

S10_10	Recognizes which model best illustrates the results of a chemical reaction
S11_05	From a list of symbols and formulas, recognizes which are elements and which are compounds
S11_10	Explains the effect of temperature on diffusion in the context of an investigation
S12_06	Identifies the number of atoms of each element in nitric acid
S12_07	Use data in a table to order set-ups according to the rate at which a solute will dissolve in water
S14_11	Explains whether a reaction between two solutions in a given context can occur a second time
► Science	
S01_07	Recognizes the pathway of light required for an object to be seen
S01_08	Recognizes an everyday object most likely to be used as a lever
S02_09	Explains whether a conclusion can be made about the relative strengths of two magnets in a given context
S04_05	Relates knowledge of heat transfer to recognize a graph that shows how two substances eventually reach temperature equilibrium
S05_12	Explains that there are forces acting on students sitting on a wall
S06_10	Recognizes the orientation of a hidden mirror given rays of light reflecting
S07_07	Uses a table showing the speed of sound through different media and knowledge of the state of each medium to recognize a conclusion that may be drawn about the relative speed of sound
S07_09	Recognizes why a helium balloon rises into the air
S07_12	Explains why lightning is seen before thunder is heard during an electrical storm
S09_10	Given the densities of two objects and three liquids, and diagrams showing the objects floating or sinking in the liquids, identifies each liquid
S10_07	Recognizes which graph represents a musical note with given specifications for volume and pitch
S10_08	Recognizes a free-body diagram that has a total force acting towards the right
S11_09	Recognizes how to increase the strength of an electromagnet
S12_14	Recognizes the type of energy transformation that occurs when a car begins to move from rest
S13_09B	Explains that in a parallel arrangement of two bulbs, one bulb failing does not affect the other bulb
S13_10	Recognizes the best explanation of why two bar magnets repel each other
► Earth and Space Science	
S01_14	Recognizes a consequence of the gravitational pull of the Moon on Earth

S04_13	Identifies a disadvantage of using solar energy
S04_14A	Recognizes the process that forms rock layers
S05_13	Matches each of four processes that take place in the water cycle with the description of the process
S06_13	Recognizes a non-renewable energy source
S07_13	Describes a cause of earthquakes
S08_11	Recognizes a major source of water for desalinization plants
S08_13	Uses a diagram of a mountain range on the ocean and a given wind direction to recognize which location will have the greatest rainfall
S09_13	Uses a graph of average monthly temperature to identify the city most likely to be located at the equator
S10_12	Describes one geographic factor to consider when selecting a safe location for a nuclear power plant
S10_13A	Relates information in temperature graphs and maps to recognize climatic attributes of two cities
S11_12	Recognizes the source of energy for the water cycle
S12_11A	Interprets information in a climate graph to determine the warmest and driest month of the year
S14_13	Identifies how the melting of permafrost can affect the Earth's climate
S14_14	Recognizes sources of fresh and salt water in a diagram
S14_15	Synthesizes information in rainfall and temperature graphs to match 4 of 4 animals with the climates where they live (2 of 2 points)

Items at Advanced International Benchmark (625)

S01_01	Identifies a function shared by lungs, skin, and kidneys
S01_02	Classifies 7 of 7 animals into two groups based on a stated physical or behavioral characteristics (2 of 2 points)
S01_03	Recognizes which organelle produces energy for the cell
S01_05	Designs an investigation to find out how fertilizer affects plant growth using equipment shown in a diagram
S03_01	Recognizes the function of shivering
S03_03B	In the context of an investigation about cellular respiration, identifies the gas produced and its source
S03_04	Explains why offspring are unlikely to have traits dissimilar to their parents

