

15 Amazingly Fun Maths Lesson Starters

Maths lesson starters on
telling the time, shapes,
number bonds and more.

KS1 / KS2

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Why are lesson starters important?

Lesson starters are a great way to introduce new concepts or ideas to your class, and a fantastic method to avoid wasting the 10 minute interim period between breaktime and lesson time.

They can serve a multitude of purposes, from consolidating previously taught work through to simply beginning the lesson with a fun game. It is up to you how you use lesson starters as it depends on each school's individual needs as to which starters will work and which won't.

15 Lesson Starters For Your Classroom

If you are looking for some inspiration for maths starters we have put together 15 of our favourites for you. For each one there is an option to make it a passive (independent, quiet) task or an active (class/group/paired activity which will involve moving around the classroom and communicating) version.

You will know best which one will work on which day or lesson based on your class and variations such as wet play times and other external factors! All of the ideas can easily be adapted across Key Stage 2 and even into Key Stages 1 and 3 depending on your class and their abilities.

With 15 starters to choose from there is something to suit every class and every situation, so we hope you find these maths lesson starters useful and that they help you throughout the term.

Lesson Starter 1: Today's Number...

One of the most common maths display boards in schools has a section for you to add "Today's number" and then some function options around it such as:

1. Double it
2. Halve it
3. Add 20
4. Add 5
5. Subtract 4
6. Multiply by itself
7. Multiply by 10
8. Divide by 2



Passive Task

The options around the numbers can be chosen based on your class/year group/current focus. You could make this a display or simply have one ready as the first slide of your presentation for the lesson. It is a pretty easy one to create, and it should only take you a couple of minutes to create the first version. Then you simply have to change the number each day/week/topic.

You can also, of course, change the options each time too in order to fit with current focus or ability. Another option is to make this a pre-printed sheet with boxes for the answers which can go straight into folders if you need to evidence the activity.

Make it active

To make this activity a more active one you could give each child or a group of children the option - i.e. "You need to double each number" and have the numbers on different tables so they have to make their way around each table to double each number.

They could work in pairs on this, or more able children could have a really challenging task to complete alone for each number. They can take a mini whiteboard with them for workings out, or even a calculator for harder functions if you want to put calculator skills into practice prior to test taking.

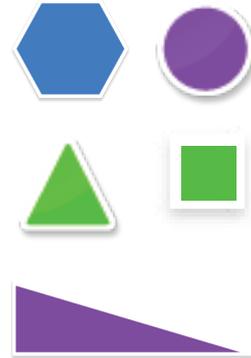
Differentiate

For this activity differentiation will be achieved both by the list of functions you give to the whole class, or by giving specific functions to certain groups/pupils based on their ability level.

Lesson Starter 2: Shape Property Bingo

This is a very simple game of bingo where each pupil needs to complete a bingo card, but the twist is that these cards have a number of shapes on them. The teacher calls out properties of the shapes listed, however some shapes may share properties.

So if the teacher says “Has four corners” the pupils could mark off both a square and a rectangle. You can use all 2D shapes, all 3D, or a mixture of both to meet your needs.



Passive Task

Ask pupils to work in silence until someone shouts “BINGO!” to make this a nice passive task to transition pupils from playtime into learning time. Listening skills are key as well as being a good test of property knowledge learned in previous teaching.

As shape is one of those lessons which come up infrequently across the year it is good to keep this game ready to go whenever you have a spare ten minutes to help embed core knowledge.

Make it active

For a more active version of this game you could make a whole class version on the board. Give out shapes to pupils and then they can race to the front with their shape to mark it off on the big board if they get a matching shape property. This could then lead to discussions around who has not come forward, who should have done, and the properties of multiple shapes that have been brought forward.

Differentiate

Pupils can be given differentiated boards (passive) or shapes (active) based on their ability. You could have some 2D shapes boards for lower ability and 3D shape boards for higher ability as the most simple way to differentiate.

Lesson Starter 3: Shape Feely Bag

The shape feely bag activity is a great one to store in a cupboard or drawer ready to come out on an ad-hoc basis when you have time and need to focus the pupils ready for learning. It is a great way to recap the shape topic and keep it fresh, and also a lovely introduction to a new topic on shape.



Have a bag full of 3D shapes (you can use 2D too but this does work best with 3D) and ask pupils to pick one out and, without showing it to everyone, describe it as best as they can. You of course want them to use mathematical vocabulary but even likening it to something they know (it is the same shape as a Toblerone) will be a good start and they tend to uplevel from there, especially with higher ability modelling the properties you want described.



Passive Task

For a passive version of this you can ask pupils to pick from the bag at their tables then write a description in their books.

