



# Maths in everyday life

Age range: 11-16

 **BARCLAYS** | LifeSkills



# Session overview

Time	Key learning outcomes	Resources
25-50 mins	By the end of this activity, students will be able to: <ul style="list-style-type: none"> <li>Understand how everybody uses maths in everyday life</li> <li>Relate how having a good understanding of maths can help future success</li> <li>Know how to talk openly about their feelings towards maths</li> </ul>	<ul style="list-style-type: none"> <li>Maths in everyday life thermometer poster</li> <li>Maths in everyday life student worksheet</li> </ul>



This lesson plan has been created in collaboration with National Numeracy, the independent charity that works to improve how people understand and work with numbers in everyday life, sparking better opportunities and brighter futures. [nationalnumeracy.org.uk](https://nationalnumeracy.org.uk)

These activities are designed to show students that everybody uses maths every day, whether they think about it or not. It aims to demonstrate that regardless of their chosen career path, the interests they have in their spare time or the life situations they face, having a good understanding of maths will help them in different life areas.

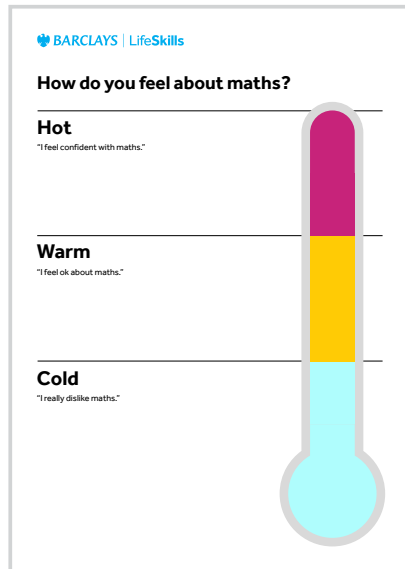
Please note you will need some post its and pens for this activity.

## Contents

Activities	Time	Page
Activity one: How do we feel about maths?	20 mins	3
Activity two: Do we actually use maths in the real world?	30 mins	5

# Activity one

## How do you feel about maths?



This activity explores feelings about maths and encourages discussion around some core messages about maths ability. Giving students the space to share their feelings can be a powerful step towards overcoming negative feelings such as maths anxiety.

Start this activity by asking your class: 'How do you feel about maths?'

You can prompt the class by asking them to think of their experience of maths in school or a time they've been faced with maths outside of school such as in a hobby or whilst paying for something in a shop.

Display the thermometer poster either on the classroom whiteboard or printed out on A3. Give each student a post-it note and ask them to write one word they would use to answer the question 'How do you feel about Maths?' Encourage students to discuss their chosen word with a partner; why have they chosen this word? Where might this feeling have come from?

Ask all students to add their post-it note to the appropriate space on the thermometer poster to give a visual representation of the class's feelings about maths and invite students to volunteer to share their word and why they feel that way. If no one volunteers, perhaps you have a word in mind that you can share to start the discussion.

Read through the following case study together:

**Alba works at Brighton General Hospital. She says: "I never liked maths when I was younger. I preferred biology and science and assumed that I did not need to worry about maths so much, but over time I realised that I needed maths for those too. I think people easily forget how many applications numeracy has."**

**Often it might feel like learning maths is a waste of your time, but in the end, you appreciate that you need it for so many things in the future. As I got older, I realised there were so many examples of where we use it, not just at work but in day-to-day life too: when you manage your money and savings, work out your income, or calculate discounts when you are shopping. Especially in my line of work as a healthcare assistant, it's always good to feel confident and have numeracy skills to demonstrate a good standard of care."**

Ask your students to reflect on Alba's story by thinking of the following:

**What are their initial thoughts about the young Alba?**

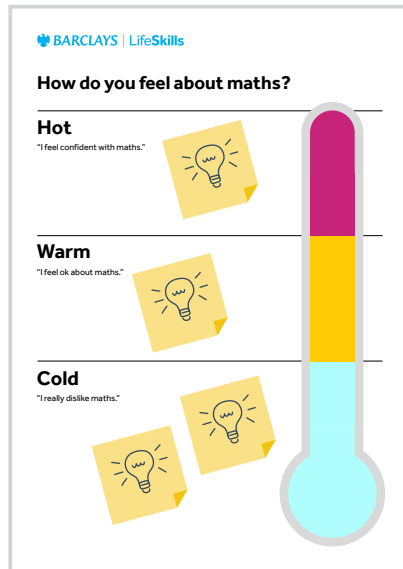
**What have they learnt from Alba's story?**

**Can they think of any other specific examples of when Alba might need to use maths? E.g. Alba might be renting, may have bills to pay, might like going out socialising with friends.**

**Are there examples here that your students may experience as they get older?**

# Activity one

## How do you feel about maths? (cont'd)



Next, ask your students to think about actions we can take to improve the way we feel about maths. For example, talking to a grown-up at school or home about how they feel, practising using maths outside of school in a hobby or sport they play.

At the end of the activity, acknowledge your students' initial feelings and explain that even if they don't feel good about maths right now, it is a helpful skill that they will use every day and improving their confidence with maths can help in all sorts of ways.

### Further guidance for activity one

During this activity, you may find students feeling anxious, nervous, stressed or similarly negative emotions around maths. Have the conversation with all students that these feelings are not unusual for students and adults alike and if they are feeling this way, then they are not alone.

#### Ahead of the main activity, you can discuss these core messages:

- There is no 'maths' gene – our abilities come from learning and practising, we are not simply born with the knowledge
- Ability is not fixed: everyone can improve their maths skills
- It is not uncommon to feel anxious or stressed when faced with maths in school or in the real world

## Extension

Some students might benefit from keeping a maths diary to help them develop confidence with maths. You can use the guidance on pages 30-38 of our [Growth mindset toolkit](#) to do this.



# Activity two

## Do we actually use maths in the real world?



### Maths in everyday life

Do we actually use maths in the real world?

Take a look at the information about the people below. How do you think they use maths in their lives?



Name:	Brian
Job:	Hairdresser
Favourite pastime:	Baking
Extra information:	To make extra money, he often sells old belongings on eBay

From his job, I can tell he needs maths for...

From his favourite pastime, I can tell he needs maths for...

From the extra information I can tell he needs maths for...



Name:	Priya
Job:	Video games designer
Favourite pastime:	Hosting dinner parties
Extra information:	She has two children who she likes to take to the zoo

From her job, I can tell she needs maths for...

From her favourite pastime, I can tell she needs maths for...

From the extra information I can tell she needs maths for...

To set up the next activity, divide the class into small groups of two or three. Hand each group a copy of Do we actually use maths in the real world? student worksheet. There are six examples in total so not all the groups need to use the same one.

Each page contains some short information about a person, and it will give some hints as to ways in which they may need to use maths in their life.

Ask each group of students to discuss the person together and come up with as many ways as possible that this person is likely to use maths based on the information written about them. Students should write down their ideas under the three different questions on the activity sheet:

- From their job, I can tell they need maths for...
- From their favourite pastime, I can tell they need maths for...
- From the extra information, I can tell they need maths for...

Following their discussion in small groups, ask some of the groups to share a few things that they discussed with the rest of the class.

Some students may struggle to come up with ideas straight away, but once they come up with a few many more tend to flow. If you notice any groups struggling, you can mention some of these common uses of maths which might trigger more thoughts:

- Time management
- Using timetables
- Working with money or budgets and understanding financial information
- Measurements like weight, height etc
- Using data and statistics
- Mixing ingredients
- Working with shapes
- Paying for items




This list is not exhaustive – but may prompt students in the right direction.

You may also wish to ask students to share their ideas after they have completed their first question. This will give each group different ideas before moving onto the other two questions.

