

# Lesson Plan – 12 Times Table



## Introduction

The 12 times table is taught by Vic the Vulture. Vic is the “Sheriff” of the Times Tables. He keeps law and order with the help of his lasso. Vic helps explain to the students in his own unique way that “my favourite way to work out a 12 times problem is by using the numbers that make up 12, being 10 and 2. We’ll calculate 10 times and 2 times, then add them together to get 12 times”.

Vic goes on to provide a refresher that 10 times is worked out by changing the place value and 2 times can both be worked out using skip counting. Some students will just want to double for 2 times.

As the 12 times question is the last one taught, the answers to every question, with the exception of 12 times 12, can be worked out by swapping the numbers around and using the previously learned tables. The students, with your guidance, may want to solve the vast majority of the 12 times questions this way.

As this is the last Times Tables, it will trigger the Overall Congratulations video if all 156 questions have been completed successfully. If any of the other Times Tables are incomplete it would be best to complete them all before the lesson starts so your students get the recognition for completing them all.

## Learning Outcomes

- Each student grasps the concept that number sense can be used to work out the 12 times table
- Each student understands that 12 times can be solved by 10 times plus 2 times and is competent in these calculations
- Each student understands that if you swap the 12 around in the multiplication you get the same product, or answer and that it’s more efficient to solve most of the 12 times questions this way (commutative property). The only exception is 12 times 12 which must be solved as 12 times problem.
- Each student continues to develop their mindset through the feedback provided for correct and incorrect answers.

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## Resources Required

- The App on a device with 3GB of available memory to download all of the videos
- Overhead projector or TV Monitor connected to the device (if teaching in a Group)
- Paper and pens/pencils for students

## Scenes

- This activity involves watching the “Learn” scene, followed by the “Tips” scene and then successfully answering all twelve 12 Times Table questions. After login, select the “Learn the Times Tables” button followed by the “Start” button or “12 Times” tile on the Home Screen. Before commencing the lesson make sure that you have completed this step as it will start the process of downloading the 12 times videos which will take a few minutes.

## Lesson

Time	Task
45 mins	<p><b><u>Key Concepts for 12 Times</u></b></p> <p>Select the “12 Times” tile on the home screen. Select the “Learn” button and watch the video (2.5 minutes). At the conclusion of the video, ask the student/s: <b>“What were Vic the Vulture’s key messages within the Learn video?”</b></p> <p>Responses should include but not be limited to:</p> <ul style="list-style-type: none"><li>- 12 times problems can also be solved using number sense. You just split 12 times into 10 times and 2 times and add these together to get the answer. The students will need to solve 12 times 12 this way.</li><li>- With 12 times problems you can also swap the numbers around and solve by using the tables already learned (commutative property). In most cases it will be more efficient to solve them this way.</li></ul>

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20 mins	<p><b><u>Tips to help with 12 Times</u></b></p> <p>Select the “Tips” Button and watch the video on the Practice screen (1.5 minutes). You can expand the video to full screen by pushing the expand button on the top right-hand corner of where the video is playing. It will automatically drop back to the practice screen at the end.</p> <p>At the conclusion of the video the first question will play. Wait for it to finish and ask the student/s:</p> <p><b>“What were Vic the Vulture’s key messages within the Tips video?”</b></p> <p>Responses should include but not be limited to:</p> <ul style="list-style-type: none"><li>- You can calculate 12 times by breaking it into 10 times and 2 times, and just adding these together.</li><li>- If you practice as much as Vic, your brain will grow so much that you will need a new hat.</li><li>- Look for the easier times tables in each 12 times problem and solve it using these.</li></ul>
120 mins	<p><b>Solving the 12 Times Tables</b></p> <p>The objective is to work through the 12 twelve times questions until all 12 stickers are obtained for the correct answers. You also want to enter some mistakes, firstly so the students can all learn from the mistakes and, secondly so you can listen to Vic and his “Growth Mindset” advice when you do make a mistake.</p> <p>This activity can be done as individuals or in groups of up to 4 students.</p> <p>“For each real-life example, you will need to look at the question and firstly work out the times tables problem that you need to solve and write this in the working out space. The numbers are in bold to make it easier. Remember the way to write it is the number of groups multiplied by the objects. I then need you to solve that problem. We will then type it in and check if it is the correct answer.”</p> <p>Help the students with the first question which will be <math>x</math> times 12. Show the working in the working out space by writing the</p>