S04_10	Identifies and explains whether a described change is physical or chemical
S04_11	Explains whether a reaction took place after a pH indicator is added to a solution based on information provided about the indicator
S05_08A	In the context of an investigation about the gold content of jewelry, describes the measurements to be taken using a graduated cylinder and water to find the volume of the jewelry
S07_10	Applies knowledge of conservation of mass during a neutralization reaction to explain what happens to mass when new substances are formed
S07_11	Applies knowledge of density to explain why oil floats on water
S08_03	Applies knowledge of density to identify and explain which liquid will leave a dropper first after a mixture separates
S09_07	Recognizes a property that is common to both acids and bases
S10_09	Explains the difference between a solid and air in terms of particle spacing in context
S10_11	Recognizes what happens to the atoms in an object pounded flat
S11_06	Identifies an element as a metal or a nonmetal, based on a list of physical properties and predicts one additional property
S13_06	Given their chemical formulas, recognizes a compound with the same number of atoms as another compound
S13_08	Recognizes an everyday process that is an example of a physical change
▶ . . .	
S01_09	Applies knowledge of expansion of water during freezing to explain why a bottle full of water cracked when it was left in a freezer
S01_12	Applies knowledge of thermal conductivity to explain why ice will stay frozen in a wooden container longer than in a metal container
S02_10	Explains whether one person can see another person in a practical problem involving reflection of light from plane mirrors
S03_08	Given two unknown samples and using knowledge that only gases fill the available space, recognizes a statement about the spacing of particles in the samples
S03_09	Recognizes the relative temperatures of the outside surfaces of containers made of materials with different thermal properties
S04_06	Explains why a vehicle with tires is more likely to sink in the mud than a vehicle with treads
S04_07	Recognizes an explanation for why a ball appears a certain color in a given context
S05_07	Interprets a diagram to describe the direction of heat

S08_10	Identifies and explains which of three methods will require the smallest force to move a heavy box onto a truck
S09_09	Recognizes why gases are easier to compress than solids and liquids
S10_06	Uses a diagram to explain one way to increase the strength of an electromagnet
S11_08	Recognizes the property of a gas in a dented ping pong ball that stays constant if the ball is heated
S11_11	Applies knowledge about the relationship between depth and water pressure to recognize a conclusion about the pressure at different depths
S12_13	Draws a conclusion about the states of substances in two pistons, based on the different amounts of compression that occurred
S13_09A	States one reason why a bulb in a diagram of an electrical circuit does not light
S13_09C	Recognizes a correct statement about battery life and bulb brightness in two given electrical circuits
S14_07	Recognizes whether a red object will absorb or reflect different colors of light
S14_08	Indicates whether parts of a light bulb are electrical conductors or insulators
<hr/>	
S02_01	Recognizes whether each of five effects is a benefit of recycling paper (2 of 2 points)
S02_14	From diagrams involving the Earth, Moon, and Sun, identifies the one that explains the changing seasons
S03_12B	Identifies the cause of decreasing water flow in an artesian well over time
S03_12C	Explains why water from an artesian well can be hot
S05_14	Recognizes what causes the moon to appear to change shape
S06_14	Uses a diagram to state two advantages of a plant having roots that reach into the subsoil (2 of 2 points)
S06_15	Explains whether an object's weight is less on the Moon than on the Earth
S07_15	Recognizes how a shadow changes throughout the day
S07_16	Draws a conclusion about the states of substances in two pistons, based on the different amounts of compression that occurred
<hr/>	
<hr/>	
<hr/>	
<hr/>	
<hr/>	
<hr/>	
<hr/>	

S01_11	Calculates resistance from current and voltage
S02_08	Interprets a diagram showing heat transfer to recognize the relative temperatures of two blocks in water
S03_10	From a diagram of an object floating in different liquids, explains that the portion of the object which is submerged depends on the density of the liquid
S04_09	Explains how a substance can be in two different states in a container at one time in a given context
S05_10	Recognizes what happens to the mass and volume of water when it freezes
S06_11	Recognizes the correct statement about the relative motion of an object seen from two frames of reference
S08_08	Recognizes how the temperature of water changes over time when heated
S10_05	Recognizes how the mass of a metal ball will change as it cools down
<hr/>	
S02_13	Describes two things being done by car-makers to reduce air pollution (2 of 2 points)
S04_12	Recognizes the gas that makes up most of Earth's atmosphere
S04_14B	Given a diagram, explains a process that shaped a rock formation in the ocean
S10_13B	Synthesizes information in temperature graphs and maps to recognize an explanation for the difference in seasonal climates of two cities at similar latitudes
S12_10	Recognizes the relative composition of gases in Earth's atmosphere
S12_11B	Evaluates a conclusion about climate data, based on one week of weather observations