

South Valley University

Qena Faculty of Arts

English Department



English Language Course for

Physical Therapy Students

Level One

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Preface

Ways of Improving English Language

Learning a second language can be a very stressful task if you let it. Somehow, the words you learn in the books don't seem to apply very well to real life situations. However, to improve Your English Skill you need to *study grammar and do exercises* and also you need to improve the basic four skills of any language which are: Speaking; Reading; Writing; and Listening.

Learning English Language is a process that requires effort and time that doesn't happen overnight. Some people learn English easier than others and that depends on their capability, willingness and goals. There are so many ways and technologies which help to make learning English more flexible and easier. Choosing the best ways for you and using so many different methods will help you to learn English faster. Learning English needs patience and practice so that you will never learn English, unless you practice what you have learned and have a lot of patience. Studying grammar and doing exercises are the most important ways to learn or improve your English.

Studying grammar makes you know the tenses of verbs, and how to talk and write correctly by using them. It isn't a whole process of learning English but it is a part of it. The majority of learners decrease the benefit of doing exercises and taking test.

In fact, those ways are very important to improve your English, to know which level you are and to what extent you are progressing. Also their results will give you motivation to continue.

Speaking Skill:

Q: Is it possible to improve your speaking skill without visiting English speaking country?

Yes, it's possible because you can improve your English by many ways. Some learners believe that it's impossible to improve their speaking skill unless they visit an English speaking country, but that's not correct because you can improve your English by many ways. At the beginning, it's important to keep in your mind that you should "speak as much as possible, and make mistake as much as possible because when you know that you made mistake you know that you made progress." try to take advantage of all of situations that encounter you. For example, when you go to school you should use the opportunity to speak to your teacher by answering the questions, debating or speaking with other students. Also when you go shopping you have a wonderful opportunity to practice your English by using a small talking by speaking with the Shop assistant, waiters and taxi driver. In addition, you can speak with your friends who speak English fluently. It's good to be in contact with native speakers for instance American, British, Irish and Australian who live in your city. When you talk to them don't be worried whether your expressions are right or wrong.

They don't care about your grammar at all. They only care about what you say to them, but that doesn't mean that the grammar is not important.

Finally, don't be afraid to speak even if you make mistakes. There's saying "The person who never made mistake, never made any thing." So think of your mistake as something positive and useful.

Writing Skill:

Q: How to improve your Writing Skill?

To improve your writing skill, write everything you want. Write about your hobbies, interests or write e-mail to your pen friend. Good writing is more than just using correct grammar and suitable words. It is a process that helps you to develop your thoughts and some people believe that they are unable to write in English form, but that's wrong if they can think and say some sentences that mean they can think and put their thoughts in sentences on a paper.

Also, writing a personal journal is a good practice for you where it makes you write daily. Constant writing will make your writing more natural, and helps you to get more confidence where the saying was said "The more writing you do, the better you will get". How to write correctly is an important element. As I mentioned previously it is not only suitable words or correct grammar, but it is also planning, checking, revising and organization. Making a note and a rough plan for what you are going to write make the task much easier. Your first draft may have lots of mistakes and be incomplete. So, revise and revise and edit what you write, and make sure that your thoughts flow logically that will make your writing well developed and well organized.

Reading Skill:

Q: What's the benefit of reading books?

When you read a book, it shows you structures and expressions that you can use them in writing or speaking, it sees your grammatical roles naturally. And make you encounter new words. It's good to read at the right level for you to understand what you read. That's why you should know which level you are. When you find more than five new words pre page that means that you are not in the right level and you have to choose simpler. Read magazines, novels, short stories, articles, newspapers and what so ever interest you in, to get a good acknowledge of the English language. Now you can practice reading skill wherever you go where you find it in shop's names, advertisements, and car's numbers.

Finally, to learn English and become proficient Read, Read, Read and Read even if you don't understand what you read." Have you forgotten what we said at the beginning "that learning English is gradual process and it doesn't happen overnight?"

Listening Skill:

Q: What're the materials that help you in improving your listening skill?

There are so many materials that can help you in improving your listening skill such as Radio, Broadcast, and CDs in English you won't learn any language without hearing it first, even your own language. When you were a baby, you didn't understand your language. Then, you got it by listening to your family, and gradually you learned to speak, learned to read and learned to write, but listening comes first. Listening and imitating are ways which help you to be proficient in English. At first time you listen to English, it will sound like "One big long word", but if you keep listening, the big word will be "smaller" and you will be able to know where the word begins and where it ends. It's good to choose the materials that interest you, where being interested will make learning more enjoyable and effective.

Eventually, to improve your English language you have to improve the four skills, as what is written above about how to improve those skills and its related topics, in order to use it in the right way.

Part One

Essay Writing

Elements of Essay Writing

Essay marking criteria can be broadly summarized as follows:

- 1. Introduction (topic thesis)
- 2. Each paragraph should have a topic sentence
- 3. All ideas should be related to the topic sentence and all topic sentences should relate to the topic thesis (unity and coherence)
- 4. Details should be clear
- 5. Conclusion (a summary, an opinion, an advice, etc...)
- 6. Structure and word usage
- 7. Punctuation and Spelling
- 8. Knowledge and depth of reading
- 9. Relevance (the essay answers all parts of the topic Questions)
- 10. Lay out and organization

Writing Tips:

There are some tips that can be very helpful to get started with any kind of writing and successfully complete an essay. These tips can help you be concise and easily convey your thoughts and ideas to any kind of audience. They also can be helpful to choose the topic, organize paragraphs and ideas, and find supporting evidence and appropriate words.

The following tips can be used for any kind of academic writing.

- Choosing the Topic
- Narrowing Down the Topic
- Organizing the Essay
- Organizing the Paragraph
- Active Verbs
- Choosing the Topic

If you have not been assigned a topic, then the whole world lies before you. Sometimes that seems to make the task of starting even more intimidating. Actually, this means that you are free to choose a topic of interest to you, which will often make your essay a stronger one.

Define Your Purpose:

The first thing you must do is to think about the purpose of the essay you are going to write about. Is your purpose to persuade people to believe as you do, to explain to people how to complete a particular task, to educate people about some person, place, thing or idea, or something else entirely? Whatever topic you choose; it must fit that purpose.

Brainstorm Subjects of Interest:

Once you have determined the purpose of your essay, write down some subjects that interest you. No matter what the purpose of your essay is, an endless number of topics will be suitable.

If you have trouble thinking of subjects, start by looking around you. Is there anything in your surroundings that interests you? Think about your life. What occupies most of your time? That might make for a good topic. Don't evaluate the subjects yet; just write down anything that springs to mind.

Evaluate Each Potential Topic:

If you can think of at least a few topics that would be appropriate, you must simply consider each one individually. Think about how you feel about that topic. If you must educate, be sure it is a subject about which you are particularly well informed. If you must persuade, be sure it is a subject about which you are at least moderately passionate. Of course, the most important factor in choosing a topic is the number of ideas you have about that topic. Even if none of the subjects you thought of seem particularly appealing, try just choosing one to work with. It may turn out to be a better topic than you at first thought. Before you are ready to move on in the essay-writing process, look one more time at the topic you have selected. Think about the type of paper you are expected to produce. Should it be a general overview, or a specific analysis of the topic? If it should be an overview, then you are probably ready to move to the next step.

Once you have determined that your topic will be suitable, you can move on.

Here are a few guidelines to help you through the process:

- 1. Pick a topic that you are interested in. You will express yourself with more clarity and insight if you are interested in the topic that you are writing about.
- 2. You should pick a topic based on the assigned texts that you understood. While writing your essay, the majority of your energy will be focused on explaining and supporting your individual perspective and thesis, so it is important that you understand and feel comfortable talking about the primary (and possibly secondary) material that will form the basis of your essay.
- 3. Select a topic that is challenging and thought provoking. You want to write about a topic that is interesting to you. Your essay should reflect your own individual and unique perspective on your chosen topic. It should not be a mere restatement of the

already existing academic ideas on the topic. So, you should choose a topic that challenges you and allows you room to express yourself in relation to the primary source text, and the secondary sources (if they are applicable to your assignment).

4. Your topic should be specific enough that you can form an opinion about it, but general enough that you can find enough information to support your perspective and write a comprehensive and substantial essay.

Narrowing Down the Topic:

In narrowing down your topic, you should consider the following ideas:

- 1. Identify and define the main elements of the topic that you have chosen and look at the different ways that they can be applied to the primary material of your essay.
- 2. Pay attention to the length that the professor has assigned for the essay. The length can dictate the amount of information that you will be able to fit into your paper. The length will also dictate the number of body parts that you will be able to use to support your thesis. As a general rule, the shorter the essay, the more limited and precise the topic will be. The longer the essay, the more space you will have to explore your topic and its implications and complexity.

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- 3. In narrowing down your topic, pay attention to the specific aspects of the topic that are addressed within the primary text(s) for your essay and within class discussion. This will give you an indication of the specific ways that you can write about your source material. Professors are usually looking for a specific topic that addresses one of the central ideas of the material that you are studying. Choose the specific aspect that you feel runs through as much of the text as possible. This will afford you a topic that can be developed through the course of the primary source(s) to present your reading audience with a clearer view of the text or the ideas that dominate the material.
- 4. If you have any doubts about how you can find a specific aspect to address within the assigned topics, or if you are unsure as to which aspect you should focus on, do not hesitate to contact your professor for guidance. Often, this can save you a great deal of wasted effort and can help to focus your attention on a specific avenue for researching your topic.

Organizing the Essay:

1. Introductory Paragraph

Introductory paragraph consists of general points or attention grabbing details leading to the main idea. For instance, there are several means that effective writers use to "hook" their readers: beginning with an amusing or interesting anecdote, beginning with a question, beginning with a quotation, and beginning with a startling or paradoxical statement. The main idea is often written at the end of this paragraph in a thesis statement, which may also contain three or more reasons (written very succinctly) for supporting this main idea. Each of these reasons should be elaborated on in the body paragraphs that follow. Note: A thesis statement does not always come at the end of the introductory paragraph--some essays have the very first sentence as the thesis statement.

2. Body Paragraph (1)

Body Paragraph #1 often begins with a transition word or words like "First" or "The first of these reasons" and gives examples and/or details relating to the first supporting reason.

3. Body Paragraph (2)

Body Paragraph #2 often begins with a transition word or words like "Next" or "Second" or "Another reason" or "The second of these reasons" and gives examples and/or details relating to the second supporting reason.

4. Body Paragraph (3)

This often begins with a transition word or words like "Finally" or "Last" or "The final reason" and gives examples and/or details relating to the third supporting reason (which is often the strongest of the three supporting reasons).

5. Concluding Paragraph

This paragraph may begin with "In conclusion" or "To conclude" (although some markers find these somewhat mundane) or "Clearly" and often restates the thesis statement in different words. It may move from there to a general comment about life, or to a final important point, or to a suggestion about future action that may be needed. Some writers like to end with a relevant quotation, or end with a question, or end with a prediction or warning.

Another concluding technique is to end with some idea or detail from the beginning of the essay (thus bringing this idea full circle). Yet another means of concluding is to end with an allusion to a historical or mythological figure or event.

Organizing the Paragraph:

Make sure that each sentence flows logically. The traditional way to do this when writing an essay is to use connecting words or phrases, often conjunctions (linking words) such as "although", "because", "so", "moreover", or "therefore". In this way, you build your logic and arguments. These connections come in simple and complex forms.

Simple connections

(also, although, and, as, because, but, despite, first, however, if, next, now, second, then, therefore, third, until)

Although we sometimes need words to show the logic and connection between sentences and paragraphs, many connecting words make your style more complex and academic than necessary.

Complex connections

(accordingly, as you are aware, consequently, for this reason, furthermore, hence, in addition, in as much as, likewise, more specifically, moreover, nevertheless, nonetheless)

Use the connections to make sure your reader can follow the flow of information, ideas and arguments within sentences, from sentence to sentence and between paragraphs. But don't let too many connections creep into your writing and keep to the simple ones recommended.

Using Active Verbs:

Using active verbs is essential if you want to write with a direct authoritative style. Instead of using the impersonal passive verbs and third person viewpoint, you should write with strong, active verbs.

Whatever the subject of the essay, you can write with active verbs to make your writing style more direct, clear and forceful. If there's one piece of advice on writing style you should follow, it's to use active verbs throughout your essays.

Style Guide:

Abbreviations, addresses, capitalization, English grammar, Internet terminology, numbers, plurals, possessives, punctuation, spelling, and word usage).

Some English Transitional Expressions

Here are some of the most common transitional expressions in English, grouped according to the type of relationship shown by each.

