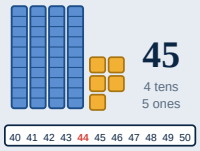
HARROW INTERNATIONAL SCHOOL 哈罗国际学校 SHANGHAI 上海

LOWER SCHOOL • PROGRESSION FRAMEWORK

Mathematics 数学

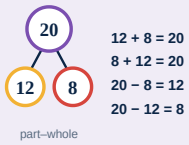
YEAR 2

By the end of Year 2, pupils will be able to...



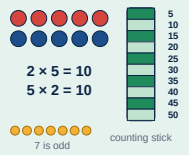
Number and Place Value 数字和位值

- Count in steps of 2, 3 and 5 from 0, and in tens from any number, forwards and backwards
- Recognise the place value of each digit in a two-digit number (tens, ones)
- Identify, represent and estimate numbers using different representations, including the number line
- Compare and order numbers from 0 up to 100; use <, > and = signs
- Read and write numbers to at least 100 in numerals and in words
- Use place value and number facts to solve problems



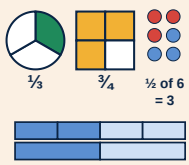
Addition and Subtraction 加法和减法

- Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures
- Apply their increasing knowledge of mental and written methods
- Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100
- Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones, a two-digit number and tens, two two-digit numbers, and adding three one-digit numbers
- Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot
- Recognise and use the inverse relationship between addition and subtraction, and use this to check calculations and solve missing number problems



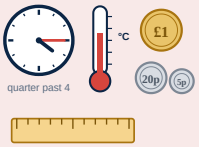
Multiplication and Division 乘法和除法

- Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers
- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs
- Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot
- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts



Fractions 分数

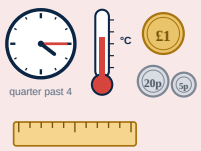
- Recognise, find, name and write fractions ⅓, ¼, ²⁄₄ and ¾ of a length, shape, set of objects or quantity
- Write simple fractions, for example ½ of 6 = 3, and recognise the equivalence of ²⁄₄ and ½



Measurement 度量

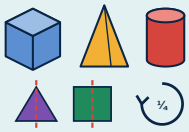
- Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using appropriate equipment
- Compare and order lengths, mass, volume/capacity and record the results using >, < and =
- Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value

Mathematics 数学



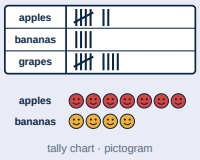
Measurement 度量 *(continued)*

- Find different combinations of coins that equal the same amounts of money
- Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change
- Compare and sequence intervals of time
- Tell and write the time to five minutes, including quarter past/to the hour, and draw the hands on a clock face to show these times
- Know the number of minutes in an hour and the number of hours in a day



Geometry 几何

- Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line
- Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces
- Identify 2-D shapes on the surface of 3-D shapes, for example a circle on a cylinder and a triangle on a pyramid
- Compare and sort common 2-D and 3-D shapes and everyday objects
- Order and arrange combinations of mathematical objects in patterns and sequences
- Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line, and distinguish between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)



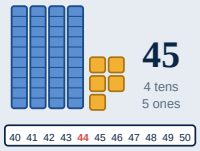
Statistics 统计

- Interpret and construct simple pictograms, tally charts, block diagrams and simple tables
- Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity
- Ask and answer questions about totalling and comparing categorical data

数学 Mathematics

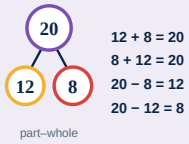
二年级

在二年级结束时，学生将能够……



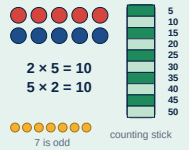
数字和位值 Number and Place Value

- 从 0 开始以 2、3 和 5 为间隔数数，从任意数字开始以 10 为单位正序/倒序数数
- 指出两位数中每一位的位值（十位和个位）
- 用不同的方法（包括数轴）来辨认、呈现并估计数字
- 比较、排序 0–100 的数字；使用 <、> 和 = 符号
- 用数字和单词来读写至少到 100 的数字
- 运用位值和数的基本事实来解决问题



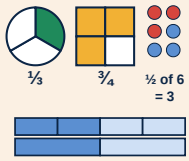
加法和减法 Addition and Subtraction

- 使用具体物品和图形解决加法和减法问题，包括涉及数字、数量和度量的问题
- 运用不断增长的心算和笔算知识
- 熟练记忆并运用 20 以内的加减法算式，并推导、运用 100 以内的相关算式
- 使用具体物品、图形表示和心算来加减数字，包括：两位数加减一位数、两位数加减整十数、两个两位数相加减，以及三个一位数相加
- 表明两个数相加不受前后顺序影响（交换律），而减法不能交换顺序
- 认识并运用加减法之间的逆运算关系，以此检查计算并完成算式填空



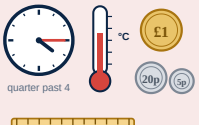
乘法和除法 Multiplication and Division

- 记忆并运用 2、5 和 10 乘法表中的乘除法事实，包括识别奇数和偶数
- 在乘法表范围内计算乘除法算式，并使用乘号（×）、除号（÷）和等号（=）写出算式
- 表明两个数相乘不受前后顺序影响（交换律），而除法不能交换顺序
- 使用学具、数组、重复加法、心算以及乘除法事实，解决涉及乘法和除法的问题，包括应用题



分数 Fractions

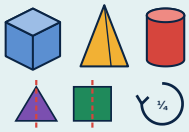
- 认识、找出、说出并写出长度、形状、一组物体或数量的三分之一、四分之一、四分之二和四分之三
- 写出简单的分数，例如 6 的一半是 3，并知道四分之二与二分之一相等



度量 Measurement

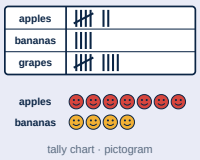
- 使用合适的工具，选择并使用合适的标准单位来估计并测量各方向上的长度/高度（米/厘米）、质量（千克/克）、温度（摄氏度）和容量（升/毫升），精确到合适的单位
- 比较长度、质量、体积/容量并排序，用 >、< 和 = 记录结果
- 认识并使用英镑符号 £ 和便士符号 p；组合金额凑出特定数值
- 找出组成相同金额的不同硬币组合
- 解决涉及相同货币单位加减法的实际问题，包括找零
- 比较时间间隔并排序
- 读写精确到五分钟的时间，包括几点一刻、几点差一刻，并在钟面上画出指针表示这些时间
- 知道一小时有几分钟，一天有几小时

数学 Mathematics



几何 Geometry

- 认识并描述平面图形的特征，包括边数和竖直方向的对称轴
- 认识并描述立体图形的特征，包括棱数、顶点数和面数
- 在立体图形的表面认出平面图形，例如圆柱上的圆形和棱锥上的三角形
- 比较并分类常见的平面图形、立体图形和日常物品
- 将数学物体的组合按规律和顺序排列
- 使用数学词汇描述位置、方向和运动，包括直线运动，并区分旋转（转动）以及以直角为单位的四分之一圈、半圈和四分之三圈（顺时针和逆时针）



统计 Statistics

- 解读并制作简单的象形图、计数统计表、方块图和简单表格
- 通过数出每一类物体的数量并按数量排序，提出并回答简单的问题
- 针对分类数据的合计与比较，提出并回答问题