 \end{array}$	$\begin{array}{r} 27 \\ 19\ x \\ \hline 243 \\ 27 \\ \hline 513 \end{array}$	$\begin{array}{r} 27 \\ 1\ 9\ x \\ \hline 243 \\ 27 \\ \hline 513 \end{array}$
3	138×23	$\begin{array}{r} 138 \\ 23\ x \\ \hline 3,174 \end{array}$	$\begin{array}{r} 138 \\ \times 23 \\ \hline 414 \\ 276 \\ \hline 3174 \end{array}$	$\begin{array}{r} 138 \cdot 23 \\ 414 \\ + 276 \\ \hline 3174 \end{array}$	$\begin{array}{r} 11238 \\ 23\ x \\ \hline 414 \\ 276 \\ \hline 3174 \end{array}$	$\begin{array}{r} 1\ 3\ 8 \\ 2\ 3 \\ \hline 414 \\ 276 \\ \hline 3174 \end{array}$

Problem		How learners from different countries may present their work				
		Thai	Turkish	Hungarian	Saudi Arabian	Malaysian
4	$578 \div 17$	$\begin{array}{r} 34 \\ 17 \overline{)578} \end{array}$	$\begin{array}{r} 578 \quad \quad 7 \\ - 51 \quad \quad 34 \\ \hline 068 \\ - 68 \\ \hline 0 \end{array}$	$578 : 17 = 34$ $\begin{array}{r} 68 \\ 0 \end{array}$	$\begin{array}{r} 34 \\ 17 \overline{)578} \\ \hline 51 \\ \hline 068 \end{array}$	$\begin{array}{r} 34 \\ 17 \overline{)578} \\ \hline 51 \\ \hline 68 \end{array}$
5	$3.43 + 2.68$	$\begin{array}{r} 3.43 + \\ 2.68 \\ \hline 6.11 \end{array}$	$\begin{array}{r} 3.43 \\ + 2.68 \\ \hline 6.11 \end{array}$	$\begin{array}{r} 3,43 \\ + 2,68 \\ \hline 6,11 \end{array}$	$\begin{array}{r} 3 \cdot 43 + 2 \cdot 68 \\ 3 \cdot 43 \\ 2 \cdot 68 + \\ \hline 6 \cdot 11 \end{array}$	$\begin{array}{r} 3 \cdot 43 \\ 2 \cdot 68 \\ \hline 6 \cdot 11 \end{array}$
6	$87.41 + 42.98$	$\begin{array}{r} 87.41 + \\ 42.98 \\ \hline 130.39 \end{array}$	$\begin{array}{r} 87.41 \\ + 42.98 \\ \hline 130.39 \end{array}$	$\begin{array}{r} 87,41 \\ + 42,98 \\ \hline 139,39 \end{array}$	$\begin{array}{r} 87 \cdot 41 + 42 \cdot 98 \\ 11 \\ 87 \cdot 41 \\ 42 \cdot 98 + \\ \hline 130 \cdot 39 \end{array}$	$\begin{array}{r} 187 \cdot 41 \\ 42 \cdot 98 \\ \hline 130 \cdot 39 \end{array}$
7	2.1×3.5	$\begin{array}{r} 2.1 \times \\ 3.5 \\ \hline 7.35 \end{array}$	$\begin{array}{r} 2.1 \\ \times 3.5 \\ \hline 10.5 \\ + 63 \\ \hline 7.35 \end{array}$	$\begin{array}{r} 2,1 \cdot 3,5 \\ 105 \\ + 63 \\ \hline 7,35 \end{array}$	$\begin{array}{r} 2.1 \times 3.5 \\ 2.1 \\ 3.5 \times \\ \hline 105 \\ 63 \\ \hline 7.35 \end{array}$	$\begin{array}{r} 2.5 \\ 3.5 \\ \hline 105 \\ 63 \\ \hline 7.35 \end{array}$