1. Addition Transitions

and also besides first, second, third in addition in the first place, in the second place, in the third place furthermore moreover to begin with, next, finally

2. Cause-Effect Transitions

Accordingly and so as a result consequently for this reason hence so then therefore thus So that

3. Comparison Transitions

by the same token in like manner in the same way in similar fashion likewise similarly in other words

4. Contrast Transitions

but however in contrast instead nevertheless on the contrary on the other hand still yet

5. Conclusion and Summary Transitions

and so after all at last finally in brief in closing in conclusion on the whole to conclude

to summarize

6. Example Transitions

as an example for example for instance specifically thus to illustrate

7. Insistence Transitions

in fact indeed

no

yes

8. Place Transitions

- above alongside beneath beyond farther along in back in front nearby on top of to the left to the right under
- upon

9. Restatement Transitions

in other words in short in simpler terms that is to put it differently to repeat

10. Time Transitions

Afterward at the same time currently earlier formerly immediately in the future in the meantime in the past later meanwhile previously simultaneously subsequently then until now

Part Two

Reading Comprehension Passages

(1)

Physical Therapist

Physical therapy is the treatment of people of all ages with injured or diseased muscles, arms, or legs. Physical therapists, or PTs as they are often called, treat patients with exercise and massage. PTs do not use medicine to treat patients. Sometimes water or heat therapies are used for treatment as well. Physical therapy helps an injured or sick person move with less pain and stress.

PTs are not medical doctors, but doctors often refer patients to physical therapists to help patients recover from injuries or deal with diseases. A PT studies the patient's medical records. Then he or she develops a treatment plan to improve the patient's ability to move the injured limb. PTs work with patients to strengthen damaged or weakened muscles. PTs may teach the patient how to use crutches, wheelchairs, or an artificial limb. Therapists want patients to be able to do as many daily activities as they possibly can. The PT keeps a record of the patient's progress. Treatments are changed according to the patient's needs and rate of progress.

Physical therapists must graduate from a physical therapy program at a college or university. A four-year baccalaureate degree is required.

(2)

Physiotherapy Treatment

Physiotherapy treatment has a large part to play in the overall management of arthritis. The physiotherapist, as a member of your management team, is trained to understand and treat the physical aspects of the human body. Physiotherapy for people with arthritis is aimed at:

 \circ reducing pain

- o improving movement
- o strengthening muscle power
- assisting a person to be independent and functioning as well as is possible.

The range of therapies which may be used include pain relief methods and treatments to relieve pain and stiffness.

(1). Thermal (Heat Treatments):

These treatments produce heat within your body tissues. The application can be directed towards superficial or deeper parts of the body.

The most common types of treatment used are infrared radiation (heat lamps), wax baths and hot packs for superficial treatments, and microwave diathermy and shortwave diathermy for deep heating treatment.

(2). Electrical Treatments (Electrotherapy):

These treatments produce electrical stimulation of your body tissues. They may be extremely useful in the treatment of both acute and chronic arthritis, where pain, swelling and muscle spasms are present.

(3). Physical Treatments:

These treatments include the use of ultrasonic sound waves, ice therapy and traction.

(4). Exercise:

A balanced programme of rest and exercise, and careful attention to joint posture is an important part of pain management, joint protection and maintenance of your joint function. Controlled exercise helps lessen pain and stiffness and improves the strength of muscles and ligaments, so helping to stabilize joints. This is essential in all aspects of self care and particularly important before and after joint surgery.

(5). Manual Therapy:

Mobilization and manipulation techniques are passive movements applied to a joint or soft tissue by the therapist in a specific manner to help restore full movement to a joint that is painful and restricted. With increased understanding of the structure and movement of the spine and peripheral joints, the usefulness of manipulation in the treatment of arthritis has become much clearer. Manual therapy is often useful in the chronic forms of arthritis and is often successful when other methods such as heat and exercises have given little or no relief.

(6). Hydrotherapy:

Hydrotherapy or pool therapy is a very useful means of exercising arthritic joints using the buoyancy of water to assist or resist movement. The warmth of the water increases the circulation and helps reduce muscle spasms, producing more effective movement. Joint mobility, muscle strength and general fitness can be improved with hydrotherapy.

(7). Occupational Therapy:

The occupational therapist provides services to people with arthritis whose abilities to cope with activities of daily living are threatened or impaired. The primary aim of occupational therapy is to help you develop the skills and capacity to be able to master the tasks essential to you at home, work or leisure. The therapist can provide advice on how to make life simpler and conserve energy as well as protecting your joints.

Answer the following questions:

Exercise (1): Find a word of phrase in the text which, in context, is similar in meaning to the following definitions:

- A. Lack in suppleness or flexibility
- B. Damaged, less strong, or not as good as before
- C. Limited in your movements or in what you are able to do
- D. The power of water to exert an upward force on a body placed in it.
- E. Having a sudden onset, sharp rise, and short course.
- F. The act of making a state or situation continue.
- G. Reduce
- H. To learn a skill so well that you have no difficulty with it.
- I. Considering or including everything
- J. Affecting only the surface of your skin

Exercise (2): Mark these statements as *true* **or** *false***:**

- 1. The practical purpose of the thermal therapy is aimed only at the inner parts of the body.
- 2. Electrotherapy is used in both short-term and long-term arthritis.
- 3. The colder the water, the better blood circulation.
- 4. A very intensive programme of exercises reduces pain and stabilizes joints.

(3)

Qualities of a Physical Therapist

Physical therapists (PTs) work with patients during their recovery process after surgery or injury. As a physical therapist, you will help people regain or maintain mobility through treatments such as strength and stretching exercises, electrical stimulation, and manual therapy techniques.

To become a successful physical therapist, you should consciously cultivate several traits. Here are the top twelve qualities of a physical therapist:

1. Be Realistic

Some conditions, such as chronic musculoskeletal disorders, are challenging to treat. Others, such as Parkinson's disease, don't have a cure. It's important for you and your patients that you remain realistic about patient outcomes and that you don't create or encourage unrealistic expectations in your patients.

2. Be Patient

It's important to be patient with the treatment process and to remain calm and collected when working with challenging patients. Treatment timelines depend not only on the patient's specific condition but also on their level of motivation, physical capacity, and more.

3. Be Collaborative

The best physical therapists recognize that collaboration is key, even if that's in a virtual environment. You and your patients are on the same team and should ultimately have the same goals for their PT program. Encourage an open dialogue and always reflect on feedback you receive from your patients and peers. Cultivate a collaborative mindset about working with your colleagues in PT and other healthcare disciplines. Working on a team with others is a great way to learn and grow, and interprofessional collaboration improves patient satisfaction ratings and health outcomes.

4. Be Determined

As a physical therapist, you must be prepared to take on challenging cases and stay motivated. Even when patients feel like giving up, it's important for you to stay focused on the process, encourage them to keep working, and remain determined to help them heal.

5. Be Resilient

An important quality in a physical therapist is resilience. As with most things in life, treatment in physical therapy is not a straight line; your patients will likely experience ups and downs. A resilient physical therapist is able to adapt and even respond positively to change and adversity.

6. Be Compassionate

In order to work in patient care, you must have compassion. Patients may be anxious about the treatment process, so having empathy and a good bedside manner are important components of making them feel comfortable and ready to work. A successful physical therapist truly cares about the well-being of their patients. They also ask the right questions to determine which treatment goals are most important to each patient.

7. Be Knowledgeable

People with a wide range of conditions, from joint injuries to neurological diseases, seek out treatment from physical therapists. As a PT, you must be able to draw on a wealth of knowledge - even if you ultimately decide to specialize in a particular area, such as geriatrics or oncology. A great physical therapist is constantly evaluating and staying up to date on advancements and best practices in the field.2

8. Have Integrity

It's important not only to be open and honest with your patients, but also to do what you say you're going to do. Integrity helps to foster a healthy relationship built on trust between you and your patients. Excellent physical therapists have strong ethical principles, including protecting patients' privacy and acting in patients' best interests at all times.

9. Be Respectful

Good physical therapists respect the wishes of their patients. Regardless of what you determine to be the best course of action, your patients will decide whether or not they will pursue the treatment options you recommend. You can offer your professional opinion, but ultimately you must respect the patient's decision. In your therapy practice, you will be treating patients of all ages and all body types, from all walks of life. It's important to address your patients with equal respect.

10. Be Communicative

Before evaluating your patient and developing a treatment plan, you will speak with the patient about their acute symptoms, as well as their current and aspirational levels of fitness and health. Being able to communicate skillfully is an important aspect of your role, as a patient who understands their care plan is more likely to succeed.3 PTs should aim to educate patients using clear language, and ask questions to explore patients' needs, so that communication flows in both directions.

11. Be Astute

Paying close attention to detail will help you detect any changes in the patient's abilities. Since patients with the same injury can respond differently to treatment, it's important to closely observe each patient's progress and adjust your care plan accordingly, regardless of your own expectations. Remaining astute will help you determine the patient's specific and evolving needs.

12. Be Positive

Working with people who are in pain, and even suffering, can be emotionally taxing. Having the capacity to remain positive, upbeat, and open-minded are great qualities to have as a physical therapist. Learning how to turn negatives into positives as much as possible, and being able to combat negative-self talk, will ultimately help you succeed.

Finally, working on developing the qualities outlined above will help you become a successful physical therapist. If you're interested in helping people regain their mobility and quality of life, and you're a positive, compassionate person who communicates well, a career in physical therapy may be right for you.

(4)

Physical Therapist Skills

The physical therapist profession requires a great deal of skills, qualities, and some level of education to be the best on the job. You will need certain skills to be able to perform your duties and render quality services to the public, such as mobility improvement, pain relief, prevention of physical disabilities, maintenance, promotion, and restoration of overall fitness and health. If you desire to be the best physical therapist that patients queue up to see, here are fifteen skills and qualities you need to develop:

1. Interpersonal Skills:

Interaction with patients is a common practice among physical therapists. They need the skill to listen to patients whenever they are narrating their problems, so they can explain treatment programs, provide the best therapy, and render motivation when necessary.

2. Fit and Healthy:

Physical therapists must work on their physical fitness and maintain a healthy lifestyle for them to be able to help patients perform physical movements during treatment. They need the strength built through exercises to support patients before they regain weight and strength.

3. Science Skills:

If physical therapists can study science, it is a big addition to the job. With at least a Bachelor's degree and emphasis on courses such as biology, chemistry, anatomy and physiology, a postgraduate professional degree with classes in neuroscience, biomechanics, and pharmacology, physical therapists are good to go with their career. Further programs require coursework in statistics and physics. These skills help physical therapists to evaluate, interpret, reason, analyze and calculate data needed for diagnosing patients.

4. Listening Skills:

It is not good for physical therapists to ask wrong questions, or interrupt patients when they are explaining some points. They have to listen to their patients and understand their views first before saying what they have to say. Paying proper attention to the patients will help physical therapists appear valuable and important before their patients.

5. Communication. Physical therapists need the ability to speak in a comprehensible tone, explaining their points in the lowest term that the patients can understand. Effective communication skills are required in the physical therapeutic career to achieve long term and short term goals. It should be both oral and written communication skills.

6. Patient:

For physical therapists to display their patient skills, they need to pay thorough attention to the patients they treat, especially when they are suffering from severe pains. These patients have really wasted their time waiting to see you, so you need to reciprocate this by being patient on them.

7. Dexterity:

Good physical therapists can use their hands to provide manual therapy and exercises. They are able to set up treatment equipment and arrange things with their hands.

8. Motor Skills:

Good motor control, physical ability, and stamina are great essential skills required in this profession. Physical therapists should know how to perform CPR and other activities related to patient care. They must ensure the safety and welfare of patients, especially during work period.

9. Computer Skills:

Knowledge of the electronic system should be the priority of physical therapists in this present technology. Demographic information, x-rays, medication regimen, medical statistics and history, laboratory reports, diagnoses and treatment, are all recorded on the electronic platforms.

10. Critical Thinking Skills:

Physical therapists should develop the ability to reason, interpret, calculate, analyze, and measure issues in most circumstances. Some problems may require quick resolution and only those with critical thinking ability can assess the situation and provide solution fast.

11. Compassion:

Physical therapists should desire to see their patients heal and improve the quality of their life at all times. Patients must be shown great compassion especially during difficult times. Sometimes the physical therapist may not be in the mood to look on the suffering patient, but they ought to try as much as possible to sympathize with the patient and have compassion on them, as this contributes more to their job.

12. Motivational Skills:

Physical therapists need the ability to motivate patients to endure pains, work hard and persevere. They should be able to cheer patients up, encourage them to continue and progress effectively. They are the coach the patients see and run to at difficult times.

13. Emotional Health:

Patients need to demonstrate emotional health required for making use of their intellectual abilities for mental, physical and emotional demands of the program. They must adapt to efficient performance ability – under stressful condition and change of environments.

14. Information Gathering Skills:

Physical therapists should participate in learning required skills for gathering information about a patient in the course of an assessment. This information is possible through listening, reading charts, palpating parts of the body, observing, and use of assessment tools.

15. Decision Making:

Making decisions and acting on them is a skill that physical therapists need to possess to be good on the job. They should be able to recognize ugly situations and react in an appropriate timely manner; and also communicate or reason decisions made. Reading and making adjustments are necessary for measuring devices, scales and meters.

