

Morning Reading 晨读

Grade 10 · Week 8

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。

Invisible waves are all around you right now. **Radio waves** carry music to cars. **Microwaves** heat food and carry phone signals. **Ultraviolet** light from the Sun can burn your skin. Doctors use **X-rays** to see bones, and **gamma rays** to treat cancer. All of these can travel through empty space, a **vacuum**. Sound cannot: it always needs a **medium** such as air or water. Shout at a big wall and you hear an **echo**, your own sound wave reflected back.

Before money, people used **barter**: they traded fish for rice or shoes for tea. It was slow, because both sides had to want what the other had. **Money** solved this. It is a **medium of exchange** that everyone accepts, and a **store of value** you can keep for later.

Computers only understand **machine code**, patterns of ones and zeros. People write in a **high-level language** like Python, and a **translator** turns it into machine code.

Talk about it 说一说:

- 1. Name three invisible waves you used today and what they did for you.
- 2. Imagine one week without money. How would you get your lunch?

Physics

Topic 3 · Waves

|                                 |  |  |  |
|---------------------------------|--|--|--|
| ^ crest 波峰                      |  |  |  |
| /krest/                         |  |  |  |
| v trough 波谷                     |  |  |  |
| /trof/                          |  |  |  |
| ↑ amplitude 振幅                  |  |  |  |
| /æmplitju:d/                    |  |  |  |
| ↔ propagation 传播                |  |  |  |
| /ˌpropəˈgeɪʃn/                  |  |  |  |
| 🌊 ripple tank 波纹水槽              |  |  |  |
| /ˈrɪpl tæŋk/                    |  |  |  |
| [i] reflection 反射               |  |  |  |
| /rɪˈflekʃn/                     |  |  |  |
| △ angle of reflection 反射角       |  |  |  |
| /ˈæŋɡl ɒv rɪˈflekʃn/            |  |  |  |
| ∠ angle of refraction 折射角       |  |  |  |
| /ˈæŋɡl ɒv rɪˈfrækʃn/            |  |  |  |
| ↻ total internal reflection 全反射 |  |  |  |
| /ˈtəʊtl ɪnˈtɜːnl rɪˈflekʃn/     |  |  |  |
| ⚡ critical angle 临界角            |  |  |  |
| /ˈkrɪtɪkl ˈæŋɡl/                |  |  |  |
| ↷ refraction 折射                 |  |  |  |
| /rɪˈfrækʃn/                     |  |  |  |
| > angle of incidence 入射角        |  |  |  |
| /ˈæŋɡl ɒv ˈɪnsɪdəns/            |  |  |  |
| ▢ diffraction 衍射                |  |  |  |
| /dɪˈfrækʃn/                     |  |  |  |
| ☀ light 光                       |  |  |  |
| /laɪt/                          |  |  |  |
| + normal 法线                     |  |  |  |
| /ˈnɔːml/                        |  |  |  |

|                                                                                                              |  |  |  |
|--------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>plane mirror</b> 平面镜    |  |  |  |
| <small>/pleɪn 'mɪrə/</small>                                                                                 |  |  |  |
| <b>% refractive index</b> 折射率                                                                                |  |  |  |
| <small>/rɪ'fræktɪv 'ɪndeks/</small>                                                                          |  |  |  |
|  <b>optical fibre</b> 光纤    |  |  |  |
| <small>/'ɒptɪkl 'faɪbə/</small>                                                                              |  |  |  |
|  <b>converging lens</b> 凸透镜 |  |  |  |
| <small>/kən'vɜːdʒɪŋ lenz/</small>                                                                            |  |  |  |
|  <b>diverging lens</b> 凹透镜  |  |  |  |
| <small>/daɪ'vɜːdʒɪŋ lenz/</small>                                                                            |  |  |  |
|  <b>principal focus</b> 焦点  |  |  |  |
| <small>/'prɪnsɪpl 'fəʊkəs/</small>                                                                           |  |  |  |
|  <b>focal length</b> 焦距     |  |  |  |
| <small>/'fəʊkl leŋθ/</small>                                                                                 |  |  |  |
|  <b>real image</b> 实像       |  |  |  |
| <small>/rɪəl 'ɪmɪdʒ/</small>                                                                                 |  |  |  |