Problem		How learners from different countries may present their work					
		Thai	Turkish	Hungarian	Saudi Arabian	Malaysian	
8	$7.35 \div 2.1$	$\begin{array}{r} 7.35 \rightarrow 73.5 \rightarrow 735 \\ 2.10 \quad 21.0 \quad 210 \\ \quad 3.5 \\ 210 \sqrt{735} \\ \underline{630} \quad \end{array}$	$\begin{array}{r} 7.35 \quad 2.1 \\ 6.30 \quad 3.5 \\ \hline 5 \end{array}$	$\begin{array}{r} 7,3:2,1 = 3,5 \\ 10 \quad 5 \\ \hline 2.13 \quad 21.4 \quad 21.5 \\ \underline{63 \quad 84 \quad 105} \end{array}$		$\begin{array}{r} 3.5 \\ \sqrt{7.35} \\ \underline{6.3} \\ 1.05 \end{array}$	<p>2.1 2.1 2.1 2.1 2.1 1.05</p>
9	$\frac{1}{3} + \frac{2}{5}$	$\frac{1}{3} \times \frac{5}{5} + \frac{2}{5} \times \frac{3}{3} =$ $\frac{5+6}{15} = \frac{11}{15}$		$\frac{1}{3} + \frac{2}{5} = \frac{5}{15} + \frac{6}{15}$ $= \frac{11}{15}$	$\frac{1}{3} + \frac{2}{5} = \frac{5+6}{15}$ $= \frac{11}{15}$	$\frac{1}{3} + \frac{2}{5} = \frac{5+6}{15} = \frac{11}{15}$	
10	$\frac{2}{9} + \frac{2}{3}$	$\frac{2}{9} + \frac{2}{3} \times \frac{3}{3} = \frac{2+6}{9}$ $= \frac{8}{9}$		$\frac{2}{9} + \frac{2}{3} = \frac{2}{9} + \frac{6}{9}$ $= \frac{8}{9}$	$\frac{2}{9} + \frac{2}{3} = \frac{2+6}{9}$ $= \frac{8}{9}$	$\frac{2}{9} + \frac{6}{9} = \frac{8}{9}$	

Tables adapted from L&W Scottish Numeracy Energiser

Mentor challenges

Here are some things potential mentees might say to you, together with some suggestions about how you might respond. Look at each challenge and the suggested responses and think about the following questions....

Why would you choose that response?

Might you choose different responses depending on the circumstances?

Feel free to add some new suggestions.

What skills, values and knowledge would you bring to each situation?

My canteen sheet is a mess. I can't make any sense of it

1. Here, give it to me. I'll sort it out for you.
2. Have you got it with you? Maybe we could sort it out together.
3. It's easy; just a matter of adding it up right. Are you ok on adding?

I've just heard from home. My son's having terrible trouble with his maths.

1. What maths level are you at yourself?
2. What age is he? Would you usually help him at home?

I've just passed my Level 1 maths! Couldn't have done it without you!

1. Great! Are you going to do your Level 2?
2. Great! Fancy being a mentor yourself?
3. Level 1 is easy; wait till you get to Level 2!

I'm not sure how to do take away. Can you show me the best method?

1. Here, I'll show you my method; it's easy!
2. Can you show me a take away that you can do, and then one you might have trouble with?
3. Can you remember how to start that kind of sum?

The teacher lays out dividing sums different from my way. I can't make sense of what she's doing.

1. Can you ask her to show it to you again?
2. Does she know you lay it out differently? Can you show her your method?
3. Do you get the right answers using your method?

Quick quiz

Some of these questions do not have a simple 'right' answer. The point of the quiz is to stimulate discussion, make mentors aware of various issues and let them know how to find out more.

1. Roughly how many adults in England have difficulties with 'everyday' maths?
 - a. 1 in 20?
 - b. 1 in 6?
 - c. 1 in 4?

2. Roughly how many adults in England have difficulties with 'everyday' English?
 - a. 1 in 20?
 - b. 1 in 6?
 - c. 1 in 4?

