

# Lesson Plan – 4 Times Table



## Introduction

The 4 times table is taught by Ruby the Rabbit. Ruby is an adorable pink rabbit with magical abilities. Ruby helps explain to the students in her own magical way that “my favourite way to work out the 4 times tables is by knowing that the number 4 is just 2 plus 2. That’s right 4 is the same as two 2’s”. She then goes to describe 4 times as just “Double, Double”, with 2 times being the first double and 4 times the second double.

Using number sense to solve the 4 times requires a prior understanding of the 2 times tables and the ability to calculate by either doubling or skip counting in pairs. As such, the lesson starts by watching the “2x Song” to refresh these concepts.

The students have already learnt over half of the times tables so the concept of swapping numbers around to solve using the easier times tables is one that should be explored fully with the students. They are likely to want to swap the numbers around for 1 times, 2 times, 5 times, 9 times and 10 times.

## Learning Outcomes

- Each student grasps the concept that multiplying by 4 is the same as adding 2 times to 2 times
- Each student understands that the 4 times can be thought of as “Double, Double”, with 2 times being the first double and 4 times the second double.
- Each student understands that the answer to all 4 times questions end in an even number
- Each student is comfortable that using their hands is a great way to recall the 2 times tables until you no longer need them.
- Each student understands that if you swap the 4 around in the multiplication you get the same product, or answer (commutative property) and they are able to do this to make some of the 4 times calculations more efficient.
- 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 4 Times Table questions. After login, select the “Learn the Times Tables” button followed by the “Start” button or “4 Times” tile on the Home Screen. Before commencing the lesson make sure that you have completed this step as the it will start the process of downloading the 4 times videos which will take a few minutes.

## Lesson

Time	Task
25 mins	<p><b><u>Key Concepts for 4 Times</u></b></p> <p>(1) Start the lesson by watching the “Counting in Pairs” song again. Select the “2x Song” button at the middle bottom of the Home screen, watch and sing along to the video(2 mins). Ask the students to recall the “key concepts in the 2 times tables”:</p> <p>These should include:</p> <ul style="list-style-type: none"><li>- When you multiply by 2 you are doubling that number</li><li>- You can work out the solution to 2 times by skip counting in 2’s or pairs</li><li>- Using your hands and feet is a useful way to skip count in 2’s.</li><li>- You can solve up to 10 times with your hands and then 11 and 12 times with your feet</li></ul> <p>Dependent on the students understanding, you may choose to spend a few minutes to practice doubling or skip counting in 2’s on hands and feet.</p>

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	<p>(2) Select the “4 Times” tile on the home screen. Select the “Learn” button and watch the video (3 minutes). At the conclusion of the video, ask the student/s: <b>“What were Ruby the Rabbit’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>- You can solve the 4 times table by adding 2 times to 2 times</li><li>- 4 times can be thought of as “Double, Double”, with 2 times being the first double and 4 times the second double.</li><li>- The 2 times table can be easily worked out by doubling the number or skip counting in 2’s</li><li>- When the answer in the one’s column contains a ten’s and one’s digit, the one’s digit is placed as the answer in the one’s column and the 10 is placed in the ten’s column to be included in this calculation.</li><li>- You can swap the numbers around and use your understanding of the other times tables to solve some of the 4 times questions (commutative property).</li></ul>
20 mins	<p><b><u>Tips to help with 4 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: <b>“What were Ruby the Rabbit’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 4 times by doubling the number and doubling again</li></ul>

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	<ul style="list-style-type: none"><li>- Whilst the questions are all 4 times, it would be “kinda magic” if you solve some of them using the easier times tables. It’s worth exploring for which questions they would swap the numbers around. Their answers might include 1 times, 2 times, 5 times, 9 times and 10 times)</li></ul>
60 mins	<p><b><u>Solving the 4 Times Tables</u></b></p> <p>The objective is to work through the 12 two 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 Ruby and her “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 4. Show the working in the working out space by writing the equation and then highlighting there is <math>x</math> groups each with two objects resulting in the equation <math>x</math> times 4. Then ask,</p> <ul style="list-style-type: none"><li>- “If there are <math>x</math> times 4 objects (or 4 groups), should we use “Double, Double” or should we swap the numbers around to get the answer.</li><li>- Work out the solution</li><li>- Type the answer and select the “Check” button</li><li>- Watch the correct answer video from Ruby</li><li>- Select the “I’ve Got This” button to receive your sticker</li><li>- Select the “Next” button and the next question will automatically appear on the practice screen</li></ul>