## Chemistry

Topics 5–6 · Chemical energetics, Chemical reactions

|                                                                                                                  |  |  |  |
|------------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>neutralisation</b> 中和       |  |  |  |
| <small>/njuːtrəlaɪ'zeɪʃn/</small>                                                                                |  |  |  |
|  <b>enthalpy change</b> 焓变     |  |  |  |
| <small>/en'θælpɪ tʃeɪndʒ/</small>                                                                                |  |  |  |
|  <b>colliding</b> 碰撞          |  |  |  |
| <small>/kə'laidɪŋ/</small>                                                                                       |  |  |  |
|  <b>physical change</b> 物理变化  |  |  |  |
| <small>/'fɪzɪkl tʃeɪndʒ/</small>                                                                                 |  |  |  |
|  <b>chemical change</b> 化学变化  |  |  |  |
| <small>/'kemɪkl tʃeɪndʒ/</small>                                                                                 |  |  |  |
|  <b>precipitate</b> 沉淀        |  |  |  |
| <small>/prɪ'sɪpɪteɪt/</small>                                                                                    |  |  |  |
|  <b>rate of reaction</b> 反应速率 |  |  |  |
| <small>/reɪt əv rɪ'ækʃn/</small>                                                                                 |  |  |  |

|                                                                                                                           |  |  |  |
|---------------------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>reversible reaction</b> 可逆反应       |  |  |  |
| <small>/rɪ'vɜːsɪbl rɪ'ækʃn/</small>                                                                                       |  |  |  |
|  <b>forward reaction</b> 正反应           |  |  |  |
| <small>/'fɔːwəd rɪ'ækʃn/</small>                                                                                          |  |  |  |
|  <b>reverse reaction</b> 逆反应           |  |  |  |
| <small>/rɪ'vɜːs rɪ'ækʃn/</small>                                                                                          |  |  |  |
|  <b>redox reaction</b> 氧化还原反应          |  |  |  |
| <small>/rɪ'dɒks rɪ'ækʃn/</small>                                                                                          |  |  |  |
|  <b>collision theory</b> 碰撞理论          |  |  |  |
| <small>/kə'lɪʒn 'θiəri/</small>                                                                                           |  |  |  |
|  <b>surface area</b> 表面积               |  |  |  |
| <small>/ˈsɜːfɪs 'eəriə/</small>                                                                                           |  |  |  |
|  <b>catalyst</b> 催化剂                   |  |  |  |
| <small>/ˈkætəlaɪst/</small>                                                                                               |  |  |  |
|  <b>enzymes</b> 酶                      |  |  |  |
| <small>/ˈenzaimz/</small>                                                                                                 |  |  |  |
|  <b>syringe</b> 注射器                    |  |  |  |
| <small>/sɪ'rɪndʒ/</small>                                                                                                 |  |  |  |
|  <b>hydrated</b> 水合                    |  |  |  |
| <small>/haɪ'dreɪtɪd/</small>                                                                                              |  |  |  |
|  <b>anhydrous</b> 无水                 |  |  |  |
| <small>/æn'hɑɪdrəs/</small>                                                                                               |  |  |  |
|  <b>closed system</b> 密闭系统           |  |  |  |
| <small>/kləʊzd 'sɪstəm/</small>                                                                                           |  |  |  |
|  <b>position of equilibrium</b> 平衡位置 |  |  |  |
| <small>/pə'zɪʃn əv ɪˌkwɪ'brɪəm/</small>                                                                                   |  |  |  |
|  <b>equilibrium</b> 平衡               |  |  |  |
| <small>/ɪˌkwɪ'brɪəm/</small>                                                                                              |  |  |  |
|  <b>endothermic</b> 吸热反应             |  |  |  |
| <small>/endəθəːmɪk/</small>                                                                                               |  |  |  |