3. 'Adults with strong numeracy skills have better health, stronger and more varied employment prospects, higher earnings, easier access to training opportunities and to higher level qualifications, and better access to good housing.'
 - a. True?
 - b. False?
 - c. True, but it doesn't mean if you improve your maths somebody's going to give you a nice house

4. Research shows that the main reason adults do not join numeracy classes is:
 - a. lack of awareness of the importance of maths.
 - b. fear about what the classes will be like.
 - c. lack of interest.

5. There is a tendency for individuals to think they never use maths.
 - a. True?
 - b. False?

6. Parents are their children's most important educators and children spend more time at home than they do at school.
- True?
 - False?

Indicative answers / comments

- c. But adults don't always say they are struggling; why might this be?
- c. But adults don't always say they are struggling; why might this be?
- c
- b. How can you help people overcome this fear / distrust?
- a. See 'Maths in everyday life' and 'Examples of maths skills at different levels'.
- a

Where to find out more:

BIS (2012). *The 2011 Skills for Life Survey: A Survey of Literacy, Numeracy and ICT Levels in England*.

Department of Business, Innovation and Skills (2016). *Prior Qualifications of Adult OLASS learners 2015*.

Maths in everyday life

Here are a few examples of maths in everyday life. Can you think of some more?

1. My appointment's at 14:25. It's ten past 2 now; will I get there in time?

2. Three reds left on the table, plus the colours. How many points can I score?

3. I've got £3.25 left. Can I afford two stamps and some soap?

4.

5.

6.

7.

8.

Skill Levels and tasks

At Entry Level 1 someone can probably. . . .

At Entry Level 2 someone can probably. . .

At Entry Level 3 someone can probably. . .

At Level 1 someone can probably. . .

At Level 2 someone can probably . . .

Tasks

Which 'Skill Level' might these tasks fit into?

Calculate area and volume accurately

Understand a pay slip

Use a simple tally sheet

Key in a code number

Count up to ten items

Understand simple graphs and charts

Use a calculator to check totals

Complete a stock control sheet

Use a ruler accurately

Weigh and measure to required tolerances

Manage time effectively

Complete a timesheet

Extract information from a price list

Select and compare different prices and measurements

Add fractions

Multiply whole numbers

Examples of maths skills at different levels

At Level 2 someone can probably. . .

- calculate area and volume accurately
- select and compare different prices and measurements
- weigh and measure to required tolerances

At Level 1 someone can probably. . .

- understand a payslip
- understand graphs and charts
- manage time effectively

At Entry Level 3 someone can probably. . .

- write down simple number sequences accurately
- use a calculator to check totals
- complete a stock control sheet

At Entry Level 2 someone can probably...

- use a simple tally sheet
- use simple measuring equipment, e.g. a ruler
- complete a simple timesheet

At Entry Level 1 someone can probably...

- key in a code number
- count up to 10 items
- extract simple information from a list, e.g. a price list

Looking back, looking forward

Here's what some adults have said about learning maths when they were young and when they were older.

I lived in constant fear that I would be asked to go to the blackboard and show how to solve a problem.

Mrs Johnson used to hit me with a ruler if I couldn't answer the questions in class.

I was ok until they made us use the 'new maths'. Even the teacher couldn't answer the questions.

I just want to learn it for me, it's just something that I want to achieve for myself, that I can do things.

I've got my young son, I help him a lot and right now, thank goodness, it's paying off because he's above average in his maths, you know, because I helped him.

I didn't go to school much in England and everybody writes out their maths different to me. Nobody seems to understand what I'm doing, but it makes sense to me and I get the answers right!