The tables on the following pages show some possible answers but because there are many possible uses of maths, this is not a full list. In general, any reasonable response should be encouraged.


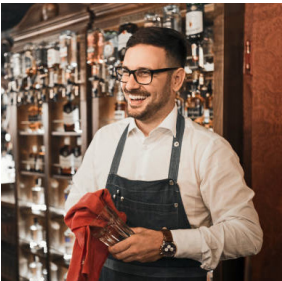
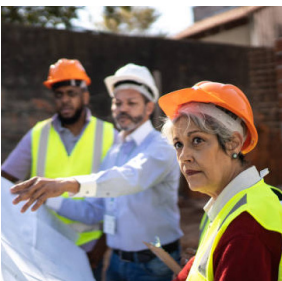
# Activity two

## Do we actually use maths in the real world? (cont'd)

Sheet reference	Maths in the job	Maths in the pastime	Maths in the extra information
<b>Katrina</b> Aeroplane cabin crew 	<ul style="list-style-type: none"> <li>Knowing time differences</li> <li>Handling money to sell refreshments</li> <li>Converting currencies</li> <li>Counting supplies/stock for in-flight meals</li> </ul>	<ul style="list-style-type: none"> <li>Measuring materials</li> <li>Buying the right quantities at the best price</li> <li>Using shapes in design</li> <li>Understanding instructions e.g. "place the plank parallel to the window"</li> </ul>	<ul style="list-style-type: none"> <li>Understanding quantities</li> <li>Finding the best deals</li> <li>Handling money and checking the change she is given</li> <li>Reading and understanding food labels (such as calories, salt content etc)</li> </ul>
<b>Jamie</b> Nurse 	<ul style="list-style-type: none"> <li>Working out prescriptions and drug calculations</li> <li>Understanding patient data</li> <li>Taking patient readings such as blood pressure</li> <li>Understanding the probability of treatments having side effects</li> </ul>	<ul style="list-style-type: none"> <li>Understanding the league table</li> <li>Interpreting statistics such as possession percentages</li> <li>Working out who would win the league on the last day with different results</li> <li>Keeping his fantasy football team within budget</li> </ul>	<ul style="list-style-type: none"> <li>Using money and giving change</li> <li>Counting stock</li> <li>Reporting on sales figures to the manager</li> <li>Planning his schedule and rota</li> <li>Using public transport timetables to arrive on time</li> </ul>
<b>Brian</b> Hairdresser 	<ul style="list-style-type: none"> <li>Understanding shape</li> <li>Using measurements – e.g. the customer would like 2 inches trimmed</li> <li>Mixing colours and dyes using the correct ratio</li> <li>Making appointments and scheduling enough time for each customer</li> </ul>	<ul style="list-style-type: none"> <li>Using complex timings to ensure everything is ready at the right time</li> <li>Weighing and measuring ingredients</li> <li>Understanding recipes</li> <li>Multiplying up ingredients to bake products for the right number of people</li> </ul>	<ul style="list-style-type: none"> <li>Calculating the right sales price</li> <li>Checking his account to ensure payments add up</li> <li>Adding money he has earned to the money she already had</li> <li>Accurately measuring the product to make sure details advertised to the customers are correct</li> </ul>