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equation and then highlighting there is  $x$  groups each with twelve objects resulting in the equation  $x$  times 12. Then ask,

- “If there are  $x$  times 12 objects, then what is going to be the best strategy to solve this. Is it using 10 times plus 2 times or is it swapping the numbers around and solving with the easier times tables?”
- Use the working out space to work out the solution.
- Type the answer and select the “Check” button
- Watch the correct answer video from Vic and discuss any interesting points.
- Select the “I’ve Got This” button to receive your sticker
- Select the “Next” button and the next question will automatically appear on the practice screen
- Ask each student or groups to solve this one using number sense or by swapping the numbers around and using one of the previous times tables they have learnt. Give them a few minutes to report back.
- Ask first if there are any ways you could make a mistake with this question as learning from mistakes is when our brain grows the most. If there is, then show how you could make the mistake, type in the wrong answer and watch the video response from Vic. There are some excellent mindset sayings and examples in each of the incorrect answer videos that are well worth sharing with the students.
- Select the “Watch Again” button and watch the video to show the coaching available if the student answers incorrectly.
- Ask for someone to come up and show the correct workings to solve the problem. Explore the concept of  $x$  groups of 12 object, with them. Ask if it is more efficient to solve this one by swapping the numbers around and using another table or by using number sense. You may want to show the workings for both.

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- Ask them to type in the correct answer and select “Check”
- Select the “I’ve Got This” button to receive your sticker
- Select the “Next” button to move onto the next question
- Repeat the above sequence until all 12 questions are answered correctly
- Select the “Flashing Vic Sticker” in the middle of the sticker wheel
- The Congratulations video will play, and the Vic Sticker will pop into place on the Home Screen as recognition that you have learnt and understand the 12 Times table.

Give your student/class some applause or other form of recognition.

Wrap this activity up by asking the student/group:

- Do you now feel like can solve 12 times table questions using number sense and by swapping the numbers around or do you need some more practice?

If they feel like they need more practice, then click on the 12 times tile again which will take you to the Progress Screen where you can select the “Reset” button. It will ask if you want to reset. Select “Yes” and then select the “Next” button to start the first question again.

Once the student/class are comfortable that they understand and can solve the 12 times table, then announce “You have now completed all of Times Tables – Woohoo! Give yourself a pat on the back”.

**NOTE:** There is one last step in the App which is to watch the “Overall Congratulations” video with Kylie the Kangaroo. Once all 156 questions are answered correctly (100%) the “Finish” button will start flashing on the Home Screen. Select this

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	<p>button and the Overall Congratulations Video will start playing followed by a Credits video that recognises the team who contributed to the App development.</p>
<p>30 mins</p>	<p><b><u>Reflection Activity – “The Beauty of Maths”</u></b></p> <p>This activity can be done as individuals, in groups of up to 4 or as a class.</p> <p>“In the very first scene in the App, Kylie the Kangaroo stated; Mathematics is everywhere around us and in everything we do? It exists in nature and all things we design or create. It is the patterns, connections and relationships that we use to make sense of our world.”</p> <p>It has been a lot of fun understanding and solving the Times Tables and many of you may have changed the way you think about maths. This task is a reflection activity, where you get the opportunity to write down at least 5 things that you’ve learnt about mathematics and how it can help make sense of our world. You have 15 minutes, after which you will be given the opportunity to share your thoughts with the group.</p> <p>After time is up, ask for volunteers to share one of their learnings with the class until everyone has contributed.</p> <p>It’s now time to PARTY. Every student should be well on their way to building a strong foundation in multiplication, number sense and have started to build their very own growth mindset. Celebrate this achievement with your student/s.</p>
	<p><b><u>Follow-Up Activity – 12 Times Worksheet</u></b></p> <p>The App is designed with the real-life questions as a means of formative assessment to give an indication how each student is learning the material throughout the course. Once the students have demonstrated an understanding of the 12 times tables, there is a worksheet available to either continue practicing or to use as a means of summative assessment. All worksheets are available for download from the following link:</p> <p><a href="https://educationthroughanimation.com/pages/worksheets">https://educationthroughanimation.com/pages/worksheets</a></p>