Make it active

For an active version ask pupils to come to the front in turns and describe the shape to the whole class who must try and guess the shape. Always allow the pupil to describe at least three properties before allowing others to guess - otherwise some lucky guesses may cancel out the opportunity for discussing the vocabulary.

Differentiate

This task tends to self differentiate - i.e. each pupil will describe shapes as well as they can given their ability. You may want to ask other pupils to then finish off describing the shape once they have guessed it, as a way to encourage higher level mathematical vocabulary.

Lesson Starter 4: Time Challenge

This Time Challenge helps to put the teaching of time in context. It can be a good assessment starter to see what prior learning pupils have before starting a topic on time or at the end of one. It is also a good challenge to just thrown in in between time topics to ensure they have not forgotten everything.



You will simply need some cards ready for this task, or you can create new ones on the whiteboard if preferred, with some challenges on. Each of these are about putting time into real life scenarios. Some examples are below:

“You need to get to school for 8.45am, you live a 25 minute walk from the school. At what time must you leave the house in order to arrive on time?”

“I want to go to the cinema for my birthday, followed by dinner at my favourite restaurant. The film starts at 2.40pm. There are 15 minutes of adverts followed by a 95 minute film. The restaurant is a ten minute walk from the cinema. What time shall I reserve a table for at the restaurant?”

Passive Task

These challenges can be on the board and pupils can settle in their seats and work on them independently, using only mini whiteboards or writing straight into their books. You can then just work through the answer(s) with the whole class.

Make it active

Give the challenges out to groups and let them look at ways to solve them and approach them in order to incorporate some discussion and also problem solving skills. Then you can go through the answers and also discuss the ways pupils worked in their groups and more efficient methods for laying out their workings.

Differentiate

The challenges can be differentiated by ability as shown in the two examples above.

Lesson Starter 5: Same Time Card Match

This is a very simple game you can have ready at any time. You can have a set of cards ready to hand out at any time. Essentially you have some cards with times on and the pupils need to match up the ones which have the same time on. Some will have the time in analogue (12 hour clock), some in digital (24 hour) and some written as words (i.e. twelve fifteen).



Passive Task

For the passive version of this game children can have the cards on their table to sort, individually or in pairs. Or you could even have a table for them to complete in books or on the board rather than having physical cards.

Make it active

For a more active version, give out the cards one per pupil. They must keep them secret in their hands. Then, when everyone has a card, you ask them to go and stand with people who have the same time as them. You can ask for this to be done in silence as you wish - with them only being able to nod or shake their head when shown someone else's card.

Differentiate

You can adapt this game depending on your abilities - i.e. only have o'clock and half past for lower ability. You could also deliberately give easier cards to less able pupils when doing the active version of the game.

Lesson Starter 6: Number Bonds Practice

A bit of number bonds practice never goes out of fashion. Whether working on number bonds to ten, twenty, or one hundred. It is worth having a go-to game ready to chuck into the mix whenever you feel they need a reminder (prior to multiplication lessons for example.)

Have some paddles with numbers on which, together with another, will make the desired number bond result i.e. a 6 and a 4 to make 10. Then you can call out a number and pupils can hold up the paddle they have if theirs is the partner of the bond called. They then can call out another number.



Passive Task

For a passive version give every child a set of cards with all the number bonds pairs on. When you call a number they quickly hold up the partner number.

Make it active

Give each pupil a paddle and ask them to quickly find their partner. Keep mixing up the paddles. You can also ask them to mix up by finding their “one more” or “one less” number to swap with. This leads to discussions about what happens to 0 when you ask for one less? Is there then a matching partner number?

Differentiate

This is differentiated based on the bonds you wish to achieve.

Lesson Starter 7: Find the Missing Number

One of the simplest tasks to give out, which you may want to have a few of in each week's rotation to challenge with at different times, is the missing number challenge. This could be laid out very simply i.e. 3, ..., 7, 9, 11 or you could lay it out in a number of ways with ever increasing difficulty to encourage discussion, either during or after the task. This helps to find the solution and, most importantly, be sure the answer is right and be able to explain why.



Passive Task

The passive version of this task is to simply have the missing number puzzle on the whiteboard for students to complete in their books with reasoning.

Make it active

For an active version give a more tricky puzzle with a missing number to a group and ask them to solve the puzzle together. Although this can lead to some raised voices it also helps to deepen their thinking and realise they all think about maths problems in different ways, which can take you into a full problem solving lesson rather neatly!

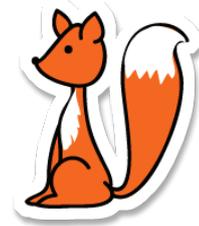
Differentiate

Differentiation for this task comes from the difficulty of the puzzle. A simple missing number as above can be adapted for all abilities and your current focus or revision requirements. More tricky puzzles should take into account both the mathematical and logical/team working skills required as needed.