# Activity two

## Do we actually use maths in the real world? (cont'd)

Sheet reference	Maths in the job	Maths in the pastime	Maths in the extra information
<b>Pooja</b> Video game designer 	<ul style="list-style-type: none"> <li>Using angles, shapes and geometry in gameplay design</li> <li>Using numbers and data for coding</li> <li>Scaling and proportion to make realistic settings and characters</li> <li>Using probability to assess chances of a level being completed</li> </ul>	<ul style="list-style-type: none"> <li>Using timings to make sure all the courses are ready at the right time</li> <li>Planning within a budget</li> <li>Getting the right quantities for the number of guests – which may not match the recipes</li> <li>Weighing ingredients, converting from pounds and ounces to kilograms</li> </ul>	<ul style="list-style-type: none"> <li>Working out if the family ticket is better value than individual tickets</li> <li>Planning the timings of the day to make sure the family see all the zookeeper talks and shows they want to see</li> <li>Planning the journey to the zoo on the train to get there in time to avoid queues</li> <li>Helping the children understand the information signs – e.g. how fast tigers can run, the wingspan of the birds</li> </ul>
<b>Tyler</b> Part-time bartender 	<ul style="list-style-type: none"> <li>Measuring out ingredients to make drinks</li> <li>Taking cash and giving change</li> <li>Using shift rotas and timetables</li> <li>Counting and managing stock</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring calorie intake</li> <li>Measuring distances run on the treadmill</li> <li>Understanding weights and comparing them when lifting</li> <li>Getting the best value gym membership</li> </ul>	<ul style="list-style-type: none"> <li>Understanding his student finance and personal budget</li> <li>Finding a student house which is the best value</li> <li>Understanding course content about finance</li> <li>Interpreting data and statistics in research</li> </ul>
<b>Charlotte</b> Builder 	<ul style="list-style-type: none"> <li>Using ratio to mix cement</li> <li>Understanding scale of plans to ensure it's built correctly</li> <li>Measuring materials</li> <li>Project management – using time to plan the project</li> </ul>	<ul style="list-style-type: none"> <li>Keeping score in scrabble</li> <li>Using money in monopoly – knowing when to remortgage a property, whether to buy at auction</li> <li>Understanding probabilities – what are the chances you would roll a double</li> <li>Using coordinates in battleships</li> </ul>	<ul style="list-style-type: none"> <li>Understanding when she can afford to retire – how far will her pension go?</li> <li>Comparing income from her work to income from the pension</li> <li>Redeveloping a personal budget</li> </ul>

# Activity two

## Do we actually use maths in the real world? (cont'd)



### Maths in everyday life

Do we actually use maths in the real world?

Take a look at the information about the people below. How do you think they use maths in their lives?



Name:	Katrina
Job:	Aeroplane Cabin Crew
Favourite pastime:	DIY
Extra information:	Every weekend she helps her elderly parents with tasks like shopping.

From her job, I can tell she needs maths for...

From her favourite pastime, I can tell she needs maths for...

From the extra information I can tell she needs maths for...



Name:	Jamie
Job:	Nurse
Favourite pastime:	Watching football
Extra information:	He volunteers in a charity shop

From his job, I can tell he needs maths for...

From his favourite pastime, I can tell he needs maths for...

From the extra information I can tell he needs maths for...

### Simplified delivery option

For students who are likely to struggle with this activity, you could choose to give them the worksheets with a profile where the use of maths is more straightforward, such as Katrina, Jamie or Charlotte.

You may also like to point these students towards a particular piece of information on the worksheet to focus on – for instance, the job or hobby of the person rather than all three.

You can also use the 'hints and tips' at the end of the worksheet for students who are struggling with ideas.

For younger students in Key Stage 3, you may wish to complete one or two examples from the worksheet as a modelling exercise prior to students working independently in a small group.

### Increased challenge delivery option

For any groups of students that are working through the activity quickly, you may like to give them an additional profile or profiles to complete in the same way – thinking of different types of maths for each profile.

You could also ask students to create a profile of themselves, using their ideal career, something they enjoy doing in their spare time and any relevant extra information, then ask them to identify the maths they need to use for each of these. You can use the same three statements to help them focus their answers.

To finish this lesson, ask students to reflect on what they have learnt. Has anyone realised how they already use maths in everyday life, has anyone saved up for something and had to calculate how much money they still need to save? Perhaps they have realised how family members might use maths, for example, grocery shopping. Remind them that using maths can be a very useful skill to have and one that we can have fun learning about.