Unit 2 Review

DIRECTIONS: Read the passage and study the graph. Then answer the questions that follow.

OCEAN ACIDIFICATION

1 Earth's atmosphere isn't the only victim of burning fossil fuels. About a quarter of all carbon dioxide emissions are absorbed by the earth's oceans, where they're having an impact that's just starting to be understood.

2 Over the last decade, scientists have discovered that this excess CO_2 is actually changing the chemistry of the sea and proving harmful for many forms of marine life. This process is known as ocean acidification.

3 A more acidic ocean could wipe out species, disrupt the food web and impact fishing, tourism and any other human endeavor that relies on the sea.

4 The change is happening fast—and it will take fast action to slow or stop it. Over the last 250 years, oceans have absorbed 530 billion tons of CO_2, triggering a 30 percent increase in ocean acidity.

5 Before people started burning coal and oil, ocean pH had been relatively stable for the previous 20 million years. But researchers predict that if carbon emissions continue at their current rate, ocean acidity will more than double by 2100.

6 The polar regions will be the first to experience changes. Projections show that the Southern Ocean around Antarctica will actually become corrosive by 2050.

7 The new chemical composition of our oceans is expected to harm a wide range of ocean life—particularly creatures with shells. The resulting disruption to the ocean ecosystem could have a widespread ripple effect and further deplete already struggling fisheries worldwide.

8 Increased acidity reduces carbonate—the mineral used to form the shells and skeletons of many shellfish and corals. The effect is similar to osteoporosis, slowing growth and making shells weaker. If pH levels drop enough, the shells will literally dissolve.

9 This process will not only harm some of our favorite seafood, such as lobster and mussels, but will also injure some species of smaller marine organisms—things such as pteropods and coccolithophores.

10 You've probably never heard of them, but they form a vital part of the food web. If those smaller organisms are wiped out, the larger animals that feed on them could suffer, as well.

11 Delicate corals may face an even greater risk than shellfish because they require very high levels of carbonate to build their skeletons.

12 Acidity slows reef-building, which could lower the resiliency of corals and lead to their erosion and eventual extinction. The "tipping point" for coral reefs could happen as soon as 2050.

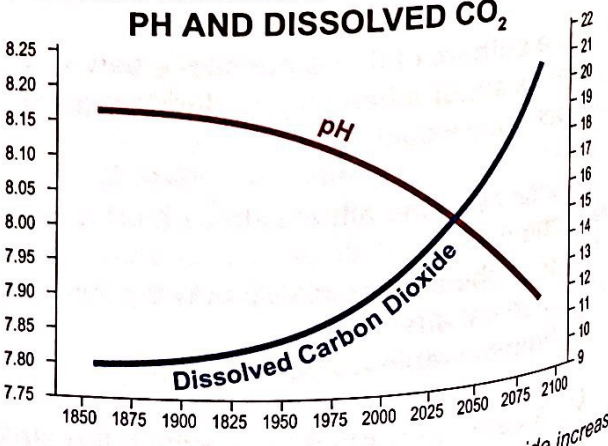
13 Coral reefs serve as the home for many other forms of ocean life. Their disappearance would be akin to rainforests being wiped out worldwide. Such losses would reverberate throughout the marine environment and have profound social impacts, as well—especially on the fishing and tourism industries. …

14 Ultimately, though, reducing the amount of carbon dioxide absorbed into the oceans may be the only way to halt acidification. The same strategies needed to fight global warming on land can also help in the seas.

15 The acidification of our oceans is the hidden side of the world's carbon crisis, says Lisa Suatoni, [a Natural Resources Defense Council] ocean scientist, and only reinforces that we need to make changes in how we fuel our world—and we need to do it quickly.

From the nrdc.org article OCEAN ACIDIFICATION: THE OTHER CO_2 PROBLEM, accessed 2013

HISTORICAL AND PROJECTED PH AND DISSOLVED CO_2



As the ocean concentration of carbon dioxide increases, so does acidity (causing pH to decline).

From the pmel.noaa.gov article CARBON DIOXIDE AND OUR

1. Which sentence **best** explains why the authors provide background information in paragraphs 1, 2, and 3?

   A. The authors wish to contrast carbon absorption in the atmosphere and in the oceans.
   B. The authors assume that many readers are unfamiliar with the problem of ocean acidification.
   C. The authors wish to emphasize the ways in which human activities affect the oceans.
   D. The authors assume that readers will disagree with their claims about ocean acidification.

