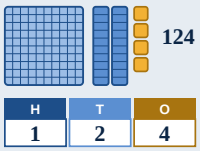
HARROW INTERNATIONAL SCHOOL 哈罗国际学校 SHANGHAI 上海

LOWER SCHOOL • PROGRESSION FRAMEWORK

Mathematics 数学

YEAR 3

By the end of Year 3, pupils will be able to...



Number and Place Value 数字和位值

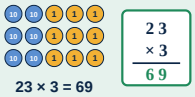
- Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number
- Recognise the place value of each digit in a three-digit number (hundreds, tens, ones)
- Compare and order numbers up to 1000
- Identify, represent and estimate numbers using different representations
- Read and write numbers up to 1000 in numerals and in words
- Solve number problems and practical problems involving these ideas



column addition

Addition and Subtraction 加法和减法

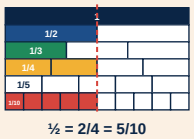
- Add and subtract numbers mentally, including: a three-digit number and ones, a three-digit number and tens, and a three-digit number and hundreds
- Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction
- Estimate the answer to a calculation and use inverse operations to check answers
- Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction



place value counters

Multiplication and Division 乘法和除法

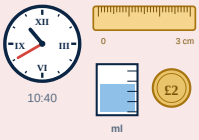
- Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which *n* objects are connected to *m* objects



½ = 2/4 = 5/10
fraction wall

Fractions 分数

- Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10
- Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
- Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
- Recognise and show, using diagrams, equivalent fractions with small denominators
- Add and subtract fractions with the same denominator within one whole
- Compare and order unit fractions, and fractions with the same denominators
- Solve problems that involve all of the above

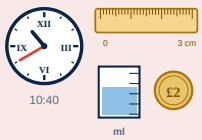


Measurement 度量

- Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)
- Measure the perimeter of simple 2-D shapes
- Add and subtract amounts of money to give change, using both £ and p in practical contexts
- Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks
- Estimate and read time with increasing accuracy to the nearest minute
- Record and compare time in terms of seconds, minutes and hours

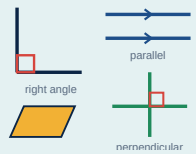
Mathematics 数学

YEAR 3



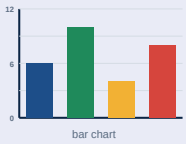
Measurement 度量 *(continued)*

- Use vocabulary such as o' clock, a.m./p.m., morning, afternoon, noon and midnight
- Know the number of seconds in a minute and the number of days in each month, year and leap year
- Compare durations of events



Geometry 几何

- Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
- Recognise angles as a property of shape or a description of a turn
- Identify right angles; recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle
- Identify horizontal and vertical lines and pairs of perpendicular and parallel lines



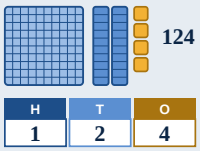
Statistics 统计

- Interpret and present data using bar charts, pictograms and tables
- Solve one-step and two-step questions using information presented in scaled bar charts, pictograms and tables

数学 Mathematics

三 年级

在三年级结束时，学生将能够……



数字和位值 Number and Place Value

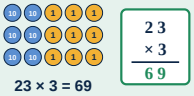
- 从 0 开始以 4、8、50 和 100 的倍数计数；找出比给出数字大/小 10 或 100 的数
- 认出三位数中每一位的位值（百位、十位、个位）
- 比较、排序 1000 以内的数
- 使用不同方法来辨认、呈现并估计数字
- 用数字和单词来读写 1000 以内的数
- 解决包含这些概念的数字问题和实际问题



column addition

加法和减法 Addition and Subtraction

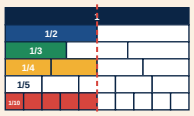
- 心算加减法，包括：三位数加减一位数、三位数加减整十数、三位数加减整百数
- 用正式的书面竖式计算最多三位数的加减法
- 估计计算结果，并用逆运算检查答案
- 运用数的基本事实、位值和更复杂的加减法解决问题，包括算式填空



place value counters

乘法和除法 Multiplication and Division

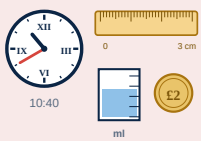
- 记忆并运用 3、4 和 8 乘法表中的乘除法事实
- 运用已学的乘法表写出并计算乘除法算式，包括两位数乘一位数，从心算逐步过渡到正式的书面方法
- 解决涉及乘除法的问题（包括算式填空），包括正整数倍数缩放问题，以及 *n* 个对象对应 *m* 个对象的对应问题



fraction wall

分数 Fractions

- 以十分之一为单位正序/倒序数数；认识到十分之一来自把一个物体平均分成 10 份，或把一位数或数量除以 10
- 识别、找出并写出一组物体的分数：单位分数和小分母的非单位分数
- 把分数作为数来认识和使用：单位分数和小分母的非单位分数
- 用图示认识并表示小分母的等值分数
- 在 1 以内加减同分母分数
- 比较单位分数和同分母分数，并排序
- 解决包含以上所有知识点的问题

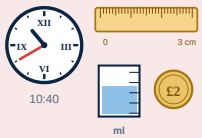


度量 Measurement

- 测量、比较、加减：长度（米/厘米/毫米）、质量（千克/克）、体积/容量（升/毫升）
- 测量简单平面图形的周长
- 在实际情境中使用 £ 和 p 进行金额加减并找零
- 读写模拟钟表上的时间，包括使用罗马数字 I 至 XII，以及 12 小时制和 24 小时制
- 更准确地估计并读出时间，精确到分钟
- 以秒、分和时为单位记录并比较时间
- 使用 o’ clock（整点）、a.m./p.m.（上午/下午）、morning（早上）、afternoon（下午）、noon（中午）和 midnight（午夜）等词汇

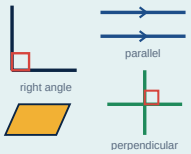
数学 Mathematics

三 年级



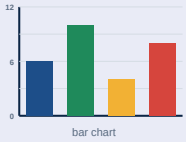
度量 Measurement （续）

- 知道一分钟有几秒，以及每月、每年和闰年各有几天
- 比较事件持续时间的长短



几何 Geometry

- 画出平面图形，并用建模材料制作立体图形；认出不同摆放方向的立体图形并加以描述
- 认识到角是图形的一种特征，也可以用来描述转动
- 识别直角；认识到两个直角是半圈，三个直角是四分之三圈，四个直角是一整圈；判断角大于还是小于直角
- 辨认水平线和竖直线，以及互相垂直和互相平行的线



统计 Statistics

- 用条形图、象形图和表格解读并呈现数据
- 运用带刻度的条形图、象形图和表格中的信息，解决一步和两步问题