(5)

Scientific Laws and Theories

Science concepts can often be quite simple or extremely difficult to understand. There are many science-related concepts and ideas. For example, the three states of matter can easily be understood: solid, liquid, and gas. On the other hand, a person may not fully understand why some matter can turn into a solid, and other substances can never turn into a liquid or gas.

There are many other scientific concepts and they are labeled as facts, theories, hypotheses, laws, or beliefs. Each term has a different meaning in the field of science and must be understood by all scientists. However, there are differences between scientific facts, laws, hypotheses, theories, and beliefs.

A fact is a basic statement proven to be true by experiment or observation. If rain is coming from the sky, it is a fact that it is raining. All facts are true under specific conditions, but in science, they may later be proven false when re-tested using better instruments or more thorough observation.

A law is a logical relationship between two or more things, based on a variety of facts and proven hypothesis. It is often shown using a mathematical formula or statement of how two or more quantities are related to each other. An example is Newton's Law of Gravity, which is used to predict the behavior of a dropped object but does not explain the why an object drops. It is like knowing 4 is the answer to 2 + 2, but not understanding why.

Next, there is a hypothesis, which is an educated guess about what will happen before an experiment and what will be observed. It is a prediction of cause and effect. A hypothesis can be supported or disproved through additional experimentation and observation. For example, a scientist may hypothesize that all cleaning products are the same, and one is no better than another. The experiment may prove their hypothesis to be true, however, another person tests the hypothesis and learns there is a better cleaning product and the hypothesis is now proven false.

A theory is the 'why' in science. It is an explanation for why certain laws and facts exist that can be tested to determine its accuracy. Theories have been supported with repeated testing and remain valid if there is no evidence to dispute them. Many times, a theory may be labeled as an accepted 'hypothesis'. For example, it is a theory that a large crater on the Earth may have been caused by a meteor strike. However, it is not a proven fact but is accepted to be true based on the collected evidence. On the other hand, it can also be disproven and found to be false.

Finally, a belief is a statement that is not scientifically provable in the same way as facts, laws, hypotheses, or theories. Beliefs that are proven to be false today can later be proven as true using scientific experimenting and observation. For example, many people have the belief that there are certain lucky numbers and the position of the planets affect how people behave. However, they cannot be proven true and are only unproven beliefs. Later, only scientific experimentation and observation can change the belief to a fact.

An example to show the differences can be as follows: As a person awakes, and light shines through the window, the observance of the day leads to the fact that it is bright outside. The hypothesis is: It's bright outside because the sun is probably out. Through testing and experimentation, a theory is created: When the sun is out, it tends to make it bright outside. A law may then be formulated to identify the exact rising and setting of the sun. Finally, someone may have the belief that a sunny day will lead to people becoming much kinder.

Understanding the difference between laws, theories, facts, beliefs, and theories added to the correct application of the scientific method and the applicable use of the science process, will help young learners become effective scientists whether in the classroom or as part of a career.

Questions:

1. Which of the following is a logical relationship between two or more things, based on a variety of facts and proven hypothesis?

a. Law b. Fact c. Hypothesis d. Theory

2. Which of the following is an educated guess about what will happen before an experiment and what will be observed?

a. Law b. Fact c. Hypothesis d. Theory

3. Which of the following can be proven to be false today can later be proven as true using scientific experimenting and observation?

a. Law b. Fact c. Hypothesis d. Theory

4. Which of the following is the 'why' in science?

a. Law b. Fact c. Hypothesis d. Theory

5. The statement, Ammonia mixed with water will clean windows just as well as store- bought cleaners is an example of which of the following?

a. Law b. Fact c. Hypothesis d. Theory

6. Newton's information about gravity is an example of which of the following?

a. Law b. Fact c. Hypothesis d. Theory

(6)

Spiders

Spiders are not insects as many people believe. They belong to a class of animals called arachnids. Spiders have eight eyes, four pairs of segmented legs, and can grow a new leg if they lose one. They do not have antenna or wings. A spider's body can be divided into two sections. The sections are the abdomen and the cephalothorax. The legs, eyes, and mouthparts are in the cephalothorax section. Most spiders have poison glands and fangs in their jaws, which they use to inject poison into insects. This poison is called venom. Venom can paralyze an insect allowing the spider to eat the insect as food.

Spiders can live almost anywhere in the world. Some like very humid or hot temperatures and some like places that are very dry. Some spiders prefer to live under ground and others live in trees. We have all seen spiders that prefer to live in our houses.

These amazing animals usually have six fingerlike silk glands called spinnerets located beneath their abdomen. The silk comes from inside the spider's body as a liquid that is thicker than water. A spider uses this silk to make a web by squeezing the silk out of two small holes at the back of its body. These small holes are called spinnerets.

At the time the silk hits the air, the silk dries into a line that looks like a long string of hair. Spiders use this silk as draglines to hang onto as the wind blows it through the air. The spider can crawl up or down on this dragline if the wind takes it somewhere it doesn't want to be. Young spiders and adult male spiders like ballooning and can release long silken threads that float or ride in the wind to new areas.

There are about 30,000 different types of spiders known to scientists. Most of them are very tiny animals that help us by eating insects. The next time you are out in the yard and see a spider, take a few minutes to watch this most interesting animal.

ANSWER THESE QUESTIONS ABOUT SPIDERS:

- 1. Where are the poison glands located on the spider's body?
 - a. cephalothoraxes
 - b. eyes
 - c. jaws
 - d. none of these
- 2. Spiders prefer to live in
 - a. hot temperatures
 - b. dry places
 - c. trees
 - d. all of these
- 3. Which of the following is true?
 - a. Spinnerets are used by the spider to see things.
 - b. Spiders belong to a class of animals called arachnids.
 - c. The silk spiders make is thinner than water.
 - d. Spiders have antenna and wings.

- 4. How is venom used by the spider?
 - a. to paralyze insects
 - b. for ballooning
 - c. as a dragline
 - d. none of these
- 5. Which of the following is NOT true?
 - a. The legs, eyes, and mouthparts of the spider are located in the abdomen section.
 - b. Spiders have eight eyes and four pairs of segmented legs.
 - c. Spiders can live almost anywhere in the world.
 - d. Most spiders have fangs and poison glands located in their jaws.
- 6. How do spiders help us?
 - a. by making webs and draglines
 - b. by growing new legs
 - c. by eating insects
 - d. none of these

(7)

Bacteria

Bacteria are extremely small living things. While we measure our own sizes in inches or centimeters, bacterial size is measured in microns. One micron is a thousandth of a millimeter a pinhead is about a millimeter across. Rod shaped bacteria are usually from two to tour microns long, while rounded ones are generally one micron in diameter Thus if you enlarged a founded bacterium a thousand times, it would be just about the size of a pinhead. An adult human magnified by the same amount would be over a mile (1.6 kilometers) tall.

Even with an ordinary microscope, you must look closely to see bacteria. Using a magnification of 100 times, one finds that bacteria are barely visible as tiny rods or dots. One cannot make out anything of their structure. Using special stains, one can see that some bacteria have attached to them wavy - looking "hairs" called flagella. Others have only one flagellum. The flagella rotate, pushing the bacteria though the water. Many bacteria lack flagella and cannot move about by their own power while others can glide along over surfaces by some little understood mechanism.

From the bacterial point of view, the world is a very different place from what it is to humans to bacterium water is as thick as molasses is to us. Bacteria are so small that they are influenced by the movements of the chemical molecules around

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them. Bacteria under the microscope, even those with no flagella, often bounce about in the water. This is because they collide with the water molecules and are pushed this way and that. Molecules move so rapidly that within a tenth of a second the molecules around a bacterium have all been replaced by new ones even bacteria without flagella are thus constantly exposed to a changing environment.

Questions:

- 1. Which of the following is the main topic of the passage?
 - a. The characteristics of bacteria
 - b. How bacteria reproduce
 - c. The various functions of bacteria
 - d. How bacteria contribute to disease
- 2. Bacteria are measured in
 - a. inches
 - b. centimeter
 - c. microns
 - d. millimeters
- 3. Which of the following is the smallest?
 - a. A pinhead
 - b. A rounded bacterium
 - c. A microscope
 - d. A rod-shaped bacterium

- - a. tiny dots
 - b. small "hairs"
 - c. large rods
 - d. detailed structures
- 5. The relationship between a bacterium and its flagella is most nearly analogous to which of the following?
 - a. A rider jumping on a horse's back
 - b. A ball being hit by a bat
 - c. A boat powered by a motor
 - d. A door closed by a gust of wind
- 6. In line 16, the author compares water to molasses, in order to introduce which of the following topics?
 - a. The bacterial content of different liquids
 - b. What happens when bacteria are added to molasses
 - c. The molecular structures of different chemicals
 - d. How difficult it is for bacteria to move through water

(8)

Electricity

The modern age is an age of electricity. People are so used to electric lights, radio, televisions, and telephones that it is hard to imagine what life would be like without them. When there is a power failure, people grope about in flickering candlelight. Cars hesitate in the streets because there are no traffic lights to guide them, and food spoils in silent refrigerators.

Yet, people began to understand how electricity works only a little more than two centuries ago. Nature has apparently been experimenting in this field for millions of years. Scientists are discovering more and more that the living world may hold many interesting secrets of electricity that could benefit humanity.

All living cells sent out tiny pulses of electricity. As the heart beats, it sends out pulses of recorded electricity; they form an electrocardiogram, which a doctor can study to determine how well the heart is working. The brain, too, sends out brain waves of electricity, which can be recorded in an electroencephalogram. The electric currents generated by most living cells are extremely small-of-ten so small that sensitive instruments are needed to record them. But in some animals, certain muscle cells have become as specialized as electrical generators that they do not work as muscle cells at all. When large numbers of these cells are linked together, the effects can be astonishing. The electric eel is an amazing storage battery. It can send a jolt of as much as eight hundred volts of electricity through the water in which it lives. An electric house current is only one hundred twenty volts.) As many as four fifths of all the cells in the electric eel's body are specialized for generating electricity, and the strength of the shock it can deliver corresponds roughly to the length of its body.

Questions:

- 1. What is the main idea of the passage?
 - a. Electric eels are potentially dangerous
 - b. Biology and electricity appear to be closely related
 - c. People would be at a loss without electricity
 - d. Scientists still have much to discover about electricity
- 2. The author mentions all of the following as results of a blackout, except:
 - a. refrigerated food items may go bad
 - b. traffic lights do not work
 - c. people must rely on candlelight
 - d. elevators and escalators do not function
- 3. Why does the author mention electric eels?
 - a. To warn the reader to stay away from them
 - b. To compare their voltage to that used in houses
 - c. To give an example of a living electrical generator
 - d. To describe a new source of electrical power

- 4. How many volts of electricity can an electric eel emit?
 - a. 1,000
 - b. 800
 - c. 200
 - d. 120
- 5. It can be inferred from the passage that the longer an eel is the
 - a. more beneficial it will be to science
 - b. more powerful will be its electrical charge
 - c. easier it will be to find
 - d. tougher it will be to eat

(9)

Insects

Insects' lives are very short and they have many enemies, but they must survive long enough to breed and perpetuate their kind. The less insect-like they look, the better their chance of survival. To look "inedible" by resembling or imitating plants is a deception widely practiced by insects. Mammals rarely use this type of camouflage, but many fish and invertebrates do.

The stick caterpillar is well named. It is hardly distinguishable from a brown or green twig. This caterpillar is quite common and can be found almost anywhere in North America. It is also called "measuring worm" or "inchworm." It walks by arching its body, then stretching out and grasping the branch with its front feet then looping its body again to bring the hind feet forward. When danger threatens, the stick caterpillar stretches its body away from the branch at an angle and remains rigid and still, like a twig, until the danger has passed.

Walking sticks, or stick insects, do not have to assume a rigid, twig-like pose to find protection; they look like inedible twigs in any position. There are many kinds of walking sticks, ranging in size from the few inches of the North American variety to some tropical species that may be over a foot long. When at rest their front legs are stretched out, heightening their camouflage. Some of the tropical species are adorned with spines or ridges. Imitating the thorny bushes or trees in which they live. Leaves also seem to be a favorite object for insects to imitate. Many butterflies can suddenly disappear from view by folding their wings and sitting quietly among the foliage that they resemble.

Questions:

- 1. What is the main subject of the passage?
 - a. Caterpillars that live in trees
 - b. The feeding habits of insects
 - c. How some insects camouflage themselves
 - d. Insects that are threatened with extinction
- 2. The word "enemies" in line 1 refers to
 - a. other creatures competing for space
 - b. extreme weather conditions
 - c. creatures that eat insects
 - d. inedible insects
- 3. According to the passage, how does the stick caterpillar make itself look like a twig?
 - a. By holding its body stiff and motionless
 - b. By looping itself around a stick
 - c. By changing the color of its skin
 - d. By laying its body flat against a branch
- 4. Which of the following is true of stick insects?
 - a. They resemble their surroundings all the time.
 - b. They make themselves look like other insects.
 - c. They are camouflaged only when walking.
 - d. They change color to make themselves in visible.