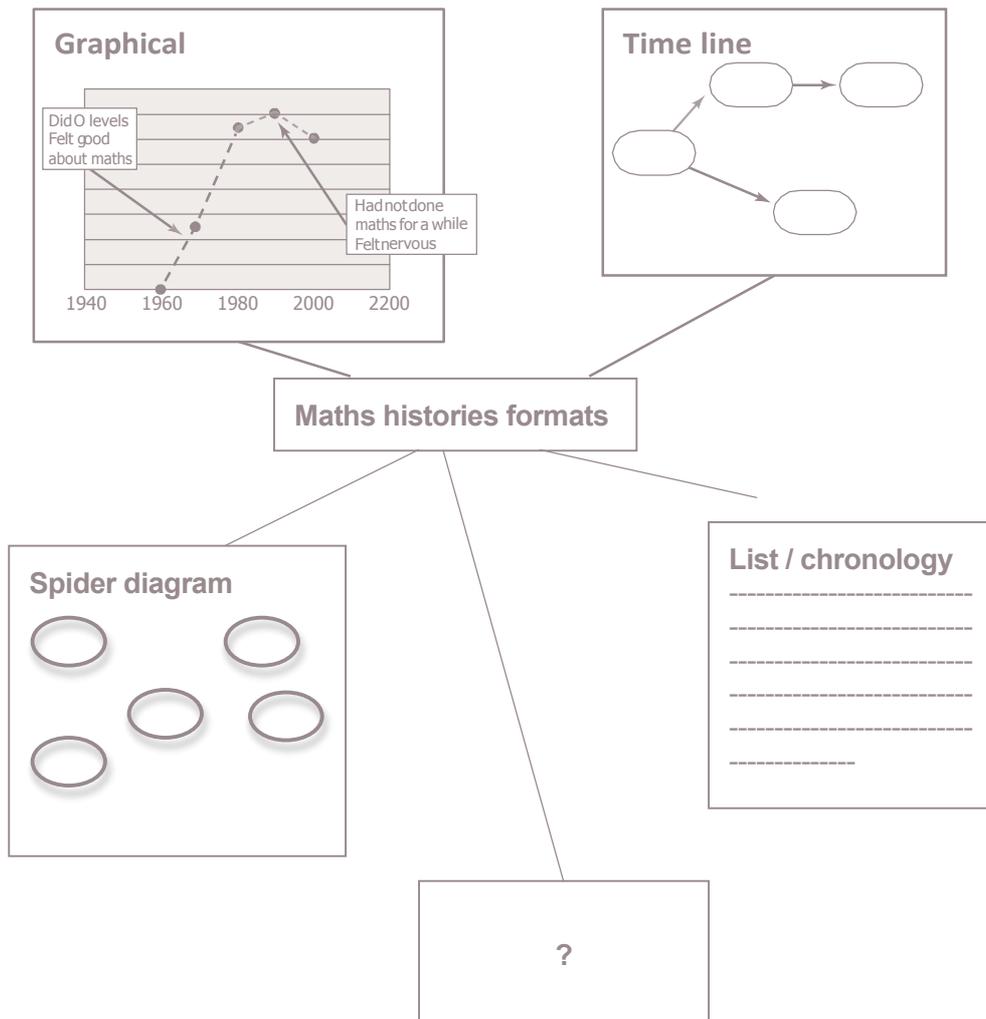
It's made me see myself very differently, it's made me see my potential very differently, it's made me see my having a potential. I've always just assumed that these are my limits and that's it, there's no... That's what those maths lessons have done; they've changed the whole ball game, really, of the rest of my life. And at the same time that I've completely changed my career, I've completely changed my view of myself in terms of what I can learn.

I can do it, but if you ask me to do it fast I'm just going to back off!

Maths histories formats

This handout is reproduced from a pack for adult numeracy tutors published by the Skills for Life Quality Initiative.¹

You can use these different formats to show your own maths history.



¹Quality Improvement Agency (2006) Skills for Life Quality Initiative, Module 4.2 Personal Factors Affecting Learning, see <http://sflip.excellencegateway.org.uk/sflqj/pdtraining/numeracy.htm>

Mentor skills, values and knowledge

Working from the agreed list of skills, values and knowledge, assess yourself and make a development plan.