Biology

Topics 7-9 · Human nutrition, Transport in plants, Transport in animals

|                                                                                                               |  |  |  |
|---------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>pepsin</b> 胃蛋白酶          |  |  |  |
| <small>/ˈpepsɪn/</small>                                                                                      |  |  |  |
|  <b>trypsin</b> 胰蛋白酶         |  |  |  |
| <small>/ˈtrɪpsɪn/</small>                                                                                     |  |  |  |
|  <b>alkaline</b> 碱性          |  |  |  |
| <small>/ˈælkəlaɪn/</small>                                                                                    |  |  |  |
|  <b>neutralises</b> 中和       |  |  |  |
| <small>/ˈnjuːtrəlaɪzɪz/</small>                                                                               |  |  |  |
|  <b>villi</b> 绒毛             |  |  |  |
| <small>/ˈvɪlaɪ/</small>                                                                                       |  |  |  |
|  <b>microvilli</b> 微绒毛       |  |  |  |
| <small>/ˈmaɪkrəʊvɪlaɪ/</small>                                                                                |  |  |  |
|  <b>capillaries</b> 毛细血管     |  |  |  |
| <small>/ˈkæpɪlərɪz/</small>                                                                                   |  |  |  |
|  <b>lacteal</b> 乳糜管          |  |  |  |
| <small>/ˈlæktɪəl/</small>                                                                                     |  |  |  |
|  <b>support</b> 支撑           |  |  |  |
| <small>/səˈpɔːt/</small>                                                                                      |  |  |  |
|  <b>vessels</b> 导管          |  |  |  |
| <small>/ˈveslɪz/</small>                                                                                      |  |  |  |
|  <b>lignin</b> 木质素         |  |  |  |
| <small>/ˈlɪɡnɪn/</small>                                                                                      |  |  |  |
|  <b>cortex</b> 皮层          |  |  |  |
| <small>/ˈkɔːteks/</small>                                                                                     |  |  |  |
|  <b>stain</b> 染色剂          |  |  |  |
| <small>/steɪn/</small>                                                                                        |  |  |  |
|  <b>transpiration</b> 蒸腾作用 |  |  |  |
| <small>/trænspeɪˈreɪʃn/</small>                                                                               |  |  |  |
|  <b>water vapour</b> 水蒸气   |  |  |  |
| <small>/ˈwɔːtə ˈveɪpə/</small>                                                                                |  |  |  |

|                                                                                                                      |  |  |  |
|----------------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>evaporates</b> 蒸发             |  |  |  |
| <small>/ɪˈvæpeɪreɪts/</small>                                                                                        |  |  |  |
|  <b>diffuses</b> 扩散               |  |  |  |
| <small>/dɪˈfjuːzɪz/</small>                                                                                          |  |  |  |
|  <b>wind speed</b> 风速             |  |  |  |
| <small>/wɪnd spiːd/</small>                                                                                          |  |  |  |
|  <b>humidity</b> 湿度               |  |  |  |
| <small>/ˈhjuːˈmɪdɪti/</small>                                                                                        |  |  |  |
|  <b>transpiration pull</b> 蒸腾拉力   |  |  |  |
| <small>/trænspeɪˈreɪʃn pɒl/</small>                                                                                  |  |  |  |
|  <b>forces of attraction</b> 吸引力  |  |  |  |
| <small>/ˈfɔːsɪz ɒv əˈtrækʃn/</small>                                                                                 |  |  |  |
|  <b>column</b> 水柱                 |  |  |  |
| <small>/ˈkɒləm/</small>                                                                                              |  |  |  |
|  <b>wilts</b> 萎蔫                  |  |  |  |
| <small>/wɪltz/</small>                                                                                               |  |  |  |
|  <b>translocation</b> 转运          |  |  |  |
| <small>/trænsləʊˈkeɪʃn/</small>                                                                                      |  |  |  |
|  <b>sources</b> 源                 |  |  |  |
| <small>/ˈsɔːsɪz/</small>                                                                                             |  |  |  |
|  <b>sinks</b> 库                  |  |  |  |
| <small>/sɪŋks/</small>                                                                                               |  |  |  |
|  <b>circulatory system</b> 循环系统 |  |  |  |
| <small>/ˌsɜːkjʊˈleɪtəri ˈsɪstəm/</small>                                                                             |  |  |  |
|  <b>heart</b> 心脏                |  |  |  |
| <small>/hɑːt/</small>                                                                                                |  |  |  |
|  <b>pump</b> 泵                  |  |  |  |
| <small>/pʌmp/</small>                                                                                                |  |  |  |
|  <b>valves</b> 瓣膜               |  |  |  |
| <small>/vælvz/</small>                                                                                               |  |  |  |
|  <b>single circulation</b> 单循环  |  |  |  |
| <small>/ˈsɪŋɡl ˌsɜːkjʊˈleɪʃn/</small>                                                                                |  |  |  |