- 5. Which of the following are NOT mentioned in the passage as objects that are imitated as a means of protection?
 - a. Thorns
 - b. Flowers
 - c. Leaves
 - d. Sticks
- 6. In which paragraph does the author describe the way in which stick caterpillars move?
 - a. Paragraph one
 - b. Paragraph two
 - c. Paragraph three
 - d. Paragraph four

(10) Liquid and Gas

The difference between a liquid and a gas is obvious under the conditions of temperature and pressure commonly found at the surface of the Earth. A liquid can be kept in an open container and fills it to the level of a free surface. A gas forms no free surface but tends to diffuse throughout the space available; it must therefore be kept in a closed container or held by a gravitation field, as in the case of a planet's atmosphere. The distinction was a prominent feature of early theories describing the phases of matter.

In the nineteenth century, for example, one theory maintained that a liquid could be "dissolved" in a vapor without losing its identity. Another theory held that the two phases are made up of different kinds of molecules: liquidons and gasons. The theories now prevailing take a quite different approach by emphasizing what liquids and gases have in common. They are both forms of matter that have no permanent structure, and they both flow readily. They are fluids.

The fundamental similarity of liquids and gases becomes clearly apparent when the temperature and pressure are raised somewhat. Suppose a closed container partially filled with a liquid is heated. The liquid expands, or in other words becomes less dense; some of it evaporates. In contrast, the vapor above the liquid surface becomes denser as the evaporated molecules are added to it. The combination of temperature and pressure at which

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the densities become equal is called the critical point. Above the critical point the liquid and the gas can no longer be distinguished; there is a single, undifferentiated fluid phase of uniform density.

Questions:

- 1. Which of the following would be the most appropriate title for the passage?
 - a. The Properties of Gases and Liquids
 - b. High Temperature Zones on the Earth
 - c. The Beginnings of Modern Physics
 - d. New Containers for Fluids
- - a. is affected by changes in pressure
 - b. has a permanent structure
 - c. forms a free surface
 - d. is considerably more common
- 3. It can be inferred from the passage that the gases of the Earth's atmosphere are contained by
 - a. a closed surface
 - b. the gravity of the planet
 - c. the field of space
 - d. its critical point

- 4. According to the passage, in the nineteenth century some scientists viewed liquidons and gasons as
 - a. fluids
 - b. dissolving particles
 - c. heavy molecules
 - d. different types of molecules
- 5. According to the passage, what happens when the temperature is increased in a closed container holding a liquid?
 - a. The liquid and gas phases become more similar.
 - b. The liquid and the gas become less dense.
 - c. The container expands.
 - d. The liquid evaporates out of the container.
- 6. According to the passage, which of the following is the best definition of the critical point?
 - a. When the temperature and the pressure are raised
 - b. When the densities of the two phases are equal
 - c. When the pressure and temperature are combined
 - d. When the container explodes

(11) Virus

The term "virus" is derived from the Latin word for poison or slime. It was originally applied to the noxious stench emanating from swamps that was thought to cause a variety of diseases in the centuries before microbes were discovered and specifically linked to illness. But it was not until almost the end of the nineteenth century that a true virus was proven to be the cause of a disease.

The nature of viruses made them impossible to detect for many years even after bacteria had been discovered and studied. Not only are viruses too small to be seen with a light microscope, they also cannot be detected through their biological activity, except as it occurs in conjunction with other organisms.

n fact, viruses show no traces of biological activity by themselves. Unlike bacteria, they are not living agents in the strictest sense, viruses are very simple pieces of organic material composed only of nucleic acid, either DNA or RNA, enclosed in a coat of protein made up of simple structural units (Some viruses also contain carbohydrates and lipids.) They are parasites, requiring human, animal, or plant cells to live. The virus replicates by attaching to a cell and injecting its nucleic acid.' once inside the cell, the DNA or RNA that contains the virus' genetic information takes over the cell's biological machinery, and the cell begins to manufacture viral proteins rather than its own.

Questions:

- 1. Which of the following is the best title for the passage:
 - a. New Developments in Viral Research
 - b. Exploring the Causes of Disease
 - c. DNA: Nature's Building Block
 - d. Understanding Viruses
- 2. Before microbes were discovered It was believed that some diseases were caused by
 - a. germ-carrying insects
 - b. certain strains of bacteria
 - c. foul odors released from swamps
 - d. slimy creatures living near swamps
- 3. The word "proven" in line 6 is closest meaning to which of the following.
 - a. Shown
 - b. Feared
 - c. Imagined
 - d. Considered
- 4. The word nature" in line 7 is closest in meaning to which of the following?
 - a. Self-sufficiency
 - b. Shapes
 - c. Characteristics
 - d. Speed

- 5. The author implies that bacteria were investigated earlier than viruses because
 - a. bacteria are easier to detect
 - b. bacteria are harder to eradicate
 - c. viruses are extremely poisonous
 - d. viruses are found only in hot climates
- 6. All of the following may be components of a virus, except:
 - a. RNA
 - b. plant cells
 - c. carbohydrates
 - d. a coat of protein

End of Part Two

Part Three

Some Reading Passages for Practice

Passage 1:

A number of staple crops are today quite commonplace in much of the world and feed much of today's population. These staple crops of today originated in different eras and in different parts of the world before spreading throughout the rest of the globe.

Wheat was probably the earliest cereal to have been grown and most likely was a hybrid of wild grasses rather than a single wild grass. It is known to have been cultivated by Mediterranean civilizations 10,000 years ago and was being used as a primary ingredient in baked goods in Mesopotamia as early as 8000 B.C.

Beans are a diverse family of plants that have been cultivated for 8,000 years. Certain types of beans, such as mung and soy, were first cultivated in Asia, while other types of beans, such as string and lima, are thought to have originated in the Americas.

Other crops that originated in the Americas are potatoes and maize, a relative of corn; maize was used extensively beginning around 5000 B.C. in civilizations in what is today Mexico, while the cultivation of the potato developed in civilizations in the Andes at least as early as 100 B.C. Maize and potatoes were staples of the diets of their respective cultures long before they were introduced to Europe in the sixteenth century by European explorers who had discovered them in the Americas.

The cultivation of rice is not as old as the cultivation of wheat, beans, and maize. Rice was first known to have been cultivated in India around 3000 B.C. From there, it later spread to China, Japan, and various countries in Southeast Asia, which are today major producers of the crop.

1- Which of the following best expresses the subject of the passage?

A. The history of wheat and rice

- B. How today's world eats
- C. Which crops feed today's world
- D. The origin of today's crops
- 2- How is the information in the passage organized?
 - A. Various classifications of crops are described.
 - B. A series of events is presented in chronological order.
 - C. The causes of a certain effect are explained.
 - D. Opposing ideas are contrasted.
- 3- Which paragraph describes the first of the cultivated crops?
 - A- The first paragraph
 - B- The second paragraph
 - C- The third paragraph
 - D- The fourth paragraph
- 4- Which paragraphs discuss crops that originated in the Americas?
 - A- The first and second paragraphs
 - B- The second and third paragraphs
 - C- The third and fourth paragraphs
 - D- The fourth and fifth paragraphs

5- What is the topic of the fifth paragraph?

- A- Where rice is eaten today
- B- The development of rice as a cultivated crop
- C- Cultivated crops that are older than rice
- D- Various crops that developed outside the Americas

Passage 2:

The number thirteen has long been regarded as an omen of misfortune, and examples of the negative superstition attached to this number abound. Most tall buildings in the United States, for example, do not have a thirteenth floor, and airplanes often bypass a thirteenth row. In addition, many towns will give the street between 12th and 14th a name other than 13th. Fear of the number thirteen has even been accorded its own psychological jargon: triskaidekaphobia. Even though American culture contains numerous examples of its tradition of suspicion of the misfortunes caused by the number thirteen, this number is also held in high esteem. The reason for the esteem that the United States holds for the number thirteen is that the United States consisted of thirteen colonies at its inception. The seal of the United States, found on the back of the modern bill, includes thirteen stars and thirteen stripes as well as a bald eagle holding thirteen arrows in one claw and a laurel branch, with thirteen leaves and thirteen berries in the other. This abundant use of the number thirteen in the seal of the United States, of course, commemorates the country's thirteen original colonies.

1-The main idea of the passage is that

- A- the United States has some positive associations to the number thirteen
- B- there are positive and negative feelings about the number thirteen
- C- it is difficult to treat triskaidekaphobia
- D- there are many negative superstitions about the number thirteen

2- What is the overall organization of information in the passage?

- A- An extended definition of triskaidekaphobia is presented.
- B- A chronological history of changing feelings about the number thirteen is outlined.
- C- Two contrasting views of the number thirteen are presented.
- D-Various reasons for negative feelings about the number thirteen are presented.

3- The first paragraph mainly presents

- A- an explanation and examples of triskaidekaphobia
- B- positive associations with the number thirteen
- C- ways that certain towns react to the number thirteen

D-various psychological fears, including fear of the number thirteen

4- What is the topic of the second paragraph?

- A- Various examples of suspicions about the number thirteen
- B- Symbolism on U.S. currency
- C- A history of the thirteen original U.S. colonies
- D- An explanation for positive feelings about the number thirteen in the United States

Passage 3:

One unusual type of trade that developed in the nineteenth century in America was the export of ice from colder areas in New England to warmer areas of the world. Before the era of refrigeration, ice was not available in areas where water did not freeze during winter months.

In 1805, Frederick Tudor came up with the idea of shipping a cargo of ice from a pond in Massachusetts to the West Indies. This seemed like a viable business opportunity to Tudor because ice was a commodity that was created free of charge by Mother Nature during Massachusetts' cold winters, yet was quite highly valued in tropical areas such as the West Indies in this era before the development of ice-making machinery, which occurred in the 1850s.

Tudor's idea was ridiculed by the citizens of Boston, who were quite sure that the ice would never arrive in the West Indies without melting and would in fact swamp the boat. Although most of the ice did melt on the first trip because it had not been packed effectively, the boat did not capsize, and Tudor was free to continue developing his ideas.

Tudor kept working to improve his techniques for insulating the ice during long voyages. By 1812, he had learned to pack the ice in sawdust to keep it from melting, and he had built

up quite a profitable business. He gradually expanded his trade routes and eventually was shipping cargoes of ice to locations as distant as Calcutta.

1- The main idea of this passage is that

- A- many people believed that Tudor's idea was ridiculous
- B- Tudor was able to implement an unusual idea successfully
- C- ice was not available in some areas of the world in the early nineteenth century
- D- the ice that Tudor shipped was superior in quality to other available ice

2-How is the information in the passage presented?

- A- A concept is followed by examples.
- B- The causes of a result are presented.
- C- A series of chronological events is outlined.
- D- Two contrasting opinions are presented.

3- Which paragraph explains why trade in ice developed?

- A- The first paragraph
- B- The second paragraph
- C- The third paragraph
- D- The fourth paragraph

4- The second paragraph mainly discusses

- A- the weather in Massachusetts
- B- trade between Massachusetts and the West Indies
- C- the development of ice-making machinery
- D- the development of a concept

5- The topic of the third paragraph is

- A- ridicule for Tudor's early unsuccessful attempt
- B- the sinking of the first boat that Tudor sent
- C- ridicule by the citizens of Boston for a career in shipping

D- the reason that Tudor gave up on his plan

6- The last paragraph mainly discusses Tudor's

A- methods for insulating ice

- B- innovative ice-making machine
- C-long voyages
- D- eventual success

Passage 4:

Caleb Bradham, called "Doc" Bradham by friends and acquaintances, was the owner of a pharmacy at the end of the nineteenth century. In his pharmacy, Doc Bradham had a soda fountain, as was customary in pharmacies of the time. He took great pleasure in creating new and unusual mixtures of drinks for customers at the fountain.

Like many other entrepreneurs of the era, Doc Bradham wanted to create a cola drink to rival Coca-Cola. By 1895, Coca-Cola was a commercial success throughout the United States, and numerous innovators were trying to come up with their own products to cash in on the success that Coca-Cola was beginning to experience. In his pharmacy, Doc Bradham developed his own version of a cola drink, and Doc's drink became quite popular at his soda fountain. The drink he created was made with a syrup consisting of sugar, essence of vanilla, cola nuts, and other flavorings. The syrup was mixed at the soda fountain with carbonated water before it was served.

The drink that Doc Bradham created was originally called "Brad's Drink" by those in his hometown of New Bern who visited the soda fountain and sampled his product. Those who tasted the drink claimed not only that it had a refreshing and invigorating quality but also that it had a medicinal value by providing relief from dyspepsia, or upset stomach. From this reputed ability to relieve dyspepsia, Doc Bradham created the name of Pepsi-Cola for his drink. Doc Bradham eventually made the decision to mass-market his product, and in 1902 he founded the Pepsi-Cola Company. The advertising for this new product, of course, touted the drink as an "invigorating drink" that "aids digestion".

1-Which of the following best expresses the title of the passage?