The skills I need to use	How I rate my own skills, from 0 to 5 (excellent)	My plan for developing this skill	Date by which I will have carried out my plan	Other notes

The values I need to deploy / demonstrate	How well I demonstrate this value now, from 0 to 5 (excellent)	My plan for demonstrating this value more fully	Date by which I will have carried out my plan	Other notes

The things I need to know about	How good my knowledge is, from 0 to 5 (excellent)	My plan for learning more	Date by which I will have carried out my plan	Other notes

Maths mentoring planning sheet

Mentor's name (first name only, no surname or number)

.....

Mentee's name (first name only, no surname or number)

.....

Meeting place

Time

Date

What we're aiming to do in the meeting.

.....

.....

.....

Resources

	Items needed – handouts, equipment, etc.	Tick if used	Useful ? (0 = not at all, 5 = very)
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

The maths topic(s) we worked on

What worked well? Please record mentor and mentee comments:

What didn't work so well? Please record mentor and mentee comments:

Aims for next mentoring meeting:

Mentor: please now fill in the details of the next meeting on the first page of a new planning sheet.

Maths mentor meeting observer sheet

You are observing a short meeting between a mentor and a mentee. Make notes on what happened. Stay positive; you may be observing a very new mentor! See the next page for some useful words and phrases.

Was the mentor well-prepared for the meeting?

e.g. did they:

- arrive on time?
- have the equipment and resources they needed?
- sort out any problems with the meeting place?

Did the mentor introduce the session well?

e.g. did they:

- introduce themselves?
- check with the mentee that they were happy about what the session was going to cover?

Did the mentor use the Do, Say, Check, Discuss, Reflect and Record structure?

It doesn't need to be followed mechanically; a bit of creativity helps!

Did the mentor demonstrate active listening skills?

e.g. did they:

- pay attention to the mentee?
- show that they were listening?
- provide feedback?
- defer judgement?
- respond appropriately?
- talk too much?
- spend too much time explaining and not enough time supporting the mentee to think things out for themselves?

Did the mentor ask the mentee what had worked well and what hadn't worked so well?

Did the mentor complete the Maths Mentoring planning sheet, including time, date and venue for the next meeting?

Useful words and phrases you could use when observing a mentor

- ✓ Good listening skills
- ✓ Good – seemed interested in what the mentee was saying
- ✓ Good – was very helpful but maybe spent too much time explaining...
- ✓ Good – used the Route Map to plan the next meeting
- ✓ Good – gave the mentee time to think
- ✓ Good – was well organised
- ✓ Good – dealt with boundary issues well
- ✓ Good – took account of the way the mentee already likes to tackle a problem
- ✓ Good – was very helpful but maybe let the session go on too long...
- ✓ Good – remembered to set the time, date and venue for the next session

Introducing the Maths Mentor learning activities booklets

We did not set out to produce materials covering every part of the core curriculum or the functional maths standards or criteria. That would have resulted in a huge set of impossible expensive materials; and of course the prison's education department will have its own resources which mentors and mentees may be able to draw on; we're not trying to replicate or replace those. Our materials should be seen as starters rather than 'everything an adult learner might want to know'.

The learning activities are organised into four booklets: *Whole Numbers, Money, Time and Distance* and *Mathematical Magic*. *Money* and *Time and Distance* include some material on fractions and decimals. We suggest that each mentoring session might last for 15–30 minutes, and we have included suggestions for each activity about how the mentor and mentee might work on a particular topic.

Where should a mentor and mentee start?

We hope that informal conversations between mentor and mentee or potential mentee will be the main starting point. We know from our pilots that many prisoners will approach the t-shirt-wearing mentor for help with personal budgeting or other mathematical topics; and this can make an excellent starting point.

The route map may help you to find other starting points. We don't think you should do all the activities in the order in which they appear in the route map; instead we recommend that mentor and mentee decide at the end of each mentoring session where to go next, perhaps by looking at the 'I want to get better at....' section of the route map or by browsing the activities booklets. It's important to remember that the activities booklets are not textbooks that you are expected to work through from beginning to end, they're just starting points to get things moving.

Learning activities booklets – a route map

You could use this route map to decide what activities to tackle.

