

## Max's Musical Math: Composing Patterns

*Learning objective: To understand how to compose a rhythmic sequence using notation and mathematical patterns in 4/4 time.*

Max the monkey has discovered that music is just math you can hear! Follow these instructions to compose your own 4-bar rhythm. Each bar must equal 4 beats. Use the Word Bank symbols to fill in your composition. Remember: a crotchet is 1 beat, a minim is 2 beats, and a semibreve is 4 beats. Once you have filled the bars, write a short explanation of the mathematical pattern you used.

*Word bank: Crotchet (1 beat) · Minim (2 beats) · Semibreve (4 beats) · Quaver (1/2 beat) · Bar line · Tempo · Rhythm · Time signature*

**1. Bar 1: Create a rhythm using four crotchets. Write the note names in the spaces provided. (2 marks)**

**2. Bar 2: Create a rhythm using one minim and two crotchets. Does this still equal 4 beats? Explain why. (3 marks)**

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**3. Bar 3: If you use two minims, how does this compare to your rhythm in Bar 1 in terms of total duration? (2 marks)**

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**4. Bar 4: Use a semibreve to complete the final bar. Why is the semibreve considered the 'whole' note in this time signature? (2 marks)**

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**5. Justify your choice of sequence. Did you use a repeating pattern or a changing one? Why might a composer choose to repeat a rhythm? (3 marks)**

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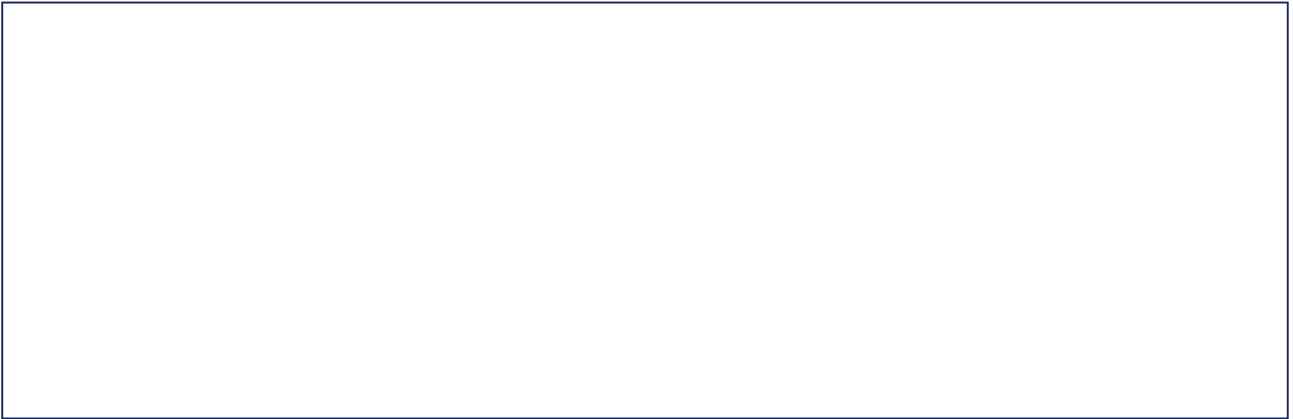
**6. What might happen to the 'feel' of your composition if you decided to double the tempo? Explain your reasoning. (3 marks)**

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**Draw:** Draw a music staff (five lines) and place your chosen notes from the activity onto the lines to show your final composition visually.

A large, empty rectangular box with a thin black border, intended for a student to draw a music staff and place notes on it.

*Extension challenge: Compose a second 4-bar sequence that incorporates a 'syncopated' rhythm using quavers. Compare your two compositions: which one feels more energetic and why?*