|                                                                                                      |  |  |  |
|------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>mammal</b> 哺乳动物 |  |  |  |
| <small>/ˈmæml/</small>                                                                               |  |  |  |
| <b>∞ double circulation</b> 双循环                                                                      |  |  |  |
| <small>/ˈdʌbl ˌsɜːkjəˈleɪʃn/</small>                                                                 |  |  |  |
| <b>↓ pressure</b> 压力                                                                                 |  |  |  |
| <small>/ˈpreʃə/</small>                                                                              |  |  |  |
| <b>⟷ septum</b> 隔膜                                                                                   |  |  |  |
| <small>/ˈseptəm/</small>                                                                             |  |  |  |
| <b>🏠 atrium</b> 心房                                                                                   |  |  |  |
| <small>/ˈeɪtriəm/</small>                                                                            |  |  |  |
| <b>♥ ventricle</b> 心室                                                                                |  |  |  |
| <small>/ˈventrɪkl/</small>                                                                           |  |  |  |

## Mathematics

Topics 2–3 · Algebra and graphs, Coordinate geometry

|                                    |  |  |  |
|------------------------------------|--|--|--|
| <b>[↔] symmetry</b> 对称             |  |  |  |
| <small>/ˈsɪmətri/</small>          |  |  |  |
| <b>⊙ intercept</b> 截距              |  |  |  |
| <small>/ˌɪntəˈsept/</small>        |  |  |  |
| <b>📈 parabola</b> 抛物线              |  |  |  |
| <small>/pəˈræbələ/</small>         |  |  |  |
| <b>↪ turning point</b> 转折点         |  |  |  |
| <small>/ˈtɜːnɪŋ poɪnt/</small>     |  |  |  |
| <b>— asymptote</b> 渐近线             |  |  |  |
| <small>/ˈæsmptəʊt/</small>         |  |  |  |
| <b>⤴ differentiation</b> 微分        |  |  |  |
| <small>/ˌdɪfəˈrenʃiˈeɪʃn/</small>  |  |  |  |
| <b>↗ tangent</b> 切线                |  |  |  |
| <small>/ˈtæŋdʒənt/</small>         |  |  |  |
| <b>↗ derivative</b> 导数             |  |  |  |
| <small>/dɪˈrɪvətɪv/</small>        |  |  |  |
| <b>📍 stationary point</b> 驻点       |  |  |  |
| <small>/ˈsteɪʃənəri poɪnt/</small> |  |  |  |

