

Morning Reading 晨读

Grade 11 · AS · Week 11

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。

How big is an economy? Add up the value of everything produced inside the country in a year and you get the **gross domestic product**. But be careful with rising prices: **nominal** GDP can grow while the country actually makes no more than before. **Real** GDP removes the effect of inflation, and dividing by the population gives GDP **per capita**, a rough measure of the average person's income. Rough, because it says nothing about how income is shared, or about unpaid work at home.

An ambulance races past and its siren drops in pitch as it passes. This is the **Doppler effect**: waves from an approaching **source** reach the **observer** squeezed together, at higher frequency; as the source leaves, the waves stretch out. Astronomers use exactly this to show distant galaxies rushing away from us.

To keep data honest on its journey, computers add checks: a **parity check** counts ones, a **checksum** sums the bytes, and **encryption** with a **public key** and a **private key** keeps the content secret.

Talk about it 说一说:

- 1. Nominal GDP rose 5%, inflation was 5%. Did the economy really grow?
- 2. Where else have you heard the Doppler effect? Describe the sound.

Physics

Topics 7-8 · Waves, Superposition

— transmission axis 透光轴

/træn'smɪʃn 'æksɪs/

% Malus's law 马吕斯定律

/ˈmæləsɪz lɔː/

↗ vector sum 矢量和

/ˈvektə sʌm/

≡ superposition 叠加

/ˌsuːpəˈzɪʃn/

+ constructive interference 相长干涉

/kən'strʌktɪv ˌɪntə'fɪərəns/

∨ trough 波谷

/troʊf/

— destructive interference 相消干涉

/dɪ'strʌktɪv ˌɪntə'fɪərəns/

⌋ stationary wave 驻波

/ˈsteɪʃənəri weɪv/

[ɪ] reflected 反射

/rɪ'flektɪd/

• node 波节

/nɒd/

○ antinode 波腹

/ˌæntɪ'nɒd/

↔ antiphase 反相

/ˌæntɪ'feɪz/

□ resonance tube 共鸣管

/ˈrezənəns tjʊːb/

— fundamental 基频

/ˌfʌndə'mentl/

田 diffraction 衍射

/dɪ'frækʃn/

 obstacle 障碍物			
/ˈɒbstəkl/			
 ripple tank 水波槽			
/ˈrɪpl tæŋk/			
 interference 干涉			
/ˌɪntəˈfɪərəns/			
= coherent 相干			
/kəʊˈhɪərənt/			
— slit 狭缝			
/slɪt/			

Chemistry

Topics 7–10 · Equilibria, Reaction kinetics, The Periodic Table: chemical periodicity, Group 2

 indicator 指示剂			
/ˈɪndɪkeɪtə/			
 rate of reaction 反应速率			
/reɪt ov riˈækʃn/			
 collision frequency 碰撞频率			
/kəˈlɪʒn ˈfriːkwənsi/			
 effective collision 有效碰撞			
/ɪˈfektɪv kəˈlɪʒn/			
 non-effective collision 无效碰撞			
/nɒn ɪˈfektɪv kəˈlɪʒn/			
 Boltzmann distribution 玻尔兹曼分布			
/ˈbɒltzmən ˌdɪstriˈbjʊʃn/			
 catalysis 催化作用			
/kæˈtæləsɪs/			
 reaction mechanism 反应机理			
/rɪˈækʃn ˈmekənɪzəm/			

 homogeneous catalyst 均相催化剂			
/həˈməʊdʒniəs ˈkætəlɪst/			
 heterogeneous catalyst 多相催化剂			
/ˌhetərəˈdʒiːniəs ˈkætəlɪst/			
 periodicity 周期性			
/ˌpiəriəd ɪsɪti/			
 valence shell 价层			
/ˈveɪləns ʃel/			

 oxide 氧化物			
/ˈɒksaɪd/			
 amphoteric 两性			
/ˌæmfəʊˈterɪk/			
 hydroxide 氢氧化物			
/haɪˈdrɒksaɪd/			
 hydrolysis 水解			
/haɪˈdrələsɪs/			
 reactivity 反应活性			
/rɪækˈtɪvɪti/			
 sulfate 硫酸盐			
/ˈsʌlfet/			

Biology

Topics 5–6 · The mitotic cell cycle, Nucleic acids and protein synthesis

 differentiate 分化			
/ˌdɪfəˈrenʃeɪt/			
 tumour 肿瘤			
/ˈtjuːmə/			
 prophase 前期			
/ˈprəfeɪz/			
 spindle 纺锤体			
/ˈspɪndl/			

≡	metaphase 中期			
	/ˌmetəˈfeɪz/			
—	equator 赤道			
	/ɪˈkweɪtə/			
↔	anaphase 后期			
	/ˈænəfeɪz/			
↗	telophase 末期			
	/ˈteləfeɪz/			
□	nucleotide 核苷酸			
	/ˈnjuːklɒtaɪd/			
⦿	base 碱基			
	/beɪs/			
□	adenine 腺嘌呤			
	/ˈædəniːn/			
⬡	ribose 核糖			
	/ˈriboʊs/			
⬡	purine 嘌呤			
	/ˈpjʊəriːn/			
□	guanine 鸟嘌呤			
	/ˈɡwɑːnaɪn/			
⦿	pyrimidine 嘧啶			
	/ˈpɪrɪmɪdɪn/			
□	cytosine 胞嘧啶			
	/ˈsaɪtəsaɪn/			
⦿	thymine 胸腺嘧啶			
	/ˈθaɪmaɪn/			
□	uracil 尿嘧啶			
	/ˈjʊərəsɪl/			
∞	double helix 双螺旋			
	/ˈdʌbl ˈhiːlɪks/			
—	strand 链			
	/strænd/			
⬡	deoxyribose 脱氧核糖			
	/diːˈɒksɪrɪboʊs/			