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	<ul style="list-style-type: none"><li>- Ask each student or groups to solve this one using either “Double, Double” or by swapping the numbers around to solve using the easier times tables. Give them a few minutes to report back.</li><li>- 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 Ruby. There are some excellent mindset sayings and examples in each of the incorrect answer videos that are well worth sharing with the students.</li><li>- Select the “Watch Again” button and watch the video to show the coaching available if the student answers incorrectly.</li><li>- Ask for someone to come up and show the correct workings to solve the problem. Explore the concept of x groups of 4 object, with them</li><li>- Ask them to type in the correct answer and select “Check”</li><li>- Select the “I’ve Got This” button to receive your sticker</li><li>- Select the “Next” button to move onto the next question</li><li>- Repeat the above sequence until all 12 questions are answered correctly</li><li>- Select the “Flashing Ruby sticker” in the middle of the sticker wheel</li><li>- The Congratulations video will play, and the Ruby Sticker will pop into place on the Home Screen as recognition that you have learnt and understand the 4 Times table. <b>NOTE:</b> In the Congratulations Video, Ruby demonstrates how to divide by 4. If multiplying by 4 is “Double, Double” then dividing by 4 is “Half,</li></ul>
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	<p>Half". It is worth spending some time to explore this concept further with your students.</p> <p>Give your student/class some applause or other form of recognition.</p> <p>Wrap this activity up by asking the student/group:</p> <ul style="list-style-type: none"><li>- Do you now feel like can solve 4 times table questions using Double, Double?</li></ul> <p>If they feel like they need more practice, then click on the 4 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.</p> <p>Once the student/class are comfortable that they understand and can solve the 4 times table, then announce "you are now ready to move onto the 6 Times Table".</p>
30 mins	<p><b><u>Creative Activity – "4 Times" Song</u></b></p> <p>This activity can be done as individuals, in groups of up to 4 or as a class.</p> <p>"We've all watched the "Counting in Pairs" song with Noah the Numbat. The song is comprised of a verse where Noah explains some of the 2 times concepts, a catchy chorus, another verse explaining some more concepts and then the chorus again. Ruby has a really sweet voice and has requested that you all write her a song that best represents the 4 times table. She would like the song to have 2 verses and a chorus that is repeated. Show the "Counting in Pairs" song attached at the end of this lesson plan and take them through the structure of;</p> <ul style="list-style-type: none"><li>- Verse 1</li><li>- Chorus</li><li>- Verse 2</li><li>- Chorus</li></ul> <p>"Your task is to write that song for Ruby that would help other students learn the 4 times tables. Start by writing down some</p>

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	<p>of the key points you would like to include in your song and then combine these together. As an example, you could make the first verse about multiplying by 4 and the second verse about dividing by 4. You may even be able to get your song to Rhyme. You have 20 minutes to write your song, at which point you are welcome to share with the class.”</p> <p>Check progress throughout the 20 minutes and help the students with the song format.</p> <p>At the end of 20 minutes, ask the students if any would like to share their song. Finish with lots of applause for those that do.</p>
	<p><b><u>Follow-Up Activity – 4 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 4 times tables, there is a worksheet available with 12 different questions to either continue practicing or to use as a means of summative assessment. The worksheets include a space for the students to work out the answers. 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>

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## “Counting in Pairs” – Noah the Number

### Verse 1

It's time to sing with your Aussie mate,  
2, 4, 6 and 8,  
The number 8 is 4 times 2,  
Sing along, skip count in tune.

### Chorus

To times by 2, I double,  
I get twice as many to share,  
They're all even numbered answers,  
It's the same as counting in pairs.  
(in pairs.....counting in pairs)

### Verse 2

Use your fingers and both your feet  
10, 12, 14, 16  
Before too long you'll know them all  
18, 20, 22, 24

### Chorus (repeated)

To times by 2, I double,  
I get twice as many to share,  
They're all even numbered answers,  
It's the same as counting in pairs.  
(counting in pairs)