

Max's Musical Maths: Decoding Rhythms

Learning objective: To understand and apply the mathematical values of musical notation, including crotchets, minims, semibreves, and quavers.

Max the monkey has discovered a musical puzzle! In music, notes act like fractions of a whole. A semibreve is worth 4 beats, a minim is 2, a crotchet is 1, and a quaver is 0.5. Your task is to complete the 'Musical Sums' below. Use the note values to ensure every bar adds up to exactly 4 beats. Fill in the missing note type to balance the equation.

Word bank: Semibreve · Minim · Crotchet · Quaver · Bar line · Time signature

1. Equation 1: 1 Minim + 1 Crotchet + ? = 4 beats. Identify the missing note value and name. (2 marks)

2. Equation 2: 2 Quavers + 2 Quavers + ? = 4 beats. Which single note completes this bar? (2 marks)

3. Justify your answer: If a piece of music is in 4/4 time, why must every bar contain exactly 4 beats? Explain the importance of the bar line. (3 marks)

4. Compare and contrast: How does the duration of a semibreve differ from a quaver? Use mathematical terminology in your explanation. (3 marks)

5. What might happen if a composer accidentally wrote 5 beats in a bar of 4/4 music? Explain the effect on the rhythm. (2 marks)

6. Challenge: Create your own 4-beat bar using a combination of at least three different types of notes. Write the note names in sequence. (2 marks)

Draw: Draw a music staff with a treble clef at the start. In the first bar, draw a sequence of notes that equals 4 beats (e.g., one minim and two crotchets). Label each note clearly with its name.



Extension challenge: Imagine you are a composer. Write a short, rhythmic poem where the syllables match the note values (e.g., a 'Semibreve' word would be long and held out, while 'Quaver' words would be spoken quickly in pairs). Perform your rhythm for a partner and ask them to tap the beat.