⚗	phosphodiester bond 磷酸二酯键			
	/ˈfɒsfəʊdɪəstə bɒnd/			
⚗	complementary base pairing 碱基互补配对			
	/ˌkɒmplɪˈmentəri beɪs ˈpeərɪŋ/			
Mathematics				
Topics 2-4 · Pure Mathematics 2, Mechanics				
⚗	trapezium rule 梯形法则			
	/trəˈpiːziəm ruːl/			
√	root 根			
	/ruːt/			
↕	sign change 变号			
	/saɪn tʃeɪndʒ/			
↺	iteration 迭代			
	/ɪtəˈreɪʃn/			
↺	iterative formula 迭代公式			
	/ɪtəreɪtɪv ˈfɔːmjələ/			
⚗	converge 收敛			
	/kənˈvɜːdʒ/			
⚗	integration by substitution 换元积分			
	/ɪntɪˈɡreɪʃn baɪ sʌbstɪˈtjuːʃn/			
⚗	Mechanics 力学			
	/mɪˈkæniːks/			
→	force 力			
	/fɔːs/			
↗	components 分量			
	/kəmˈpəʊnənts/			

Further Mathematics

Topic 3 · Further Mechanics

 horizontal circle 水平圆			
<i>/ˌhɒrɪˈzɒntl̩ ˈsɜːkl̩/</i>			
 vertical circle 竖直圆			
<i>/ˈvɜːtɪkl̩ ˈsɜːkl̩/</i>			
 Hooke's law 胡克定律			
<i>/hʊks lɔː/</i>			
 modulus of elasticity 弹性模量			
<i>/ˈmɒdjələs ɒv ɪləˈstɪsɪti/</i>			
 elastic potential energy 弹性势能			
<i>/ɪˈlæstɪk pəˈtenʃl̩ ˈenədʒi/</i>			

Computer Science

Topics 7–8 · Ethics and Ownership, Databases

 autonomous vehicles 自动驾驶汽车			
<i>/ɔːˈtɒnəməs ˈviːkl̩z/</i>			
 optical character recognition 光学字符识别			
<i>/ˈɒptɪkl̩ ˈkærɪktə ˌrekəɡˈnɪʃn/</i>			
 text-to-speech 文本转语音			
<i>/tekst tə ˈspiːtʃ/</i>			
 bias 偏见			
<i>/ˈbaɪəs/</i>			
 flat files 平面文件			
<i>/flæt ˈfaɪl̩z/</i>			
 data redundancy 数据冗余			
<i>/ˈdeɪtə rɪˈdʌndənsi/</i>			

 data inconsistency 数据不一致			
<i>/ˈdeɪtə ɪnˈkɒnˈsɪstənsi/</i>			
 relational database 关系数据库			
<i>/rɪˈleɪʃnəl ˈdeɪtəbeɪs/</i>			
 table 表			
<i>/ˈteɪbl̩/</i>			
 entity 实体			
<i>/ˈentɪti/</i>			
 record 记录			
<i>/ˈrekɔːd/</i>			
 field 字段			
<i>/fiːld/</i>			
 primary key 主键			
<i>/ˈpraɪməri kiː/</i>			
 foreign key 外键			
<i>/ˈfɒrən kiː/</i>			
 composite key 复合键			
<i>/ˈkɒmpəzɪt kiː/</i>			
 candidate key 候选键			
<i>/ˈkændɪdeɪt kiː/</i>			
 referential integrity 参照完整性			
<i>/ˌrefəˈrenʃl̩ ɪnˈteɡrɪti/</i>			
 entity-relationship diagram 实体关系图			
<i>/ˈentɪti rɪˈleɪʃnʃɪp ˈdaɪəɡræm/</i>			
 cardinality 基数			
<i>/kɑːdɪˈnælɪti/</i>			
 one-to-many 一对多			
<i>/wʌn tə ˈmeni/</i>			
 link table 连接表			
<i>/lɪŋk ˈteɪbl̩/</i>			
 normalisation 规范化			
<i>/nɔːməlaɪˈzeɪʃn/</i>			

 normal forms 范式			
/ˈnɔːml fɔːmz/			
 atomic 原子			
/əˈtɒmɪk/			
 transitive dependency 传递依赖			
/ˈtrænsɪtv dɪˈpendənsi/			
 DBMS 数据库管理系统			
/ˌdiː biː em ˈes/			
 data dictionary 数据字典			
/ˈdeɪtə ˈdɪkʃənəri/			
 concurrent access 并发访问			
/kənˈkʌrənt ˈækses/			

Economics

Topics 3-4 · Government microeconomic intervention, The macroeconomy

 flow 流量			
/fləʊ/			
 wealth 财富			
/welθ/			
 stock 存量			
/stɒk/			
 progressive tax 累进税			
/prəˈɡresɪv tæks/			
 percentage 百分比			
/pəˈsentɪdʒ/			
 benefits 福利金			
/ˈbenɪfts/			
 transfer payments 转移支付			
/ˈtrænsfɜː ˈpeɪmənts/			
 redistribution 再分配			
/ˌrɪːˌdɪstrɪˈbjʊʃn/			

 national income 国民收入			
/ˈnæʃənəl ˈɪŋkəm/			
 gross domestic product 国内生产总值			
/grəʊs dəˈmestɪk ˈprɒdʌkt/			
 gross national income 国民总收入			
/grəʊs ˈnæʃənəl ˈɪŋkəm/			
 nominal 名义			
/ˈnɒmɪnəl/			
 real 实际			
/rɪəl/			
 per capita 人均			
/pɜː ˈkæpɪtə/			
 standard of living 生活水平			
/ˈstændəd ɒv ˈlɪvɪŋ/			