I want to get better at. . .	Page
adding whole numbers	47
dealing with money	47
doing calculations in my head	48
fractions and decimals	48
mathematical magic tricks	49
measuring and estimating distances	49
reading the clock	49
subtracting whole numbers	50
times tables and multiplying whole numbers	50
understanding maths words and symbols	50
understanding my canteen sheet	51
writing the date	51

Maths learning activities: Some starting points

Here are some good starting points for learning about different maths topics. The activities near the top of the list are usually easier.

I want to get better at adding whole numbers

Whole Numbers
Adding in your head Parts 1 – 3
Adding tens Parts 1 and 2
Making ten
Making ten again
Making tens

I want to get better at dealing with money

Money
The canteen sheet – finding your way around it
The canteen sheet – how much do things cost?
The canteen sheet – have I got enough money?
The canteen sheet – filling in the form
Half the problem
A third of the problem

I want to get better at doing calculations in my head

Whole Numbers	Money	Mathematical Magic
Adding in your head Parts 1–3	Half the problem	Multiplying by 11
Adding tens Parts 1 and 2	A third of the problem	Multiplying by five
Making ten Making ten again		The answer is five!
Making tens		The answer is still five!
The nine times table at your fingertips The nine times table – look, no hands! Nine times tables Patterns 1 – 4		Number tricks
Tackling the tables: Taking stock The tricky ones		Magic square
Subtracting Ten less Subtracting nines Subtracting in stages Subtracting awkward numbers		

I want to get better at fractions and decimals

Money	Time and Distance
Half the problem	Measuring in centimetres
A third of the problem	Centimetres and the decimal point
Tenths and fifths	Centimetres and millimetres
	Matching up the distances
	Estimating in centimetres
	Measuring in metres
	Measuring – true or false?

I want to get better at mathematical magic tricks

Mathematical Magic
Multiplying by 11
Multiplying by ones
All the ones
Your age in chocolate
Multiplying by five
The answer is five!
The answer is still five!
Number tricks
Trick questions
Magic squares

I want to get better at measuring and estimating distances

Time and Distance
Measuring in centimetres
Centimetres and the decimal point
Centimetres and millimetres
Matching up the distances
Estimating in centimetres
Measuring in metres
Measuring – true or false?

I want to get better at reading the clock

Time and Distance
Time of day
What time is it?

I want to get better at subtracting whole numbers

Whole Numbers
Subtracting
Ten less
Subtracting nines
Subtracting in stages
Subtracting awkward numbers

I want to get better at the times tables and multiplying whole numbers

Whole Numbers
Tackling the tables: Taking stock
Tackling the tables: The tricky ones
The nine times table at your fingertips
The nine times table – look, no hands!
Nine times tables Patterns 1 – 4

I want to get better at understanding maths words and symbols

Whole Numbers
Maths words and symbols

I want to get better at understanding my canteen sheet

Money
The canteen sheet – finding your way around it
The canteen sheet – how much do things cost?
The canteen sheet – have I got enough money?
The canteen sheet – filling in the form

I want to get better at writing the date

Time and Distance
Writing the date Parts 1–4

Section 3 – Next steps

Talking about maths

When you're talking to a mentee or a potential mentee you could start up a mathematical conversation. Here are some ideas, and you could make up your own. But use these with care – you may bore people if you're permanently in mentor-mode!

1. My appointment's at 1425. Do you think I'll make it?
2. This room is filling up. How many people can they fit in here?
3. Three reds left on the table, plus the colours. How many could you score if you pot them all?
4. The paper says that TV programme starts at 19:30. It's 7 o'clock now. Will we get back in time to watch it?

More mathematical conversation starters

- 1.
- 2.
- 3.
- 4.
- 5.