2. The data in paragraphs 4, 5, and 6

   A. support the claim that changes in ocean acidity are happening fast.
   B. show that efforts to reduce carbon emissions have not been effective.
   C. challenge the claim that the atmosphere is not the only victim of fossil fuels.
   D. illustrate how ocean acidity can harm coral reefs and other sea life.

3. Osteoporosis is a disease in which the bones become weak and fragile. The authors compare osteoporosis with what is happening to shellfish in order to

   A. help readers understand how acidity affects shellfish and coral.
   B. show that human skeletons can be affected by ocean acidity.
   C. explain how the mineral carbonate functions in shell formation.
   D. teach readers about the nutritional needs of shellfish.

4. Which statement **best** explains the relationship between paragraphs 9 and 10?

   A. Paragraph 10 provides more information about what pteropods and coccolithophores are and where they are found.
   B. Paragraph 9 describes small organisms that inhabit coral reefs, and paragraph 10 describes large organisms.
   C. Paragraph 9 identifies small organisms, and paragraph 10 explains how they are affected by acidification.
   D. Paragraph 10 explains why the effects of ocean acidity on pteropods and coccolithophores are significant.

5. Which statement is an **implicit** purpose of the passage?

   A. to interest readers in the life cycles of coral reefs and their inhabitants
   B. to inspire readers to visit the coral reefs before they disappear
   C. to encourage readers to reduce their use of fossil fuels
   D. to alert readers to the challenges the fishing industry faces

6. Drag and drop the sentences into the chart to show which claims are supported by evidence in the passage and which are not.

Supported	Unsupported

Ocean acidity has increased rapidly in the past 250 years.
Human activity is the likely cause of increased CO_2 emissions.
The "tipping point" for coral reefs could happen as soon as 2050.
Humans must act quickly to save the coral reefs and shellfish.

7. Which claim from the passage does the graph support?

   A. Excess CO_2 is actually changing the chemistry of the sea.
   B. Ocean pH had been relatively stable for the previous 20 million years.
   C. The polar regions will be the first to experience changes.
   D. The strategies needed to fight global warming on land also can help in the seas.

DIRECTIONS: Read the passage below. Then answer the questions that follow.

THE COMING ENERGY CRISIS

1 Tonight I want to have an unpleasant talk with you about a problem that is unprecedented in our history. With the exception of preventing war, this is the greatest challenge that our country will face during our lifetime.

2 The energy crisis has not yet overwhelmed us, but it will if we do not act quickly. It's a problem that we will not be able to solve in the next few years, and it's likely to get progressively worse through the rest of this century.

3 We must not be selfish or timid if we hope to have a decent world for our children and our grandchildren. We simply must balance our demand for energy with our rapidly shrinking resources. By acting now we can control our future instead of letting the future control us.

4 Two days from now, I will present to the Congress my energy proposals. Its members will be my partners, and they have already given me a great deal of valuable advice.

5 Many of these proposals will be unpopular. Some will cause you to put up with inconveniences and to make sacrifices. The most important thing about these proposals is that the alternative may be a national catastrophe. Further delay can affect our strength and our power as a nation.

6 Our decision about energy will test the character of the American people and the ability of the President and the Congress to govern this nation. This difficult effort will be the "moral equivalent of war," except that we will be uniting our efforts to build and not to destroy.

7 Now, I know that some of you may doubt that we face real energy shortages. The 1973 gas lines are gone, and with this springtime weather, our homes are warm again. But our energy problem is worse tonight than it was in 1973 or a few weeks ago in the dead of winter. It's worse because more waste has occurred and more time has passed by without our planning for the future. And it will get worse every day until we act.

8 The oil and natural gas that we rely on for 75 percent of our energy are simply running out. In spite of increased effort, domestic production has been dropping steadily at about 6 percent a year. Imports have doubled in the last 5 years. Our Nation's economic and political independence is becoming increasingly vulnerable. Unless profound changes are made to lower oil consumption, we now believe that early in the 1980s the world will be demanding more oil than it can produce.