- A- Doc Bradham's Cola Creation
- B- Caleb Bradham's Pharmacy
- C- Coca-Cola versus Pepsi-Cola
- D- The Medicinal Value of Pepsi

2-The passage states that Doc Bradham

- A- was a member of Caleb Bradham's family
- B- bought his pharmacy from friends and acquaintances
- C- had a water fountain in his pharmacy
- D- enjoyed making up new drink combinations

3-The second paragraph is mainly about

- A- the history of Coca-Cola
- B- Doc Bradham's efforts to develop a product
- C- Doc Bradham's pharmacy
- D- effects from drinking Doc Bradham's creation

4-What is stated in the passage about Coca-Cola?

- A- It was invented by Doc Bradham.
- B- It was created in 1895.
- C- It had become a successful product by the end of the nineteenth century.
- D- It was originally called Brad's Drink.

5- Which of the following is NOT listed as an ingredient of Doc Bradham's syrup?

A- A sweetener

- B- Vanilla extract
- C- A specific type of nut
- D-Bicarbonate of soda

6-The pronoun "it" in paragraph 2 refers to

- A- Sugar
- B- Syrup
- C- soda fountain
- D- carbonated water

7- What did people who tried Doc Bradham's drink claim about the product?

- A- It had a stimulating effect.
- B- It caused dyspepsia.
- C- It was not very fresh.
- D- It caused upset stomach.

8- What is NOT true about the Pepsi-Cola Company, according to the passage?

- A- It was established early in the twentieth century.
- B- Its purpose was to mass-market Doc Bradham's product.
- C- Doc Bradham purchased it.
- D- It was named by Doc Bradham.

Passage 5:

Opal is a noncrystalline mineral that has been used as a gemstone in numerous cultures for thousands of years. Quantities of high-grade opal have been mined in diverse areas worldwide, including eastern Europe, Australia, and Mexico, as well as in the states of California, Nevada, and Idaho in the United States.

Some varieties of opal contain flashes of a wide spectrum of colors, while others do not. Those types of opal with tiny specks of iridescent color are called precious opal. Varieties without this iridescent coloration throughout are called common opal. It is the precious opal, with its rainbow-like assortment of colors dotting the stone that has been considered gemstone quality over the ages. Precious opal has numerous colors that serve as a background for the iridescent specks, the most valuable of which are black, white, and blue opal, as well as the reddish-brown stone known as fire opal.

In some cultures, precious opal is recognized not only as a gemstone of great attraction but also as an omen of bad luck. Much of the superstition surrounding opal is now believed to have arisen from the tendency of opal to dry out and crack. Opal is a hydrated mineral with a water content that ranges from 1 percent to 21 percent. The hardness of a particular opal depends upon its water content, which can vary and can be particularly low in dry climates. Throughout its long history, the negative superstition surrounding opal has been related to the tendency of opal to crack seemingly spontaneously, without any noticeable justification. A crack in an opal has been viewed as an indication that bad luck is on its way. In reality, though, a seemingly spontaneous crack in a stone is most likely due to a loss of essential water; it is less likely due to pure back luck.

1-According to the passage, how long has opal been in use as a gemstone?

- A- For a hundred years
- **B-** For centuries
- C- For a thousand years
- D- For several millennia

2-It is mentioned in the passage that opal has been mined in all of the following U.S. states EXCEPT

- A- New Mexico
- B- California
- C- Nevada
- D- Idaho

3- The pronoun "others" in paragraph 2 refers to

- A- varieties
- B- flashes
- C- colors
- D- specks

4- Which of the following statements is true, according to the passage?

A- Common opal has specks of color.

- B- Gemstone quality opal has specks of color.
- C- Precious opal does not have specks of color.
- D- Gemstone quality opal does not have specks of color.

5-Which of the following is NOT listed as a potential background color of the most valuable opal?

- A- Black
- B- Blue
- C- Red
- D- Yellow

6-The superstition surrounding precious opal is that it represents

- A- good luck
- B- a colorful personality
- C- misfortune
- D- strong attraction

7-What problem does opal have, according to the passage?

- A- It can cause fires.
- B- It can change its color.
- C- It can develop colors that detract from its value.
- D- It can lose moisture and develop cracks .

8- According to the passage, what is the most important factor in determining the hardness of an opal?

- A- The number of specks in the stone
- B- The location where the stone was mined
- C- The percentage of water in the stone
- D- The depth of color in the stone

9- The pronoun "it" in paragraph 3 refers to

- A- crack
- B- stone
- C-loss
- D- water

Passage 6:

Weighing a mere 30 to 50 pounds, the wolverine is small, dense, and muscular, yet pound for pound it is the strongest predator in the wilderness of Alaska and Canada. The wolverine belies its family identity, more resembling a small black bear than a member of the weasel family. It has thick, dark fur with golden highlights along its sides and across its broad, stout head and cropped ears.

Traditional legend has typecast the wolverine as a vicious and ravenous carnivore. The Eskimos called this creature {cavik} or "evil one" because of its habit of raiding caches of food. Even its genus name {Gulo} means glutton. However, these stereotypes are not altogether accurate. The wolverine does have a voracious appetite, but like most predators, its life is one of feast and famine. It gorges itself when it locates a ready supply of food and fasts for days on end until it makes its next find. Wolverines prefer fresh meat, but they are not efficient predators. Although they are quite capable of killing larger prey, they are rarely fortunate enough to get close enough to do so. The wolverine is too slow to catch fleet-footed big game, and it looks comical as it bounces along on its stubby legs. In fact, wolverines are primarily scavengers, eating the carrion of wolf kills`bones, pieces of frozen meat, and hide from moose and caribou. The teeth of wolverines are much stronger than those of feline or canine predators such as lynx or wolves, enabling wolverines to gnaw on frozen meat and thick hide without breaking their teeth. The wolverine has interlocking molars that look like pinking sheers with which it both sheers and grinds its frozen feast.

Its reputation for fierceness is also greatly exaggerated. In spite of its notoriety for bravado, the wolverine is incredibly reclusive around man. In fact, one might live a lifetime in wolverine country and never once catch a glimpse of this elusive creature. When confronted by a larger predator such as a bear, the wolverine will square off, raise its hackles, and let out a hissing roar that sounds like a small jet engine. Snarling and baring its teeth, it appears so menacing that even a grizzly bear is loathe to tangle with the much smaller rival, though its posturing is for the most part bluff.

1- Which of the following would be the best title for this passage?

- A- Predatory Habits of the Wolverine
- B-Dispelling Misconceptions about a Much-Maligned Predator
- C- The History of Wolverine Research
- D- The Fiercest Animal in North America

2- It is stated in the passage that a wolverine

- A- has a small appetite
- B- eats continuously
- C- may spend days without eating
- D-lives on plant food

3- According to the passage, wolverines are not good predators because

A- they lack speed

B- they are not strong enough

- C- they prefer carrion
- D- they can stalk prey effectively

4- What is stated in the passage about a wolverine's manner of running?

- A- A wolverine runs very quickly.
- B- A wolverine looks graceful when it runs.
- C- A wolverine runs very smoothly.
- D- A wolverine looks funny when it runs.

5- The pronoun "those" in paragraph 2 refers to

- A- moose and caribou
- B- teeth
- C- wolverines
- D- predators

6- All of the following are mentioned in the passage as predators EXCEPT

- A- lynx
- B- bears
- C- moose
- D- wolverines

7- All of the following are mentioned about wolverines EXCEPT for their

- E- powerful teeth
- F- shy character
- G-noises
- H- ability to endure cold

8- The pronoun "it" in paragraph 3 refers to

- A- bear
- B- wolverine
- C- roar
- D- jet engine

9- How is the information in the passage organized?

A- Myths are presented and then dispelled.

B- The history of a traditional legend is outlined.

C- The causes of a certain type of action are described.

D-Several different classifications of animals are described and contrasted.

Passage 7:

The next animal is the hippopotamus, which is the third largest land animal and is smaller than only the elephant and the rhinoceros. Its name comes from two Greek words which mean "river horse." The long name of this animal is often shortened to the easier to handle term "hippo."

The hippo has a natural affinity for the water. It does not float on top of the water; instead, it can easily walk along the bottom of the water. The hippo commonly remains underwater for three to five minutes and has been known to stay under for up to half an hour before coming up for air.

In spite of its name, the hippo has relatively little in common with the horse and instead has a number of interesting similarities in common with the whale. When a hippo comes up after a stay at the bottom of a lake or river, it releases air through a blowhole, just like a whale. In addition, the hippo resembles the whale in that they both have thick layers of blubber for protection and they are almost completely hairless.

1- The paragraph preceding the passage most likely discusses

- A- where the hippopotamus comes from
- B- the major characteristics of the river horse
- C- an animal other than the hippopotamus
- D- ways that the hippopotamus differs from the whale

2- It can be inferred from the passage that the rhinoceros is

- A- smaller than the hippo
- B- equal in size to the elephant
- C- a hybrid of the hippo and the elephant
- D- one of the two largest types of land animals

3- It can be inferred from the passage that the hippopotamus is commonly called a hippo because the word "hippo" is

- A- simpler to pronounce
- B- scientifically more accurate
- C- the original name
- D- easier for the animal to recognize

4- A hippo would probably NOT

- A- walk on the bottom of a river
- B- stay underwater for an hour
- C- release air through a blowhole
- D- spend five minutes underwater in a lake

5- A whale would be least likely to

- A- release air through a blowhole
- B- have a thick layer of blubber
- C- grow hair ~for protection
- D- swim underwater

Passage 8:

often confused with Schizophrenia is multiple personality disorder yet is quite distinct from it. Schizophrenia is one of the more common mental disorders, considerably more multiple personality disorder. The common than term "schizophrenia" is composed of roots which mean "a splitting of the mind," but it does not refer to a division into separate and distinct personalities, as occurs with multiple personality disorder. Instead, schizophrenic behavior is generally characterized by

illogical thought patterns and withdrawal from reality. Schizophrenics often live in a fantasy world where they hear voices that others cannot hear, often voices of famous people. Schizophrenics tend to withdraw from families and friends and communicate mainly with the "voices" that they hear in their minds.

It is common for the symptoms of schizophrenia to develop during the late teen years or early twenties, but the causes of schizophrenia are not well understood. It is believed that heredity may play a part in the onset of schizophrenia. In addition, abnormal brain chemistry also seems to have a role; certain brain chemicals, called neurotransmitters, have been found to be at abnormal levels in some schizophrenics.

1-The paragraph preceding the passage most probably discusses

- A- the causes of schizophrenia
- B- multiple personality disorder
- C- the role of heredity in mental illness
- D- possible cures for schizophrenia

2- It can be inferred from the passage that a "schism" is

- A- a division into parts
- B- a mental disease
- C- a personality trait
- D- a part of the brain

3- It can be inferred from the passage that a schizophrenic would be LEAST likely to

- A- think in an illogical way
- B- hear voices that are not real
- C- meet with famous people
- D- spend time alone

4-It can be inferred from the passage that it would be least common for schizophrenia to develop at the age of

- A- eighteen
- B- twenty
- C- twenty-three
- D- thirty

5- The paragraph following the passage most likely discusses

- A- further symptoms of schizophrenia
- B- neurotransmitters in patients with multiple personality disorder
- C- dealing with the behavior of schizophrenics
- D- unusual levels of brain chemicals in schizophrenics

Passage 9:

The era of modern sports began with the first Olympic Games in 1896, and since the dawn of this new era, women have made great strides in the arena of running. In the early years, female runners faced numerous restrictions in the world of competitive running. Even though women were banned from competing in the 1896 Olympics, one Greek woman ran unofficially in the men's marathon. She had to stop outside the Olympic stadium, finishing with a time of 4 hours and 30 minutes. Four years later, women were still prohibited from Olympic competition because, according to members of the International Olympic Committee, it was not appropriate for women to compete in any event that caused them to sweat. In the 1928 Olympics, women were finally granted permission to compete in running events. However, because some of the participants collapsed at the finish of the 800-meter race, it was decided to limit women runners to races of 200 meters or less in the Olympics four years later. The women's 800-meter race was not reintroduced to the Olympic games until 1960. Over a decade later, in 1972, the 1500meter race was added. It was not until 1984 that the women's marathon was made an Olympic event.

Before 1984, women had been competing in long-distance races outside of the Olympics. In 1963, the first official women's marathon mark of 3 hours and 27 minutes was set by Dale Greig. Times decreased until 1971, when Beth Bonner first broke the three-hour barrier with a time of 2:55. A year later, President Nixon signed the Title IX law, which said that no person could be excluded from participating in sports on the basis of sex. This was a turning point in women's running and resulted in federal funding for schools that supported women athletes. In 1978, Greta Waitz set a new world marathon record of 2:32 at the New York City Marathon. Joan Benoit broke that record by ten minutes in 1983 and went on to win the first-ever women's Olympic marathon in 1984; since then, performances by women in the Olympic marathon have continued to improve with each staging of the Olympics.

1-The passage mainly discusses

- A- the Olympic games
- B- health benefits to women runners
- C- increased participation by women in running competitions
- D- the history of the marathon from its earliest days

2- What is NOT mentioned in the passage about a female runner in the 1896 Olympics?

