The Sutton Academy

Knowledge Rich Curriculum Plan

Year 7 Core – Fractions

Lesson/Learning Sequence	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Prior Knowledge: *In order to know this, students need to already know that…*	Assessment
To learn how to write and represent fractions with diagrams.	• Students will know that a fraction is a mathematical expression representing the division of one integer by another, indicating part of a whole. • Students will know that the numerator is the number above the fraction line. • Students will know that the denominator is the number below the fraction line. • Students will know how to express one number as a fraction of another e.g. $\frac{4}{15}$. • Students will know how to express one number as a fraction of another in a real-life scenario e.g. 3 out of 10 children like cake. Write the fraction of children who like cake. • Students will know how to represent fractions by shading parts of a diagram. • Students will know how to write fractions to describe shaded parts of diagrams.	**Fraction –** a way of representing the parts of a whole or collection of objects. Fractions have a numerator and denominator. **Denominator –** the bottom number in a fraction **Numerator –** the top number in a fraction		Mini-Assessment 3
To learn how to find and use equivalent fractions.	• Students will know that to compare or order fractions that the fraction must have the same denominator. • Students will know how to compare fractions with the same denominator. • Students will know how to order fractions with the same denominator. • Students will know that to compare or order fractions that the fraction must have the same denominator. • Students will know how to compare fractions with the same denominator. • Students will know how to order fractions with the same denominator. • Students will know how to use diagrams to find equivalent fractions. • Students will know how to use diagrams to compare two or more fractions. • Students will know how to compare fractions using inequality signs, <, > and = . • Students will know that equivalent fractions are two or more fractions that are equal in size even though they have different numerators and denominators. • Students will know how to find equivalent fractions by multiplying or dividing the numerator and denominator by the same integer. • Students will know how to select an equivalent fraction from a list. • Students will know how to compare fractions with different denominators using equivalent fractions. • Students will know how to order fractions with different denominators using equivalent fractions.	**Equivalent –** equal in value, amount, function, meaning, etc.	• Students need to know how to represent fractions by shading part of a diagram. • Students need to know how to write a fraction that is represented by a diagram. • Students need to know how to find the LCM of two or more numbers.	Mini-Assessment 3
To learn how to simplify and convert fractions.	• Students will know that to simplify a fraction they must divide the numerator and denominator by the same integer. • Students will know that the simplest form of a fraction is found when they divide the numerator and denominator by the same integer to give the smallest possible integer values. • Students will know that any simplified version of a fraction is also an equivalent fraction. • Students will know how to simplify a fraction to give the fraction in its simplest form. • Students will know that an improper fraction is a fraction that is greater than 1 or one whole. • Students will know that they can recognise improper fractions by comparing the numerator and denominator of the fraction. • Students will know that if the numerator is greater than the denominator then the fraction is an improper fraction.	**Simplify –** make something simpler or easier to manage **Convert –** change a value or expression from one form to another	• Students need to know how to find equivalent fractions.	Mini-Assessment 3

Lesson/Learning Sequence	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Prior Knowledge: *In order to know this, students need to already know that…*	Assessment
	• Students will know that a mixed number is an integer and a proper fraction represented together, which is generally a number between two integers. • Students will know that an improper fraction can be written as a mixed number and vice versa. • Students will know how to convert improper fractions to mixed numbers by dividing the numerator by the denominator to find the integer and use the remainder for the new numerator over the original denominator. • Students will know how to convert mixed numbers to improper fractions by multiplying the integer by the denominator and then adding the numerator to give the new numerator with the denominator staying the same.			
To learn how to add and subtract fractions.	• Students will know how to add fractions using diagrams. • Students will know how to add fractions with the same denominator by adding the numerators together over the same denominator. • Students will know how to subtract fractions using diagrams. • Students will know how to subtract fractions with the same denominator by subtracting the numerators together over the same denominator. • Students will know how to add fractions with different denominators. • Students will know how to subtract fractions with different denominators. • Students will know to write their answers in the simplest form when possible. **Opportunity for challenge:** • Students will know how to add and subtract mixed numbers.		• Students need to know how to represent fractions by shading part of a diagram. • Students need to know how to write a fraction that is represented by a diagram. • Students need to know how to find the LCM of two or more numbers.	Mini-Assessment 3
To learn how to multiply fractions.	• Students will know how to multiply fractions by multiplying the numerators and multiplying the denominators. • Students will know to multiply integers by fractions. • Students will know to write their answers in the simplest form when possible. **Opportunity for challenge:** • Students will know how to multiply mixed numbers.		• Students need to know how to simplify fractions.	Mini-Assessment 3
To learn how to divide fractions.	• Students will know how to divide fractions by multiplying the first fraction with the reciprocal of the second fraction. • Students will know to write their answers in the simplest form when possible. **Opportunity for challenge:** • Students will know how to divide mixed numbers.		• Students need to know how to multiply fractions. • Students need to know how to simplify fractions.	Mini-Assessment 3
To learn how to find the fraction of a quantity.	• Students will know that to find the fraction of a quantity by dividing the quantity by the denominator and then multiplying the result by the numerator. • Students will know how to find the fraction of a quantity using simple fractions with numerators of 1. eg. $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ • Students will know how to find the fraction of a quantity using fractions with numerators of more than 1. eg. $\frac{2}{3}$, $\frac{3}{4}$, $\frac{7}{10}$ **Opportunity for challenge:** • Students will know how to compare fractions of different quantities.		• Students need to know how to multiply and divide integers.	Mini-Assessment 3

Lesson/Learning Sequence	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Prior Knowledge: *In order to know this, students need to already know that…*	Assessment
To learn how to use a calculator with fractions.	• Students will know how to use a calculator to simplify fractions. • Students will know that a calculator will always give a fractional answer in its simplest form. • Students will know how to convert improper fractions to mixed numbers using a calculator. • Students will know how to convert mixed numbers to improper fractions using a calculator. • Students will know how to use a calculator to add fractions. • Students will know how to use a calculator to subtract fractions. • Students will know how to use a calculator to multiply fractions. • Students will know how to use a calculator to find a fraction of a quantity. **Opportunity for challenge:** • Students will know how to complete calculations with mixed numbers on a calculator.		• Students need to know how to input fractions into a calculator.	Mini-Assessment 3