The Maths Mentor project – things to think about

The pilot projects made these suggestions:

- Get the support of prison and education staff.
- Make the programme visible through posters and displays about maths.
- Identify mentors who are confident about their personal maths skills, who have a helpful, supportive manner and who have a real interest in helping others learn and use maths.
- Consider incorporating the maths mentor training into any existing training for mentors; this may raise the status of the maths mentor training and the role.
- When training new mentors, group them together if possible so that they can discuss issues. If possible, buddy each new mentor with an established mentor.
- Identify at least one member of the maths education staff who can train new mentors and act as a link for existing ones.
- Consider identifying a maths mentor who could take on a key role in supporting other mentors. They may be able to:
 - run regular meetings for mentors so that they can share problems and solutions
 - help link mentors and mentees
 - support mentors who are acting as classroom assistants
 - supply mentors with equipment and copies of materials
 - help mentors access the maths mentor materials that are published on the Virtual Campus.
- Support new mentors to begin work with mentees as quickly as possible after their training.
- Involve mentors in developing local, customised flyers/leaflets to advertise the project in ways that they think will work.
- Arrange for mentors to have labels/notices on their doors to make them and the project more visible.
- Supply mentors with Maths4Us t-shirts.
- Consider encouraging some prison officers to train as maths mentors.
- Consider how mentors can collect evidence that will help to show how they are having an impact. Highlight and celebrate success.
- Bring the project to the attention of visitors and inspectors.
- Take opportunities to discuss and promote the Maths Mentor project at external events.

■ Send L&W information about how your project is going; L&W will help spread the word to other prisons, will help you connect with maths champions projects outside prisons, and will support prisons developing the scheme as part of its ongoing work on offender learning.

Further resources

The following L&W Tips Cards are available:

Reading and writing the time (ISBN 978 1 86201 727 6)

Formats for writing dates (ISBN 978 1 86201 728 3)

Months of the year (ISBN 978 1 86201 729 0)

Names of 2D and 3D shapes (ISBN 978 1 86201 730 6)

Words for mathematical symbols (ISBN 978 1 86201 731 3)

Percentages, decimals and fractions (ISBN 978 1 86201 7498)

Multiplication square (ISBN 978 1 86201 750 4)

Numbers in words (ISBN 978 1 86201 751 1)

SMOG ready reckoner (ISBN 978 1 86201 752 8)

Metric units: Length (ISBN 978 1 86201 753 5)

Metric units: Volume (ISBN 978 1 86201 755 9)

Metric units: Mass (ISBN 978 1 86201 756 6)

35 most common words (ISBN 978 1 86201 754 2)

Using capital letters (ISBN 978 1 86201 757 3)

Spelling the days and months (ISBN 978 1 86201 758 0)

For more information visit

<http://www.learningandwork.org.uk/our-resources>

Other useful books and websites

Learning Maths Online has short, bite-sized units to help adults with everyday maths and finance as well as support their children with maths.

www.learningmathsonline.ac.uk

100+ Ideas for Teaching Mathematics by Mike Ollerton. Published by Continuum. It is mostly about numbers, shape and statistics and is packed full of ideas that don't usually require much equipment or materials.

BBC Skillswise has worked examples, quizzes and videos showing how maths is used in everyday life.

www.bbc.co.uk/skillswise/maths

Maths is Fun is a particularly useful website if somebody wants to help their children.

www.mathsisfun.com/index.htm

NRICH is also very good if somebody wants to help their children. Although it's aimed mainly at primary and secondary teachers, many teachers also use it with adult students; some of the material is child-centred but much of it is likely to appeal to adults as well.

<http://nrich.maths.org/frontpage>

+ plus magazine aims to introduce readers to the beauty and practical applications of maths at all levels of difficulty and sophistication. It is designed primarily for teachers, but will stretch, challenge and inspire learners.

<http://plus.maths.org/content/>

Maths4Us is the website for maths champions. Includes the voices of many adult maths learners, and tips and ideas for helping adults with maths.

<http://maths4us.org>

The MathsEverywhere app is part of the Maths4Us project. It aims to help learners develop and use maths in everyday life situations; sections include Everyday Tools, Quizzes, Have A Go, How To Work It Out

www.mathseverywhere.org.uk/#/start