- A- She had a faster official time than many of the men.
- B- Her participation was not officially sanctioned
- C- She did not enter the stadium at the end of the race.
- D- She completed the race in under five hours.

3- What can be inferred from the passage about the status of women at the 1900 Olympic Games?

A- They participated fully in all running events.

- B- They participated in some running events.
- C- They ran unofficially in a number of events.
- D- They were not allowed to participate in any events.

4- The pronoun "them" in paragraph 1 refers to

- A- Members
- B- Women
- C- Events
- **D-Olympics**

5-What reason was given for banning the women's 800-meter race?

- A- The women were sweating.
- B- The women looked tired.
- C- Some of the women fell down.
- D- One of the women won.

6- It can be inferred from the passage that from 1960 to 1984, the races that women were allowed to compete in at the Olympics

- A- fluctuated randomly in length
- B- were the same as the races run by men
- C- increased steadily in distance
- D- became more limited

7- According to the passage, which of the following women recorded the first marathon time under three hours?

- A-Beth Bonner
- B- Dale Greig
- C- Greta Waitz
- D- Joan Benoit

8- It can be inferred from the passage that the Title IX law was

A- financially unimportant

- B- approved by President Nixon
- C- dedicated to exclusion from participation in sports
- D- presented by the Olympic Committee

9- The paragraph following the passage most likely discusses

- A- further benefits of Title IX
- B- outstanding results by women in non-Olympic marathons
- C- the history of events other than running at the Olympics
- D- the participation of women in the Olympic marathon since 1984

Passage 10 :

The locations of stars in the sky relative to one another do not appear to the naked eye to change, and, as a result, stars are often considered to be fixed in position. Many unwitting stargazers incorrectly assume that each star has its own permanent home in the nighttime sky.

In reality, though, stars are always moving, but because of the tremendous distances between the stars themselves and from stars to Earth, the changes are barely discernible here on Earth. An example of a rather fast-moving star demonstrates why this misconception prevails; it takes around 200 years for Bernard's star, a relatively rapidly moving star, to move a distance in the skies equal to the diameter of the Earth's moon. When the apparently negligible movement of the stars is contrasted with the movements of the planets, the stars are seemingly motionless.

1-The expression "relative to" in paragraph 1 could best be replaced by

A- in the family of B- compared with C- connected to D- limited by

2- The expression "naked eye" in paragraph 1 most probably refers to

A- a telescope

- B- a scientific method for observing stars
- C- unassisted vision
- D- a camera with a powerful lens

3- The word "fixed" in paragraph 1 could best be replaced by

- A- repaired
- B- mobile
- C- changing
- D- stationary

4- The word "unwitting" in paragraph 1 is closest in meaning to which of the following?

- A- Unknowledgeable
- B- Funny
- C- empty-handed
- D- serious

5- The word "tremendous" in paragraph 2 is closest in meaning to

- A- unknown
- B- huge
- C- varied
- D- changing

6- The word "discernible" in paragraph 2 is closest in meaning to

- A- noticeable
- B- persuasive
- C- conceivable
- D- astonishing

7- A "misconception" in paragraph 2 is most likely

- A- an enacted law
- B- a stated fact
- C- an incorrect idea
- D- a detailed study

8- The word "around" in paragraph 2 could best be replaced by

A- circularly

- **B-** precisely
- C- adjacently
- D- approximately

9- What is remarkable about "Bernard's star" in paragraph 2?

- A- It moves faster than many other stars.
- B- It is a stationary star.
- C- It seems to move faster than the planets.
- D- It appears to move very rapidly.

10- The word "negligible" in paragraph 2 is closest in meaning to

- A-Negative
- B- Slight
- C- Gliding
- D-Evident

Part Four Grammar Exercises

UNIT ONE

• Rewrite these sentences using the word/s in brackets to give the same meaning: 1. Do you possess a green dress? (got) 2. His telephone number is not in my notebook. (don't) 3. Serious illness affected him greatly. (effect) 4. I promised him not to speak about the secret. (word) 5. I ate then I went to the cinema. (meal) 6. If you don't read a lot, you won't gain knowledge. (without) 7. She is not compelled to answer that question. (doesn't) 8. Will you let me come with you tomorrow? (allow) 9. Do you watch television for a long time? (spend) 10. Young people should care for their old parents. (The)

11.	He returned to his house very tired. (home)
12.	He goes to sleep early in order to get up early. (bed)
13.	He was imprisoned for murder. (prison)
14.	He stayed at work during lunch hours. (office)
15.	We must give a hand to people who are sick. (the)
16.	We discussed the plan for our future. (discussion)
17.	He loved to trick his young brother. (play)
18.	His technique of photography is wonderful. (advise)
19.	While I was studying, Nourseen came. (during)
20.	I'd finished my work before I went home. (after)
21.	After he had heard the news, he phoned his friend. (before)

22. The house hasn't got a garden. (doesn't)
23. How much money have you got? (do)
24. He doesn't own a house in Alexandria. (got)
25. He revised the lesson then he answered the question. (after)
26. The play began then he arrived at the theatre. (already)
27. I drank a lot of water, as I was thirsty. (because)
28. I ate my supper; before that I had a bath. (When)
29. He waited for a long time then his friend came. (until)
30. The firemen arrived but the fire went out. (By the time)
31. That was the only journey he had made. (never)
32. We must give a hand to those who are poor. (the)

34. He drank a lot of coffee during his work. (while)
35. I arrived at the club after he had left. (By the time)
36. The house and the villa are the same price. (expensive)
37. No man in the city is more courageous than Hassan. (most)
38. This problem is the most difficult one in the test. (more)
39. No mountain in the world is higher than Everest. (highest)
40. Adel is more intelligent than his friends. (less)
41. Cairo is the biggest city in Egypt. (than)
42. New York is the most intelligent city in the world. (more)
43. No liquid is cheaper than water. (Water)
44. He is younger than his sister. (as)

5. The driver is injured and the passengers are killed. (Not only)				
46. Amin has your book or Marawan has your book. (either)				
47. He doesn't like coffee; he doesn't like tea. (neither)				
48. We were late due to the heavy traffic. (Since)				
49. He did not go to school because he was ill. (illness)				
50. I could not sleep because of the noise. (As)				
51. He failed the test through his carelessness. (careless)				
52. I did not go out because it rained. (rain)				
53. I turned on the TV as I wanted to listen to the news. (so that)				
54. In case of trouble, call the police. (If)				
55. You can't travel abroad in case of not having a passport. (If)				

UNIT TWO

• Choose the appropriate answer from a, b, c, or d:

- 1. John Butterfield the Southern Overland Mail Company with two stagecoaches in 1858.
 - a. he set up
 - b. setting up
 - c. set up
 - d. the setup
- 2. The radiation piercing the atmosphere of tanning or burning in humans.
 - a. it is the cause
 - b. causing it
 - c. is the cause
 - d. the cause
- 3. The during an earthquake are caused by seismic waves.
 - a. actually vibrate
 - b. actual vibrations
 - c. vibrations happen
 - d. from the actual vibrations
- 4. During the Middle Ages,, large sets of bells with as many as 70 bells, first became popular.
 - a. with carillons

- b. carillons are
- c. carillons have
- d. carillons
- 5., an author probably most famous for his tales of terror, also dabbled in some science fiction.
 - a. To Edgar Allen Poe
 - b. Edgar Allen Poe
 - c. Edgar Allen Poe was
 - d. For Edgar Allen Poe to be
- 6. Humans living at high elevations to the lower level of oxygen in the air by producing more red blood corpuscles.
 - a. Adjust
 - b. to adjust
 - c. the adjustment
 - d. adjusting
- 7. By 1870, over 30 nations their own postage stamps.
 - a. the issue
 - b. were issuing
 - c. issuing
 - d. they issued
- 8. The Statue of Liberty, completed in Paris in 1884, in New York Harbor in 1886.
 - a. the unveiling
 - b. to unveil
 - c. it unveiled
 - d. was unveiled

- 9. Red Ribbon Week, a national campaign to keep young people from using drugs,
 - a. annually in October
 - b. annually in October each year
 - c. takes place annually in October
 - d. taking place annually in October
- 10. In a triathalon, the, bike, and run.
 - a. athlete swims
 - b. athletes swim
 - c. swim athletically
 - d. the swimming athlete
- 11. The Mayflower Compact, signed by the Pilgrims upon their arrival in Massachusetts in 1620, their political and religious beliefs.
 - a. the statement of
 - b. stating
 - c. with a statement of
 - d. stated
- 12. alcoholism are the slow destruction of the liver and possible death.
 - a. Dangerously,
 - b. The eventual effect of
 - c. The long-term effects of
 - d. Chronic and eventual
- 13. The, the first daily newspaper in the United States, first appeared in 1783.
 - a. two-page {Pennsylvania Evening Post}
 - b. {Pennsylvania Evening Post} is two pages long
 - c. {Pennsylvania Evening Post} was
 - d. two-page {Pennsylvania Evening Post's{

- 14. On November 19, 1863, Abraham Lincoln, speaking from notes on an old the famous Gettysburg Address in only two minutes time.
 - a. gave the envelope
 - b. envelope giving
 - c. envelope, gave
 - d. gift of an envelope
- 15. runs parallel to the coast of California for more than 600 miles.
 - a. The San Andreas Fault is long
 - b. On the San Andreas Fault
 - c. The San Andreas Fault
 - d. Along the San Andreas Fault
- 16., one of the most famous presidents, was assassinated by John Wilkes Booth.
 - a. For Abraham Lincoln
 - b. Abraham Lincoln was
 - c. Of all the presidents
 - d. Abraham Lincoln
- 17. Jesse Owens won four gold medals at the 1936 Olympics in Berlin.
 - a. Excellent speed and running ability
 - b. The outstanding track athlete runs
 - c. An outstanding ~track athlete
 - d. He had excellent speed and running ability
- 18. Thomas Jefferson, a personally designed and constructed lap-top desk, wrote the Declaration of Independence in the summer of 1776.
 - a. he used
 - b. had used

- c. the use of
- d. using
- 19. The Great Plains in the Midwest of the United States a rich, fertile farming area.
 - a. definitely making
 - b. from the beginning
 - c. the pioneers planted
 - d. makes up
- 20. Parent flamingos lose their intense pink coloring until
 - a. weaning young
 - b. their youths
 - c. they wean their young
 - d. young
- 21. Champagne can be purchased by the balthazar, cannot be purchased in this amount.
 - a. Brandy
 - b. But
 - c. because brandy
 - d. but brandy
- 22. has a beautiful red coat, the red panda is called "hun-ho" or "fire fox" in China.
 - a. It
 - b. Because it
 - c. On it
 - d. As soon as
- 23. long enough, every Down's syndrome individual gets Alzheimer's disease.
 - a. The person lives
 - b. If the person living

- c. If the person lives
- d. Because the life
- 24. Although Congress passed an income tax law in 1894, in 1895 the law unconstitutional.
 - a. the ruling of the Supreme Court
 - b. was ruled by the Supreme Court
 - c. if the Supreme Court ruled
 - d. the Supreme Court ruled
- 25. When San Diego's summer heat has withered most flowers, bloom.
 - a. as soon as lilies
 - b. lilies
 - c. of lilies
 - d. by the time lilies start

26. dugout canoes where the floodplains have dried into long stretches of dry sand.

- a. Because oxen pull
- b. Oxen pull
- c. For oxen to pull
- d. Oxen pulling
- 27. Like a mountain, the Empire State Building creates its own updrafts, have been observed to fall up.
 - a. and snow and rain
 - b. snow and rain
 - c. of snow
 - d. but snow
- 28. perceives the color black ~provided there is a complete lack of stimulation of the retina.
 - a. When a person

- b. A person will
- c. If a person
- d. A person
- 29. Elephant poaching the international ban on ivory was established.
 - a. has diminished since
 - b. it has diminished
 - c. since diminishing
 - d. it has diminished since
- 30. A little fat is essential for humans retain body heat, gives muscles energy, and keeps skin soft.
 - a. as it helps
 - b. although it
 - c. it helps
 - d. in helping
- 31. Gustave Eiffel is famous for building the Eiffel Tower, for designing the framework of the Statue of Liberty.
 - a. he is remembered
 - b. is remembered
 - c. yet he is seldom remembered
 - d. yet remembered
- 32. Further changes in the celestial constellations the International Astronomical Union has been formed.
 - a. are unlikely now that
 - b. unlikely whenever
 - c. are unlikely
 - d. they are unlikely
- 33. can consume 30,000 plant species, 90 percent of the human diet consists of only 20 of the available species.
 - a. Humans
 - b. In contrast humans

- c. Providing for humans
- d. While humans
- 34. The reservoir created by the Three Gorges Dam will flood almost 1,400 villages, to relocate the villages' nearly two million inhabitants.
 - a. the government plans
 - b. so the governments plans
 - c. so the government plans
 - d. the governments plans
- 35. walking properly and has enough area to walk in, it should wear down the hoof as it regrows.
 - a. If the animal is
 - b. The animal is
 - c. Although the animal
 - d. Although
- 36. Change, both good and bad, can create stress,, if sufficiently severe, can lead to illness.
 - a. and stress
 - b. and stressed
 - c. stress
 - d. that stress
- 37. Caffeine is primarily consumed in coffee and tea, also found in cocoa, cola, and other soft drinks.
 - a. But
 - b. but it
 - c. but it is
 - d. it is
- 38. farmers extra hours of light by which to harvest crops before frost and winter come.
 - a. The harvest moon

- b. Whenever the harvest moon allows
- c. During the harvest moon
- d. The harvest moon gives

39. built in 1931, the Empire State Building has actually shrunk six inches.