|                                    |  |  |  |
|------------------------------------|--|--|--|
| <b>^ maximum</b> 最大值               |  |  |  |
| <small>/ˈmæksɪmə/</small>          |  |  |  |
| <b>∨ minimum</b> 最小值               |  |  |  |
| <small>/ˈmɪnɪmə/</small>           |  |  |  |
| <b>ƒ function</b> 函数               |  |  |  |
| <small>/ˈfʌŋkʃn/</small>           |  |  |  |
| <b>↪ domain</b> 定义域                |  |  |  |
| <small>/dəˈmeɪn/</small>           |  |  |  |
| <b>↕ range</b> 值域                  |  |  |  |
| <small>/reɪndʒ/</small>            |  |  |  |
| <b>↔ inverse function</b> 反函数      |  |  |  |
| <small>/ɪnˈvɜːs ˈfʌŋkʃn/</small>   |  |  |  |
| <b>🔄 composite function</b> 复合函数   |  |  |  |
| <small>/ˈkɒmpəzɪt ˈfʌŋkʃn/</small> |  |  |  |
| <b>+ axes</b> 坐标轴                  |  |  |  |
| <small>/ˈæksɪz/</small>            |  |  |  |

## Computer Science

Topics 4–5 · Software, The internet and its uses

|                                        |  |  |  |
|----------------------------------------|--|--|--|
| <b>⟨⟩ programming language</b><br>编程语言 |  |  |  |
| <small>/ˈprəʊɡræmɪŋ ˈlæŋɡwɪdʒ/</small> |  |  |  |
| <b>⟨⟩ high-level language</b> 高级语言     |  |  |  |
| <small>/haɪ ˈleɪl ˈlæŋɡwɪdʒ/</small>   |  |  |  |
| <b>📄 low-level language</b> 低级语言       |  |  |  |
| <small>/ləʊ ˈleɪl ˈlæŋɡwɪdʒ/</small>   |  |  |  |
| <b>🖨 machine code</b> 机器码              |  |  |  |
| <small>/məˈʃiːn kəʊd/</small>          |  |  |  |
| <b>⟨⟩ assembly language</b> 汇编语言       |  |  |  |
| <small>/əˈsembəl ˈlæŋɡwɪdʒ/</small>    |  |  |  |

|                                                                                                                             |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>specific</b> 特定的                       |  |  |  |
| /spa'sɪfɪk/                                                                                                                 |  |  |  |
|  <b>translator</b> 翻译程序                    |  |  |  |
| /træn'sleɪtə/                                                                                                               |  |  |  |
|  <b>interpreter</b> 解释器                    |  |  |  |
| /ɪn'tɜ:pɪtə/                                                                                                                |  |  |  |
| <b>&lt;&gt; integrated development environment</b> 集成开发环境                                                                   |  |  |  |
| /ɪntɪɡreɪtɪd dɪ'veləpmənt en'veɪrənmənt/                                                                                    |  |  |  |
|  <b>code editor</b> 代码编辑器                  |  |  |  |
| /kəʊd 'edɪtə/                                                                                                               |  |  |  |
|  <b>run time environment</b>               |  |  |  |
| 运行时环境                                                                                                                       |  |  |  |
| /rʌn taɪm en'veɪrənmənt/                                                                                                    |  |  |  |
|  <b>error diagnostics</b> 错误诊断             |  |  |  |
| /'erə ,daɪəɡ'nɒstɪks/                                                                                                       |  |  |  |
|  <b>auto-completion</b> 自动补全               |  |  |  |
| /ɔ:təʊ kəm'plɪ:ʃn/                                                                                                          |  |  |  |
|  <b>auto-correction</b> 自动纠错               |  |  |  |
| /ɔ:təʊ kə'rekʃn/                                                                                                            |  |  |  |
|  <b>prettyprinting</b> 美化打印                |  |  |  |
| /ˈpreɪprɪntɪŋ/                                                                                                              |  |  |  |
|  <b>internet</b> 互联网                     |  |  |  |
| /ɪntənət/                                                                                                                   |  |  |  |
|  <b>infrastructure</b> 基础设施              |  |  |  |
| /ɪnfraˈstrʌktʃə/                                                                                                            |  |  |  |
|  <b>world wide web</b> 万维网               |  |  |  |
| /wɜ:ld waɪd web/                                                                                                            |  |  |  |
|  <b>websites</b> 网站                      |  |  |  |
| /ˈwebsaɪts/                                                                                                                 |  |  |  |
|  <b>uniform resource locator</b> 统一资源定位符 |  |  |  |
| /ˈju:niːfɔ:m rɪˈzɔ:s læʊˈkeɪtə/                                                                                             |  |  |  |