Lesson Starter 8: Classic Puzzle

It may seem cheesy to an adult who has heard it a million times but there is a reason certain puzzles stick around through the generations - and that is because they get our brains going and require our logical minds to get into gear.

Puzzles such as the “Chicken, Fox and Grain” brain teaser are classics and rightly so. They will encourage children to think about solutions which are not straight forward but pure common sense once you have got the answers. This will help them to be a bit more flexible in their thinking if they get stuck on word problems and problem solving tasks.



Passive Task

This task works very well individually as pupils will, at first, find it frustrating to work through the options and if they are shy this might put them off working in a group. So independent working is a good way to let them think it through and make workings on a mini whiteboard.

Make it active

For a more active version you can make this a group challenge. You could even take them out to the playground with some items to be used to act out the possibilities, to make it all more ‘concrete’ for them.

Differentiate

The good thing about these puzzles is they are low threshold, meaning anyone can at least have a go. However, you may need to support students who are not used to just “knowing” the answers!

Lesson Starter 9: Price It Up! Money Challenge

The Price It Up! Money Challenge is a chance to quickly assess or reassess where your class is with their ability to apply general number concepts to money. It is best, with these tasks, to choose real life situations and give them a set of items or experiences to price up as quickly as they can.



For example: Have a menu for a restaurant with prices on (extra cool teacher points if you ask their local favourite restaurant for a few actual takeaway menus to use) and tell them what they ordered. They then need to price up and 'pay' their bill. For extra difficulty ask them to add a tip of a certain percentage!

Passive Task

The passive version of this task allows students to work independently and show their working in their books.

Make it active

For an active version give pupils actual money (play money!) to use on their tables. They work in pairs and it is a race for the first pair to come and give you the correct money. Any team who brings the wrong money is disqualified for an extra challenge. The last team standing wins!

Differentiate

The best way to differentiate this activity is to have mixed ability pairs working together - whether quietly or as part of a race.

Lesson Starter 10: Make Some Profit

Who doesn't love to make some extra profit? Part maths, part business studies. This starter is a great way to introduce a range of skills all around money. Get pupils thinking about making money via work, investments and saving, or generally buying and selling, through tasks and challenges.



The most common “large scale” version of this is the theme park challenge where you plan rides and then look at costs to run them and how much you can charge per ticket. However there are loads of other versions you can dream up.

These could include, for example: “You can buy mangoes for £2 each. You need to decide whether to simply sell them on for £2.50 each, or turn them into smoothies to make £4 per smoothie. Take into account the attached costs list for making a smoothie.” (The list would include costs for electricity, equipment, how many smoothies you can make per mango, etc.)

Passive Task

Have pupils work out their own ideas. As well as maths this task can allow some logical thinking you do not include such as how difficult it might be to market smoothies without allowing for lots of free samples etc, so it is good to allow whole class discussions of those factors afterwards, as well as costing it all up together.

Make it active

For a really active version have groups but split them in half. One half works out the cost of the smoothies option (higher ability) and one half works out more practicals on top of the maths that are unknown i.e. how quickly can we make smoothies versus how quickly we can just sell mangoes. How long do mangoes last? How much waste might we have and what would that cost?

Differentiate

As above in the active version there are ways to differentiate the task by splitting into teams.

Lesson Starter 11: Venn Diagram Games

Graphs and charts are easy mathematical concepts to practice as each time you revisit them the pupils remember what to do. But if you don't recap them frequently in between using them during their topic they can easily forget which type is which and use the wrong one when the time comes to apply their knowledge. So offer chances to quickly make physical Venn diagrams and remind pupils of why we are using them versus other chart types.



Try and link some categorisation to your current cross curricular topic if you can. But anything will do for the sake of practicing making Venn diagrams. From a school related topic - is there a crossover between who has brown hair with who has brown eyes, for example?

You could also double up the maths by asking pupils to make Venn diagrams of shape properties. Finding which shapes fit into either “four sides” or “four corners” and which have both (the middle section).

Passive Task

Give pupils information to be put into Venn Diagrams. They can then make them in their books and add labels.

Make it active

For an active version of this use real objects, pictures, or shapes and ask them to categorise (for a fun real objects one with a link to science you could categorise herbivores and carnivores with omnivores being in the overlap area) and use hula hoops as the place for the class to put their objects so that the Venn is more “concrete.”

Differentiate

If using pictures of objects there is not much differentiation needed. However, the key to making Venn Diagrams inclusive is to ensure this does not become an exercise in knowing how to read or to figure out things they do not already know in the categories. I.e. in the carnivore/omnivore version above you should already be confident they have the required knowledge for that topic. Then the focus is the use of Venns not the science element.