- a. It was
- b. Because it
- c. Until it was
- d. Since it was
- 40. For every disease-carrying toxin, there is an antitoxin which out the effect of the toxin.
 - a. Cancels
 - b. the cancellation
 - c. to cancel
 - d. cancelling
- 41. Galileo's observations of the phases of Venus proved formed the center of the planetary system.
 - a. that the Sun
 - b. the Sun is
 - c. it is the Sun
 - d. what is the Sun
- 42. Skin color is determined by a chemical called melanin, in greater or lesser amounts.
 - a. which human skin contains
 - b. human skin contains
 - c. in human skin contains
 - d. there is in human skin
- 43. Environmentalists are earnestly trying to determine of the ozone layer over the poles.
 - a. is causing the deterioration

- b. what the cause of the deterioration
- c. what is causing ~the deterioration
- d. the deterioration is causing
- 44. Historical records were used in China for centuries before spreading to Europe.
 - a. suggesting that fireworks
 - b. fireworks
 - c. that fireworks
 - d. suggest that fireworks
- 45. The first mention of the cultivation of tea in a Chinese dictionary which dates about the year 350.
 - a. Finding
 - b. to be found
 - c. it is found
 - d. can be found
- 46. The anteater has a long sticky tongue, capture ants and termites from their nests.
 - a. which the use
 - b. uses it to
 - c. it is used
 - d. which it uses to

47. global climate is warming has been well documented.

- a. There is the
- b. It is the
- c. The
- d. That the
- 48. Bank employees collect worn-out dollar bills, to a central office to be destroyed in a furnace.
 - a. who send them
 - b. which are sent
 - c. who are sent

- d. are sent
- 49. such a challenging science is that all theory is based on observations that cannot be replicated in a controlled environment.
 - a. It is astronomy
 - b. Astronomy is
 - c. What makes astronomy
 - d. Why is astronomy
- 50. The blue-ringed octopus, found in tropical lagoons, is so venomous that it can paralyze or kill a person in a matter of minutes.
 - a. is
 - b. who is
 - c. that
 - d. which is
- 51. floats or sinks is determined by its density rather than its weight.
 - a. Whether an object
 - b. An object if it
 - c. Because an object
 - d. An object
- 52. Edmund Halley, who had discovered Halley's comet in 1682, before he could again see the comet whose return he had accurately predicted.
 - a. died
 - b. dying
 - c. on his death
 - d. to die
- 53. Bees perform a complex dance other bees about the location of a good source of nectar.

- a. tells c. it tells d. that tells
- 54. Some radioisotopes which as radioactive waste are now being used in experimental cancer therapies.
 - a. once discarded by scientists
 - b. scientists discarded
 - c. to discard by scientists
 - d. were discarded scientists
- 55. Although seismologists know, they are unable to predict with accuracy when or where a tremor might occur.
 - a. what causes earthquakes
 - b. what earthquakes
 - c. causes earthquakes
 - d. that the quaking of the Earth
- 56. The abundant grain harvests of North America can be credited to Norman Borlag, a little-known scientist modern strains of high-yield wheat.
 - a. which cultivated
 - b. cultivated
 - c. who cultivated
 - d. the cultivation of
- 57. in the atmosphere is the temperature falling below freezing.
 - a. Frost is produced
 - b. Frost produces
 - c. What produces frost
 - d. What is frost
- 58. Subduction is the process the ocean floor recycles itself.
 - a. That

- b. which is
- c. by which
- d. how
- 59. in so perfectly with their environment is what makes Frank Lloyd Wright's architecture so distinctive.
 - a. That the buildings blend
 - b. The buildings blend
 - c. Since the buildings blend
 - d. Build and blend
- - a. which prevents
 - b. preventing
 - c. prevents
 - d. prevention
- 61. Unless as injury-free as possible, older athletes can have their activity and quality of life affected.
 - a. the remnants of
 - b. to remain
 - c. remaining
 - d. remain

62. famous civil rights leader, Martin Luther King, Jr. was named winner of the Nobel Peace Prize in 1964.

- a. A
- b. Which was
- c. He was a
- d. Was a
- 63. The four-character drama {Who's Afraid of Virginia Woolf?}, by Edward Albee, opened on Broadway.
 - a. it was written
 - b. who was written

- c. written
- d. was written
- 64. After seven years to journey to Saturn, the spacecraft {Cassini} will spend four years exploring Saturn, its rings, and its icy moons.
 - a. takes
 - b. taken
 - c. was taken
 - d. taking
- 65. Although applied for in October of 1793, Eli Whitney's patent for his cotton gin until March of the following year.
 - a. Granting
 - b. it was not granted
 - c. to grant
 - d. was not granted
- 66., honoring the African tradition of celebrating the harvest, is held December 16 through January 1 in the United States.
 - a. For Kwanzaa
 - b. Kwanzaa was celebrated
 - c. Kwanzaa celebrations
 - d. Kwanzaa
- 67. While repositioning, cruise ships passengers for what is called a line voyage.
 - a. the embarkation of
 - b. embark
 - c. embarking
 - d. they embark
- 68. New York and New Jersey, the George Washington Bridge opened to traffic in 1931.

- a. Connecting
- b. Which was connected
- c. Connects
- d. It connects
- 69. While those who are not working members of the press, press pins provide access to a press box for media members.
 - a. kept out b. keeping out
 - c. the keeper d. was kept out
- 70. Although their jobs, a majority of workers expect to move on to other jobs within five years of starting their current jobs.
 - a. to enjoy
 - b. enjoy
 - c. the enjoyment
 - d. enjoying
- 71. Most adults, including 78 percent of men and 61 percent of women, that gender roles in marriage today are more equal than traditional.
 - a. sayb. they sayc. sayingd. to say
- 72. If introduced into avocado groves, the seed and stem weevils, seed moth, and fruit fly the avocado industry in California.
 - a. the ending
 - b. may end
 - c. to end
 - d. they will end
- 73. Lake Erie and the Hudson River, the Erie Canal opened in upstate New York in 1825.
 - a. Linking

- b. It was linked
- c. Have been linking
- d. They linked
- 74. While, Chu developed a way of trapping thousands of gas atoms using lasers.
 - a. to work at Bell Laboratories
 - b. working at Bell Laboratories
 - c. worked at Bell Laboratories
 - d. was working at Bell Laboratories
- 75. Though racing toward the Milky Way galaxy at 300,000 miles an hour, the Andromeda galaxy with the Milky Way for about five billion years.
 - a. Colliding
 - b. will not collide
 - c. to collide
 - d. the collision
- 76. On October 28, 1886, the Statue of Liberty, a gift from the people of France, in New York Harbor by President Cleveland.
 - a. to dedicate
 - b. it dedicated
 - c. was dedicated
 - d. was dedicating
- 77. While making the embarrassing mistake of wearing a scarlet garment instead of somber black,, the atomic chemist and Quaker, discovered that he was color-blind.
 - a. in John Dalton's laboratory
 - b. John Dalton was
 - c. John Dalton
 - d. John Dalton and

- 78. The birth of swing music can be traced to Battle of the Bands competitions at the Savoy Ballroom in Harlem.
 - a. Held
 - b. were held
 - c. the holdings
 - d. to hold
- 79. In the halcyon days of the civil rights movement, a small group of dedicated lawyers, mostly black, carefully craft the strategy that led to the destruction of legal segregation.

a.	which is able to	b.	was able to
c.	able to	d.	were able

- 80. Scientists now know that the lack of an embryonic thumb in birds is why almost impossible for birds and dinosaurs to be related.
 - a. is b. it is c. is it d. it
- 81. There launched in 1958 that fell back to Earth and burned up in the atmosphere.
 - a. a lunar probe was
 - b. was a lunar probe
 - c. a lunar probe
 - d. with a lunar probe

82. Rarely now used for battle purposes.

- a. in the band
- b. military bands are
- c. banded
- d. are military bands

- 83. In addition to quitting smoking and controlling blood pressure and diet, people need to think about how stress to avert potentially fatal heart problems.
 - a. can they manage
 - b. the management
 - c. they manage
 - d. managing
- 84. Only recently popular all over the country.
 - a. have indoor climbing gyms become
 - b. in becoming indoor climbing gyms
 - c. indoor climbing gyms have become
 - d. indoor climbing gyms
- 85. A motionless atom is colder than
 - a. in the movement
 - b. to be moved
 - c. the atom moving
 - d. is a moving atom
- - a. the galleon is lying
 - b. lies the galleon
 - c. the galleon
 - d. the galleon which lies
- 87. According to a recent survey, were of telecommuters to lose their jobs, they would look for other telecommuting positions.
 - a. to major
 - b. if a majority
 - c. a majority
 - d. in the major

- 88. When chest pain, some doctors recommend that they take one full 325-milligram aspirin.
 - a. patients feel
 - b. feel impatient
 - c. do patients feel
 - d. as patients feel
- 89. There called Epstein-Barr which leaves people feeling chronically fatigued and feeling as if they have a recurring case of the flu.
 - a. a viral
 - b. in a disease
 - c. a virus is
 - d. is a virus
- 90. Only in the Civil War killed or wounded.
 - a. soldiers in America
 - b. were so many American soldiers
 - c. many in America
 - d. so many American soldiers were
- 91. Lifestyle is more important in a person's lifespan.
 - a. as genetics are
 - b. with genes
 - c. genetically
 - d. than are genetics
- 92. A collision with another galaxy may be what, the Milky Way, may experience.
 - a. Earth's galaxy is
 - b. is Earth's galaxy
 - c. Earth's galaxy
 - d. for Earth's galaxy

- 93. Should help keeping their weight, blood pressure, pulse, and cholesterol down, swimming is an excellent activity.
 - a. adults need
 - b. needy adults
 - c. to need
 - d. need adults
- 94. In the vessels of the vascular system of the giraffe of valves that ensures a needed supply of blood to the head.
 - a. are series
 - b. is serious
 - c. is a series
 - d. a series is
- 95. There has been a string ~of recent technology advances aimed at building new engines which are more clean and efficient than
 - a. to engineer
 - b. are current engines
 - c. in engines currently
 - d. current
- 96. Daylight saving time seems to reduce people's exposure to crime, so were people to get home from work and school and complete more errands and chores in daylight, safer.

a.	for being	b.	to be
c.	they	d.	they would be

- 97. Scarcely started building his theme park when he launched his first television program titled {Disneyland}.
 - a. Walt Disney
 - b. Walt Disney had
 - c. had Walt Disney

- d. Walt Disney was
- 98. Orthopedic and sports medicine specialists now realize that people to get prolonged bed rest for acute and chronic back problems, they would heal less quickly.
 - a. were b. if
 - c. the d. of
- 99. The hunting season for firearms is more restricted than because hunting with firearms is more dangerous and less challenging.
 - a. to season
 - b. is the archery season
 - c. for archery
 - d. is seasoning
- 100. John Denver in October 1997 during a flight in his new aircraft near Monterey, California.
 - a. unfortunately killing
 - b. he was killed
 - c. to kill
 - d. was killed
- 101. Iodine, needed for the thyroid gland to function properly, from iodized salt or seafood.
 - a. obtaining
 - b. can be obtained
 - c. to obtain
 - d. it is obtained
- 102. Some experts feel that children lose a great deal of what during the school year over the long summer vacation.
 - a. they learn
 - b. do they learn

- c. learner
- d. learning
- 103. Many thousands and sometimes even millions of in a single colony.
 - a. ants living
 - b. b. the lives of ants
 - c. ants live
 - d. living ants
- 104. The Pilgrims felt that cold ocean water was bad for their health, ate fish when food supplies were low.
 - a. they only
 - b. when only
 - c. so they only
 - d. because they
- 105. Our ability to see greatly influences we perceive the world around us.
 - a. us
 - b. and
 - c. how
 - d. in which
- 106. Recovery time after surgery has decreased have been developed.
 - a. procedures are less invasive
 - b. less invasive procedures
 - c. to proceed less invasively
 - d. now that ~less invasive procedures
- 107. The Cheetah, the fastest bicycle in the world, cruises at nearly 70 mph, reaches speeds up to only 30 mph.
 - a. the convention of a bicycle
 - b. the conventional bicycle