9 The world now uses about 60 million barrels of oil a day, and demand increases each year about 5 percent. This means that just to stay even we need the production of a new Texas every year, an Alaskan North Slope every 9 months, or a new Saudi Arabia every 3 years. Obviously, this cannot continue. ...

10 If we fail to act soon, we will face an economic, social, and political crisis that will threaten our free institutions. But we still have another choice. We can begin to prepare right now. We can decide to act while there is still time. That is the concept of the energy policy that we will present on Wednesday.

11 Our national energy plan is based on 10 fundamental principles. The first principle is that we can have an effective and comprehensive energy policy only if the Government takes responsibility for it and if the people understand the seriousness of the challenge and are willing to make sacrifices. ...

12 I believe that this can be a positive challenge. There is something especially American in the kinds of changes that we have to make. We've always been proud, through our history, of being efficient people. We've always been proud of our ingenuity, our skill at answering questions. Now we need efficiency and ingenuity more than ever.

13 We've always been proud of our leadership in the world. And now we have a chance again to give the world a positive example.

14 We've always been proud of our vision of the future. We've always wanted to give our children and our grandchildren a world richer in possibilities than we have had ourselves. They are the ones that we must provide for now. They are the ones who will suffer most if we don't act.

From ADDRESS TO THE NATION ON ENERGY by Jimmy Carter, 1977

8. Which statement **best** explains why paragraph 1 displays faulty logic or reasoning?

A. The author appeals to the audience's sense of patriotism.
B. The author presents a false cause-and-effect relationship.
C. The author provides facts that are irrelevant to the claim.
D. The author uses exaggerated emotional language.

9. In paragraph 5, the author acknowledges that many of his ideas will be unpopular and states that the alternative to his proposals "may be a national catastrophe." Why does he make these statements?

A. to frighten readers about what the future could hold
B. to remind readers of the nation's accomplishments
C. to anticipate and respond to possible conflicting viewpoints
D. to compare and contrast his ideas with past proposals

10. Throughout paragraph 7, which begins "Now, I know that some of you may doubt," the author repeats the word **worse**. This repetition creates a sense of

A. fright and emphasizes the dangers of not taking action.
B. urgency and emphasizes the seriousness of the problem.
C. hopelessness and makes the crisis seem overwhelming.
D. anger and makes the opposition seem weak.

11. Which statement **best** describes the relationship between paragraphs 7 and 8?

A. Paragraph 7 claims that energy shortages are worsening, and paragraph 8 gives evidence to support the claim.
B. Paragraph 7 identifies the worst shortages, and paragraph 8 describes these shortages in greater detail.
C. Paragraph 7 describes the negative aspects of pursuing a new energy policy, and paragraph 8 describes the positive ones.
D. Paragraph 7 introduces the worsening problem of wasted energy, and paragraph 8 details possible solutions.

12. Paragraph 10 begins "If we fail to act soon ..." Which statement **best** explains how the structure and purpose of this paragraph are related?

A. In the first sentence, the author describes a crisis. The word **but** in the second sentence signals that in the rest of the paragraph, the author explains a way to avoid the crisis.
B. In the first sentence, the author lists the types of crises the United States could face, and in the rest of the paragraph, he describes these crises in greater detail.
C. In the first half of the paragraph, the author states the opinions of his opponents. In the second half of the paragraph, the author responds to those views.
D. The author uses the word **now** to signal a shift in time between the events described in the first two sentences and the events described in the rest of the paragraph.

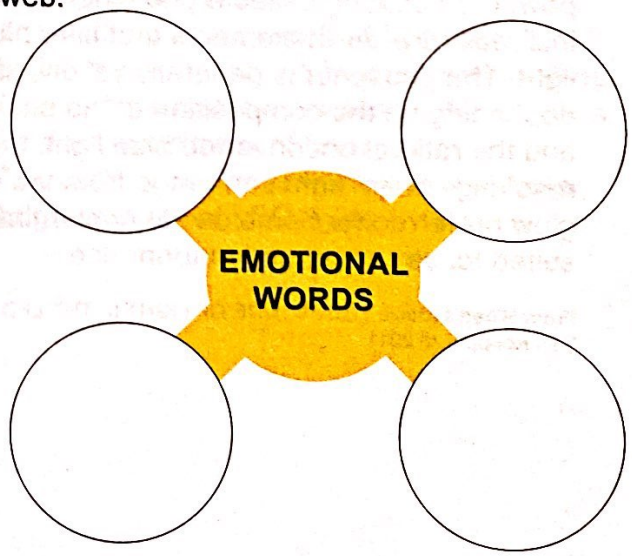
13. In the last three paragraphs, the author tries to persuade his audience by using repetition to appeal to the