Lesson Starter 12: Tally Chart Practice

As with Venn diagrams, Tally Charts come up quite a lot in maths usage, even if it is often to read the data and interpret it rather than make them from scratch. It is therefore useful for pupils to revisit them regularly.

They are also a good way of putting the class in charge of some data collection you may need for something else! So if you need to find out who walks to school versus who drives or cycles etc then give them that to discover. Or if you need to know who is allergic to certain foods or has a restricted diet i.e. vegan, then this can be a great way to find this out whilst teaching maths.



Passive Task

Have a child at the front of the class to record responses. They should ask for show of hands for each item on the list, and you should then double check the answers after.

Make it active

Ask children to go round the room asking each other and then check if they all get the same responses. This is an extra challenge as invariably due to them all moving there will be at least a couple of people who have different charts to everyone else - a good lesson in organisation i.e. write a list of everyone in the class first and cross them off when you have added them to the chart.

Differentiate

Mathematically, there is not much need to differentiate aside from pupils who may need 1:1 support if they have communication difficulties or are not able to write down the responses - maybe they can have the name of each person and stick it on their list instead?

Lesson Starter 13: Code Breakers

Classic code breakers are a great way to keep a class quiet for a while if done individually. They are a great way to get a class noisy and competitive, while fully engaging with a tricky code, if you want an active starter.



Solving codes and even pushing into the realms of algebra are great ways to involve everyone as many students are used to doing “fun” versions of these in magazines from very young ages. You can progressively make the codes harder to break once they are used to the set up.

Passive Task

For a passive task simply give the pupils a code to break and write down in their books or on the sheet to hand in or peer mark.

Make it active

For an active version you could have a locked suitcase with a prize (secret agent, top secret mission style) and they must figure out the code to the lock from various mathematical clues. When they think they have cracked it they can come to the front and try and unlock the case. If they do not manage then someone else gets to try. This works best if you pick a really tricky code to break with lots of clues to get them there (i.e. they need to work out one code to get the first number, a different word problem or riddle to get the second number, and so on) so that they aren't just all running for the case all the time!

Differentiate

Mixed groups can help everyone take part, or you can have a different case on each table with different clues differentiated for the relevant group. They can still win if theirs is the first case open - this can be a really good way for the lower ability to win and get some kudos but the higher ability will still want to continue to get their prize anyway.

Lesson Starter 14: Vocabulary Quiz

Mathematical vocabulary often gets revised when you are doing a certain topic so children find it easy to remember the words linked to other words and concepts. But often they then forget them or cannot recall the right ones when in any other context.



This can have an adverse effect in tests as the concepts are all mixed up throughout the test which can confuse those who knew the vocab clearly when in class.

This then leads to puzzled teachers who thought their class was confident on, for example, subtraction meaning the same as less than. Or the product of something meaning multiplication. So to keep those all fresh try creating some maths vocabulary crosswords with clues, or word searches where you find matching pairs - 'divide' and 'groups of' for example.

Passive Task

Children are each given crosswords or word searches on their desks to complete as they settle in for early morning tasks.

Make it active

For a more active version make a pile of challenges using maths vocabulary - some crosswords, word searches and so on. They must work in pairs to get through as many as possible. The completed work has to be put into your marking tray before they get a new task.

You could also play a whole class version of "Pointless" where you have maths vocabulary on the board with missing letters, or jumbled up, and they must work in pairs to find them all or even find the most obscure one (after you tested it on the staffroom first!)

Differentiate

Mixed ability pairs are a good way to ensure everyone can take part in these games.

Lesson Starter 15: Probability

Probability is always worth revisiting as it covers so many real life scenarios - likelihood of winning the lottery, likelihood of rain, chance of winning a game of dice etc. A simple dice or coin flip can help students to revisit before you come back to probability again, as well as a fun starter anytime.



If you have dice and play money in class you are always ready to go. Simply have some questions ready to use either in card form or on the whiteboard. I.e. which is more likely...getting a six on a dice, or getting tails on a coin. Test your theory and explain why. Or is it just as likely to get 6 on a dice twice in a row as it is to get it once? Test your theory.

Passive Task

Pupils can work at tables alone or in pairs for a quiet version.

Make it active

Use big dice in the carpet area with everyone in a circle with everyone making a tally chart (yes more maths in practice!) of the results of each throw.

Differentiate

For the active version very little differentiation is needed, if any. For the individual passive task some children may need support to record and explain their findings.

Do you have a group of pupils who need a boost in maths this term?

Each pupil could receive a personalised lesson every week from our specialist 1-to-1 maths tutors.

- Raise attainment
 - Plug any gaps or misconceptions
 - Boost confidence
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