## Economics

Topics 2-3 · The allocation of resources, Microeconomic decision-makers

|                                                                                                                             |  |  |  |
|-----------------------------------------------------------------------------------------------------------------------------|--|--|--|
|  <b>minimum price</b> 最低价格               |  |  |  |
| /ˈmɪnɪmə praɪs/                                                                                                             |  |  |  |
|  <b>indirect tax</b> 间接税                 |  |  |  |
| /ɪndaɪ'rekt tæks/                                                                                                           |  |  |  |
|  <b>regulation</b> 监管                    |  |  |  |
| /ˌregjʊ'leɪʃn/                                                                                                              |  |  |  |
|  <b>direct provision</b> 直接提供            |  |  |  |
| /daɪ'rekt prə'vɪʒn/                                                                                                         |  |  |  |
|  <b>barter</b> 物物交换                      |  |  |  |
| /ˈbɑ:tə/                                                                                                                    |  |  |  |
|  <b>money</b> 货币                         |  |  |  |
| /ˈmʌni/                                                                                                                     |  |  |  |
|  <b>medium of exchange</b> 交换媒介          |  |  |  |
| /ˈmi:diəm ɒv eks'tʃeɪndʒ/                                                                                                   |  |  |  |
|  <b>store of value</b> 价值储藏              |  |  |  |
| /stɔ: ɒv 'vælju:/                                                                                                           |  |  |  |
|  <b>unit of account</b> 记账单位             |  |  |  |
| /ˈju:nɪt ɒv ə'kaʊnt/                                                                                                        |  |  |  |
|  <b>means of deferred payment</b> 延期支付手段 |  |  |  |
| /mɪnz ɒv dɪ'fɜ:d 'peɪmənt/                                                                                                  |  |  |  |
|  <b>durable</b> 耐用的                    |  |  |  |
| /ˈdʒʊərəbl/                                                                                                                 |  |  |  |
|  <b>portable</b> 便于携带的                 |  |  |  |
| /ˈpɔ:təbl/                                                                                                                  |  |  |  |
|  <b>divisible</b> 可分割的                 |  |  |  |
| /dɪ'vɪzəbl/                                                                                                                 |  |  |  |
|  <b>central bank</b> 中央银行              |  |  |  |
| /ˈsentrəl bæŋk/                                                                                                             |  |  |  |

English

Topics 3-4 · Writing an informal email, Writing a formal letter or email

|                                                                                                                |       |       |       |
|----------------------------------------------------------------------------------------------------------------|-------|-------|-------|
|  <b>example</b> 例子            | _____ | _____ | _____ |
| <small>/eg'zæmpl/</small>                                                                                      |       |       |       |
|  <b>detail</b> 细节             | _____ | _____ | _____ |
| <small>/di'teɪl/</small>                                                                                       |       |       |       |
|  <b>semi-formal</b> 半正式       | _____ | _____ | _____ |
| <small>/semi 'fɔ:ml/</small>                                                                                   |       |       |       |
|  <b>head teacher</b> 校长       | _____ | _____ | _____ |
| <small>/hed 'ti:tʃə/</small>                                                                                   |       |       |       |
|  <b>manager</b> 经理            | _____ | _____ | _____ |
| <small>/mænɪdʒə/</small>                                                                                       |       |       |       |
|  <b>event organiser</b> 活动组织者 | _____ | _____ | _____ |
| <small>/i'vent 'ɔ:gənəɪzə/</small>                                                                             |       |       |       |
|  <b>format</b> 格式             | _____ | _____ | _____ |
| <small>/fɔ:mət/</small>                                                                                        |       |       |       |