A. sense of fear.
B. sense of patriotism.
C. desire for popularity.
D. desire for wealth.

14. The author's **implicit** purpose in the passage is to encourage readers to support

[ ]

15. Drag and drop the words that have emotional connotations, in the context of this passage, into the web.



proposal, selfish, timid, policy, grandchildren, changes, catastrophe

DIRECTIONS: Read the passages. Then answer the questions that follow.

LEDS ARE THE FUTURE

1 GE [General Electric] invented the light-emitting diode in 1962. The first ones to come into wide use—glowing a space-age red—turned up in the clock radios, pocket calculators, and digital watches of the 1970s. Additional colors came along over the next couple of decades.

2 LEDs are manufactured more or less like any other semiconductor. Each diode is cut from a wafer of crystals layered over a base of silicon or sapphire. The crystal layer on early LEDs was gallium arsenide or gallium phosphide, which lent that reddish color. Additional colors and increased brightness required more nuanced control of layer composition and depth. Modern LED makers accomplish this by using precise ratios of indium, gallium, aluminum, and nitrogen for the crystal layer, which results in a bluish color.

3 But on their own, not even advanced LEDs can produce anything suitable for the living room. The blue-tinged illumination is fine for, say, a pen flashlight on a keychain, but it doesn't come close to the warm light the human eye desires.

4 There are two ways LED makers create a more pleasant white. In the 1990s, the favored technique was to combine red, green, and blue LEDs. But they all have differing efficiencies and operating requirements. Heat management, power supply, and drivers—the bulbs' controlling circuit boards—get more complex.

5 So the LEDs found in current household applications are blue diodes daubed with a powdered coating called a phosphor, which includes rare-earth elements that filter blue light. The phosphor is generally yellow, and depending on the composition of the phosphor and the ratio of unconverted blue light, the resulting "white" light can range from the warm glow preferred for home use to cooler tints more suited to, say, retail and outdoor use.

From *Wired*'s article THE FUTURE OF LIGHT IS THE LED by Dan Koeppel, © 2011

FAQ ABOUT ENERGY-SAVING BULBS

1 **Q:** How exactly are these new bulbs better than traditional incandescent bulbs?

2 **A:** ... Newer energy-saving bulbs such as ENERGY STAR-qualified CFLs and LEDs, as well as halogen incandescent technologies, can produce the same amount of light (lumens) as a traditional incandescent bulb while using significantly less energy. So when you replace your traditional incandescent bulbs with the energy-savers, you will pay less to get the same amount of light. ...

3 Many of the newer bulbs also last significantly longer than traditional bulbs, so you won't need to replace them as often, and will keep saving into the future. ENERGY STAR LEDs use about 25% of the energy and last up to 25 times longer than traditional incandescent bulbs they replace. An ENERGY STAR CFL uses about 25% of the energy and lasts 10 times longer than a comparable traditional incandescent bulb.

4 Switching to energy-saving bulbs will reduce the growth of U.S. energy demand and avoid carbon emissions. Nationwide, lighting accounts for about 14% of all building electricity use (about 10% of home electricity). With the EISA standards, U.S. households could save nearly $6 billion dollars in 2015 alone.

5 **Q:** What is the cost difference between the new lights and my incandescent bulbs? How much money will I save when I switch to these new bulbs?

6 **A:** Upgrading 15 traditional incandescent bulbs in your home with energy-saving bulbs could save you about $50 per year.

7 While the initial price of the newer lightbulbs is typically higher than the inefficient incandescent bulbs you are replacing, you'll spend less each year to operate them. Most CFLs pay for themselves with the energy they save in less than 9 months.

