
Morning Reading 晨读

Grade 11 · AS · Week 7

Read each word aloud, then copy the English word three times. 朗读每个单词，然后把英语单词抄写三遍。

Reading 阅读

Read the passage aloud twice. 把短文朗读两遍。

Why is the door handle far from the hinge? Because a force turns an object more easily when it acts far from the **pivot**. The turning effect, the **moment**, equals the force times the **perpendicular distance** from the pivot to its **line of action**. Scissors, spanners and wheelbarrows are all machines built around this idea. Two equal and opposite forces that do not share a line form a **couple**, producing pure rotation, which is how you turn a steering wheel. A body at rest with no net force and no net moment is in **equilibrium**.

Inside the processor, special registers keep order. The **Program Counter** holds the address of the next instruction; the **Accumulator** holds the value being worked on. Instructions and data travel on the **address bus** and **data bus**, and the **clock speed** sets the rhythm.

Back in economics: if the metro fare rises 10% and passenger numbers barely change, demand is **inelastic**, and the operator's **total revenue** rises. For a **luxury** with many alternatives, the same rise would drive customers away.

Talk about it 说一说:

1. Why is it easier to open a door by pushing its edge, not its middle?
2. Metro fares rise 10%. Predict what happens to revenue, and explain.

Physics

Topic 4 · Forces, density and pressure

🔄 **moment** 力矩

📏 **perpendicular distance**
垂直距离

— **line of action** 作用线

 lever arm 力臂			
 pivot 支点			
 clockwise 顺时针			
 anticlockwise 逆时针			
 couple 力偶			
 torque 力偶矩			
 translation 平动			
 equilibrium 平衡			
 angular acceleration 角 加速度			
 principle of moments 力 矩原理			
 vector triangle 矢量三角 形			
 sine rule 正弦定理			
 cosine rule 余弦定理			
 cross-sectional area 横截 面积			
 hydrostatic pressure 流 体静压强			

Chemistry

Topics 3–4 · Chemical bonding, States of matter

 induced dipole 诱导偶极			
 permanent dipole 永久偶 极			
 hydrogen bonding 氢键			

🌡 boiling point 沸点

💧 surface tension 表面张力

📊 dot-and-cross diagram
点叉图

⚡ collide 碰撞

↓ pressure 压强

☞ ideal gas 理想气体

☁ real gas 实际气体

= ideal gas equation 理想
气体方程

🌡 kelvin 开尔文

🔑 gas constant 气体常量

💎 crystalline solid 晶体

📊 giant ionic 离子晶体

📊 simple molecular 分子晶
体

⊙ fullerene 富勒烯

📊 giant molecular 原子晶体

Biology

Topics 2-3 · Biological molecules, Enzymes

🔑 collagen 胶原蛋白

🏋 tendon 肌腱

🔑 fibre 纤维

💧 solvent 溶剂

🔥 specific heat capacity 比
热容

☁ latent heat of
vaporisation 汽化潜热

☁ evaporate 蒸发

⚡ catalyse 催化

🏠 intracellular 细胞内

✂ catalase 过氧化氢酶

🏠 extracellular 细胞外

💧 secrete 分泌

✂ amylase 淀粉酶

🍴 digest 消化

🔗 active site 活性位点

🔑 substrate 底物

🔗 enzyme-substrate
complex 酶底物复合物

📦 product 产物

🔗 complementary 互补

🔑 specificity 专一性

🔑 lock-and-key hypothesis
锁钥学说

👉 induced-fit hypothesis
诱导契合学说

⚡ activation energy 活化能

Mathematics

Topic 1 · Pure Mathematics 1

↗ derivative 导数

 chain rule 链式法则			
 second derivative 二阶导数			
 normal 法线			
 increasing function 增函数			
 decreasing function 减函数			
 rate of change 变化率			
 stationary point 驻点			
 minimum point 极小值点			
 maximum point 极大值点			

Further Mathematics

Topic 1 · Further Pure Mathematics 1

 turning points 驻点			
 partial fractions 部分分式			
 rotation 旋转			
 reflection 反射			
 enlargement 放大			

Computer Science

Topic 4 · Processor Fundamentals

 clock speed 时钟频率			
 Program Counter 程序计数器			

 Memory Address Register 内存地址寄存器			
 Memory Data Register 内存数据寄存器			
 Current Instruction Register 当前指令寄存器			
+ Accumulator 累加器			
 Status Register 状态寄存器			
 flags 标志			
# Index Register 变址寄存器			
 general-purpose registers 通用寄存器			
 buses 总线			
 address bus 地址总线			
 data bus 数据总线			
 control bus 控制总线			
 cores 核心			
 word size 字长			
 page 页			
 port 端口			
 peripheral 外围设备			
 fetch-execute cycle 取指-执行周期			
 interrupt 中断			
 interrupt service routine 中断服务程序			

 machine code 机器码

 assembly language 汇编语言

 mnemonics 助记符

Economics

Topic 2 · The price system and the microeconomy

 costs of production 生产成本

 subsidy 补贴

 market supply 市场供给

 price elasticity of demand 需求价格弹性

 elastic 富有弹性

 inelastic 缺乏弹性

= unit elastic 单位弹性

— perfectly inelastic 完全无弹性

↔ perfectly elastic 完全有弹性

♥ necessity 必需品

💎 luxury 奢侈品

 total revenue 总收益

 income elasticity of demand 需求收入弹性

 normal good 正常品

 inferior good 低档品