8 Average consumers will spend about $4.80 to operate a traditional incandescent bulb for a year (electricity cost). By comparison, average consumers will spend about $1.00 to operate an ENERGY STAR LED bulb, about $3.50 on a halogen incandescent bulb, and about $1.20 on an ENERGY STAR CFL bulb—each that produces about the same amount of light. ...

Source: energy.gov FREQUENTLY ASKED QUESTIONS: LIGHTING CHOICES TO SAVE YOU MONEY, accessed 2013

16. In paragraph 3 of the article, the word **illumination** means _____.

17. The signal words in paragraph 8 of the FAQ indicate that the information in this paragraph _____.

18. Which statement **best** explains the overall impact of the FAQ?

A. Inadequately supported arguments leave the reader with more questions than answers.
B. Emotional language encourages the reader to take action on the issue.
C. Convincing and well-supported points motivate the reader to follow the author's advice.
D. Failure to incorporate well-researched facts forces the reader to question the author's credibility.

19. Which statement **best** describes the audience of the article and the FAQ?

A. Both address politicians.
B. Both address electrical engineers.
C. The article addresses people with some scientific background, but the FAQ address consumers.
D. The article addresses scientists, but the FAQ address people who want only to save money.

20. How do the article and the FAQ differ in purpose?

A. The article explains the steps in the process of making LEDs, but the FAQ explain the steps in the process of replacing old bulbs with LEDs.
B. The article explains how LEDs produce different colors, but the FAQ persuade readers that new bulbs save energy and money.
C. The article persuades readers that LEDs produce the best quality of light, but the FAQ inform how LEDs work.
D. The article persuades readers that LEDs save energy, but the FAQ entertain with an anecdote about LEDs.

21. How do the article and FAQ differ in structure?

A. The article is a list of steps in a process, but the FAQ show cause and effect.
B. The article shows main ideas and details, but the FAQ present ideas listed in order of importance.
C. The article shows sequential order, but the FAQ compare and contrast information.
D. The article is written in straightforward paragraph form, but the FAQ are questions and answers.

22. Which perspective do the two passages share?

A. The United States wastes too much energy and must avoid carbon emissions.
B. People must look to save on energy costs.
C. LED bulbs are the lights of the future.
D. LED bulbs produce poor lighting that cannot compare with the glow of older bulbs.

23. On the basis of the information in the article, why might a reader of the FAQ still be reluctant to switch to LED bulbs?

A. LEDs cost more to use than traditional bulbs.
B. Traditional bulbs are safer to install than LEDs.
C. LEDs do not always give off the "warm glow" of traditional bulbs.
D. Traditional bulbs are easier to manufacture than LEDs.

24. Which statement is **most** likely true about the authors of both the article and FAQ?

A. The authors know how to manufacture energy-saving bulbs.
B. The authors have switched from traditional bulbs to energy-saving bulbs in their homes.
C. The authors test the efficiency of light bulbs for the Department of Energy.
D. The authors prefer to work with the cooler, brighter tones of LED lights.

DIRECTIONS: Read the passages. Then answer the questions that follow.

HONORING THE FALLEN

1 Mr. President, Mrs. Obama, Secretary Shinseki, General Dempsey, fellow veterans, service members, and distinguished guests. Lilibet and I are greatly honored to be here with all of you today as we observe Memorial Day.

2 Together, we gather to remember America's sons and daughters who sacrificed everything in the defense of our nation. For generations, Americans have set aside this day to honor those who have fought and died to keep our nation safe. A Civil War veteran, Supreme Court Justice Oliver Wendell Holmes once said, "Every year in the full tide of spring, at the height of the symphony of flowers and love and life, there comes a pause and, through the silence, we hear the lonely pipe of death."

3 Every Memorial Day, America is reminded of these selfless individuals, America's quiet heroes. We also think of America's new generation of defenders, protecting the nation's interests in every corner of the globe, preserving our freedoms and our way of life. They work for a more peaceful and hopeful world. As General Douglas MacArthur said, "The soldier above all other people prays for peace, for he must suffer and bear the deepest wounds and scars of war."

4 The memories of America's heroes laid to rest here at Arlington and at American cemeteries around the world are kept alive by families and communities across our great land. This Memorial Day, we honor those families whom our heroes left behind. We honor them in appreciation for the sacrifices they have endured. We also honor the perseverance and the resilience of our military families today, for they are dealing with all of the challenges of life. America thanks you.

5 All of us in positions of trust and responsibility must always make decisions that are worthy of the sacrifices of those who serve our country. On this sacred day, as we recall the words of President Lincoln when he referred to the mystic bonds and chords of memory, we honor America's fallen patriots by striving to be worthy of their great sacrifices as we all work toward making a better future for all mankind.

From MEMORIAL DAY OBSERVANCE by Chuck Hagel, 2013

A SPECIAL SALUTE

1 President Barack Obama gave a special salute Monday to Americans who lost their lives fighting in the Korean War … and asked Americans to remember the troops' work in Afghanistan as that war winds down.

2 "Last Memorial Day, I stood here and spoke about how, for the first time in nine years, Americans were no longer fighting and dying in Iraq. Today, a transition is under way in Afghanistan, and our troops are coming home," the president said after laying a wreath at the Tomb of the Unknowns. "This time next year, we will mark the final Memorial Day of our war in Afghanistan." …

3 Calling Virginia's Arlington National Cemetery "a monument to a common thread in the American character," Obama asked the audience not to forget the "men and women who are willing to give their lives and lay down their lives" for the freedoms the nation enjoys.

4 A serviceman recently wrote the president to say he feared "our work in Afghanistan is fading from memory," Obama said. "And he's right. As we gather here today, at this very moment, more than 60,000 of our fellow Americans still serve far from home in Afghanistan. They're still going out on patrol, still living in spartan forward operating bases, still risking their lives. …

5 "And when they give their lives, they are still being laid to rest in cemeteries in the quiet corners across our country, including here in Arlington."…

6 "For those of us who bear the solemn responsibility of sending these men and women into harm's way, we know the consequences all too well," Obama said. "I feel it every time I meet a wounded warrior, every time I visit Walter Reed and every time I grieve with a Gold Star family."

7 Chuck Hagel, a former Army sergeant who volunteered for the Vietnam War and is the first enlisted combat veteran to hold the post of defense secretary, told CNN's Barbara Starr that he remembers soldiers who served alongside him, including a captain who was killed 14 days into his tour. Hagel was next to him when he died, he said.

8 "Anybody who has ever been in combat remembers the names, remembers the faces, remembers the fun, remembers the uniqueness of every person," the defense secretary said.

From the cnn.com article OBAMA OFFERS SALUTE TO KOREAN WAR

25. In paragraph 4 of the speech, the word **resilience** refers to a person's ability to cope with [ ].

26. The author of the speech quotes Oliver Wendell Holmes to show that

A. remembering America's fallen soldiers is a time-honored event.
B. sacrifices often must be made in the name of freedom.
C. wars must be fought to guarantee peace for future generations.
D. choosing to send others to war is a serious responsibility.

27. Which three expressions indicate that paragraph 2 of the article is organized according to a time sequence?

[ ]

28. Which idea do both passages emphasize?

A. Those who have experienced combat always remember the others with whom they fought.
B. Soldiers most hope for peace because they must sacrifice the most in times of war.
C. Those responsible for sending others to war are aware of the sacrifices soldiers and their families make.
D. Members of the armed forces are too often disrespected by the public.

29. Drag and drop the phrases that describe the passages into the correct location on the chart.

Speech	News Article

third-person point of view
specific audience
first-person point of view
general audience

30. How do the speech and the article differ in purpose?

A. The speech motivates audience members to join the armed forces, but the article informs readers of the sacrifices that soldiers make.
B. The speech honors those who fought and died, but the article describes a Memorial Day tribute.
C. The speech persuades others to help support military families, but the article explains how to show this kind of support.
D. The speech explores various Memorial Day observances, but the article entertains with details about a Memorial Day celebration.

31. What information in the news article contributes to the credibility of the author of the speech? The author of the speech

A. quotes experienced career soldiers.
B. volunteered for and saw active combat.
C. is a member of President Obama's cabinet.
D. has a son and daughter in the military.

32. On the basis of the information in both texts, which is the **most** logical conclusion to draw about men and women who serve in the military?

A. They must learn to forget their combat experiences.
B. Their long absences can cause hardships in their family lives.
C. They seek fame and glory by going to war.
D. Their sacrifices are too often taken for granted.