- c. whereas the conventional bicycle
- d. conventionally, a bicycle
- 108. The koala never drinks water because it gets all the liquid that from the leaves of eucalyptus trees.
 - a. the need for it
 - b. needing it
 - c. it needs
 - d. it needs is
- 109. The stomach also secretes ammonia, a powerful alkali, as a neutralizing agent to the gastric acid.
 - a. which acts
 - b. it acts
 - c. acts
 - d. that act
- - a. and made up
 - b. to make up
 - c. which they made up
 - d. made up
- 111. Once as a state in 1850, California imposed a tax of \$20 a month on foreign miners.
 - a. instituting
 - b. instituted
 - c. the institution
 - d. to institute
- 112. Were, they would miss up to 30 percent of their required calories.
 - a. not allow young children to snack

- b. with snacks for young children
- c. no snacks be allowed for young children
- d. young children not allowed to snack
- 113. away from the Sun is the pressure of the solar wind.
 - a. The tail of a comet always points
 - b. What keeps ~the tail of a comet always pointing
 - c. Why does it keep the tail of a comet pointing
 - d. The tail of a comet that always points
- 114. Motorists spend four times more on car repairs resulting from bad roads than state highway departments on maintaining the roads.
 - a. doing
 - b. from
 - c. to do from
 - d. do
- 115. Even identical twins fingerprints.
 - a. Distinct
 - b. with distinct
 - c. having distinct
 - d. have distinct
- 116. During an introduction, helpful to say something interesting and polite to make the conversation easier.
 - a. is
 - b. it is
 - c. to it
 - d. its
- - a. calling
 - b. and calling

- c. is called
- d. with the call of
- 118. One of the most committed shouted, "Give me liberty or give me death!" in a stirring speech just prior to the start of the American Revolution.
 - a. Patrick Henry was a patriot
 - b. Patriotic Patrick Henry
 - c. patriot was Patrick Henry
 - d. patriots, Patrick Henry,
- 119. Though rain forests about ten percent of the Earth's surface, today one half of the rain forests are gone.
 - a. once covered
 - b. one cover
 - c. coverage at once
 - d. covering once
- 120. trees that are too large for them to haul to a nearby stream.
 - a. Beavers, which often fell
 - b. The fall of beavers and
 - c. Beavers often fell
 - d. How beavers fell
- 121. Nearly 100 years ago, doctors in the United States started recommending peanut butter as a good source of protein, yet nobody who first invented it.
 - a. knowing
 - b. with the knowledge
 - c. knows
 - d. who knows
- 122. Mike Fink was a colorful American frontiersman whose adventures of numerous folktales and legends.
 - a. served as a basis

- b. as the basis serving
- c. the basis to serve
- d. to serve the basis
- 123. Apogee, a variety of wheat being developed for growth in space, grows only 18 inches high, up to 1,000 bushels per acre under constant high light.
 - a. it yields
 - b. yet yielding
 - c. yet it yielded
 - d. yet it yields
- 124. Nowhere in the United States but in New Jersey so many people per square mile.
 - a. there
 - b. there are
 - c. there is
 - d. are there
- 125. The new electric cars run partially on free energyinstalled at businesses have no means by which to measure or bill for the electricity used.
 - a. with rechargers
 - b. as rechargers
 - c. recharging
 - d. using rechargers
- 126. When in the early 1940s, the sun's corona was found to be a baffling 2.7 million degrees Fahrenheit.
 - a. measuring
 - b. was measured
 - c. measured
 - d. in measuring
- 127. used to lure children into behaving better can work at first, but the results are often temporary.

- a. Rewards are
- b. Rewards
- c. To reward
- d. Rewards which
- 128. We can determine the family that a bird falls into by like.
 - a. what are the shape and behavior of a bird
 - b. what the bird's shape and behavior
 - c. the shape and behavior of a bird
 - d. what the shape and behavior of a bird are
- 129. At no time Susan B. Anthony pay the fine she was charged for voting in a presidential election in 1872.
 - a. did suffragist
 - b. the suffragist
 - c. to the suffragist
 - d. was suffragist
- 130. Oxygen is necessary for the survival of most organisms, but these organisms.
 - a. damaged
 - b. it can also damage
 - c. is damaging
 - d. the damage
- 131. from the flax plant can be made into linen.
 - a. Fibers
 - b. They are fibers
 - c. With fibers
 - d. Fibers are
- 132. About 5,000 years ago, was developed simultaneously and independently by both the Chinese and the Egyptians.
 - a. the fan

- b. fans
- c. they were fans
- d. it fanned
- 133. Jean-Claude Van Damme, usually in hit movies as the hero, surprisingly is the villain in the movie {No Retreat, No Surrender}.
 - a. stars
 - b. to star
 - c. starring
 - d. is the star
- 134. Lotto winners their winnings in one lump sum, are now being paid in equal annual payments.
 - a. originated the pay of
 - b. were originally paid
 - c. originally paid
 - d. the pay was originally
- 135. Although the strawberry a fruit, it is actually the base of the strawberry flower.
 - a. a look like
 - b. like a look
 - c. liking to look
 - d. looks like
- 136. Hardly ever out of the loop at work; on the contrary, they often get more work done and see more of their families.
 - a. telecommuters feel
 - b. do telecommuters feel
 - c. the telecommuters
 - d. the feeling of telecommuters
- 137. Data about butterflies accumulate each Fourth of July as all over the United States participate in an annual butterfly count.

- a. butterfly watching
- b. and watching butterflies
- c. so butterflies watch
- d. butterfly watchers
- 138. is lubricated can affect the longevity of the moving parts that rub together.
 - a. How often machines
 - b. A machine often
 - c. Often a machine
 - d. How often a machine
- 139. In the Civil War, about two-thirds of the property by Southerners was lost, their economy was wrecked, and much of their land was devastated.
 - a. was owned
 - b. owned
 - c. to own
 - d. it will own
- 140. A fluorescent lamp contains glows with white light when electricity passes through it.
 - a. a glass tube
 - b. a tube is made of glass
 - c. a glass tube that
 - d. a glass tube that it
- 141. Dogs have more scent receptors than, so dogs can be trained to smell many things that humans cannot smell.
 - a. do humans b. with humans
 - c. too humane d. humanly
- 142. When the Hubble Space Telescope focused for ten days on a dark patch of sky the size of a grain of sand, what initially appeared to be empty space thousands of distant galaxies.
 - a. turned out to be filled with

- b. it turned out to be filled
- c. turning out to be filled with
- d. and it turned out to fill
- 143. Though on millions of people, "Black Thursday," the stock market collapse of October 24, 1929, did not cause the economic depression that followed.
 - a. having depressing effects
 - b. to affect depressingly
 - c. have depressing effects
 - d. have depressed effectively
- 144. Should early injections against diseases, they might have a lower risk of infection in late preschool and early school age.
 - a. receive
 - b. children's reception
 - c. be receiving
 - d. children receive
- 145. With 36 black keys and 52 white keys, a total of 88 keys.
 - a. a piano having
 - b. a piano has
 - c. to have a piano
 - d. have a piano
- 146. John Chapman of Massachusetts, known as Johnny Appleseed, 100,000 square miles of the early United States planting apple trees as he traveled.
 - a. trekking more than
 - b. he trekked as much as
 - c. to trek
 - d. trekked over
- 147. When warm air rises, and cools.

- a. it expands
- b. so it expands
- c. the expansion of it
- d. its expansion
- 148. No one knows when to make bread.
 - a. the first use of yeast
 - b. yeast was first used
 - c. the first yeast used
 - d. was yeast first used
- 149. The intestines are the lower portion of the alimentary canal of an upper long winding part and a lower shorter wider part.
 - a. consist
 - b. they consist
 - c. consisting
 - d. it consists
- 150. to live at high altitudes, so it is essential to nomadic families in the Himalayas in spite of its stubbornness.
 - a. The yak is able
 - b. The ability of the yak
 - c. For the yak to be able
 - d. Because the yak

Unit Three

- Mark Twain____the years after the Civil War the "Gilded Age."

 (A)called
 (B) calling
 (C) he called
 (D) his calls
- 2. Early_____toes instead of hooves on their feet. (A)horses (B) had horses (C) horses had (D) horses having
- 3. _____grow close to the ground in the short Arctic summer.
 (A)Above tundra plants
 (B)Tundra plants
 (C)Tundra plants are found
 (D)For tundra plants
- 4. In 1867, _____Alaska from the Russians for \$7.2 million.
 (A)purchased the United States
 (B)to purchase the United States
 (C)the United States' purchase of
 (D)the United States purchased
- 5. Between 1725 and 1750, New England witnessed an increase in the specialization of _____.
 (A)occupations
 (B)occupies
 (C)they occupied
 (D)it occupied them
- 6. The large carotid artery______to the main parts of the brain.
 (A)carrying blood
 (B)blood is carried
 (C)carries blood
 (D)blood carries
- 7. radio as the first practical system of wireless telegraphy.
 (A)Marconi's Development
 (B)The development by Marconi
 (C)Developing Marconi
 (D)Marconi developed
- 8. In 1975, the first successful space probe to _____ beginning to send information back to Earth. (A)Venus
 (B)Venus the
 (C)Venus was
 (D)Venus it was
- 9. The two biggest resort _____ Arkansas are Hot Springs and Eureka Springs. (A)in
 - (B)towns in(C)towns are(D)towns are in
- 10. NASA'S Lyndon B. Johnson Space Center _____ control center for the Mercury Gemini, and Apollo space flights.
 (A)it was at the
 - (B)it was the
 - (C) was the
 - (D)the

11. The first appeared during the last period of the dinosaurs' reign. (A) flowers are plants (B)plants have flowers (C)plants flowers (D)flowering plants **12.** The earliest medicines ______ from plants of various sorts. (A)obtaining (B) they obtained (C)were obtained (D) they were obtained **13.** Simple sails were made from canvas over a frame. (A)a stretch (B)stretched (C)was stretched (D)it was stretched **14.** Pluto's moon, Charon, _____ in a slightly elliptical path around the planet. (A)moving (B) is moving (C)it was moving (D)in its movement **15.** Techniques of breath control form an essential part of any program to improve the voice. (A)it trains (B) train (C) trains (D) training **16.** Robert E. Lee _____the Confederate army to General Grant in 1865 at the Appomattox Courthouse. (A)surrendered (B)he surrendered (C)surrendering (D)surrender **17.** The pituitary gland, the brain, releases hormones to control other glands. (A) found below (B) it is found below (C)its foundation below (D)finds itself below **18.** At around two years of age, many children regularly produce sentences three or four words. (A) are containing (B)containing (C)contain. (D)contains planet. 19. Multinational companies _____it increasingly important to employ internationally acceptable brand names. (A)finding (B) are finding (C) they find (D) they are finding **20.** The cornea is located under the conjunctiva, on______ of the eye. (A)the part is exposed (B) exposed the part (C) the exposed part (D)exposes the part

21first settled the Hawaiian Islands between A.D. 300 and 750. (A)The Polynesians	
(B)The Polynesians arrived(C)Because of the Polynesians(D)It was the Polynesians	
22. In 1066, a bright cometin the sky attracted much attention.(A)was appearing(B) appears(C) it appeared(D) appearing	
 23. In some daguerreotype cameras,through a hole in the back of the box. (A)the objects view (B)the object was viewed (C)from the view of the object (D)viewed the object 	
24. In the Stone Age, stone toolswith other rock materials. (A)polishing (B)they polished (C)for polish (D)were polished	
 25. The first steamship to cross the Atlantic Savannah, in 1819. (A)was the (B)it was the (C)the (D)in it the 	
26. The Earth's plates meet each other at cracks in the Earth faults.(A)were called(B) calls(C) called(D) it was called	
 27. The first plant-like organisms probablyin the sea, perhaps 3 billion years ago. (A)life (B) living (C) lived (D) it was living 	
28. In male pattern baldness,strongly influences the degree of hair loss.(A)heredity(B) inherited(C) inherits(D) heredity has	
29. In Watch the Skies, Curtis Peeblesattempt to explain America's belief in flying saucers (A)makes a fascinating (B)making a fascinating (C)fascination with making (D)fascination made a	•
 30. The irregular coastline ofa succession of bays and inlets, with the hook of the Cay Cod peninsula in the southeast. (A)Massachusetts (B)Massachusetts is (C)Massachusetts it is (D)Massachusetts on 	pe
 31. Air near the equatora faster west-to-east motion than air farther from the equator. (A) to have (B) it has (C) has (D) having 	

32. About 4000 B.C., humans discovered that _____ obtained from special rocks called ores.

- (A) metals could be
- (B) the ability of metallic
- (C) possibly metallic
- (D) could metals be
- **33.** _____quickly after an animal dies.
 - (A) In the degradation of DNA
 - (B) Degrading DNA
 - (C) DNA degrades
 - (D) For DNA to degrade
- **34.** _____aerodynamic design has contributed greatly to reducing resistance to motion.
 - (A) Improved
 - (B) It improves
 - (C) Improvement
 - (D) They improve
- **35.** The southern part of Florida is much warmer in the winter than the northern part, so more ______to the south.
 - $\overline{(A)}$ flocking tourists
 - (B) touring flocks
 - (C) flocks of tourists
 - (D) tourists flock
- **36.** The Moon's gravity pulls water on the near side of the Earth toward the Moon, and this is what ______ tides to occur.
 - (A) the cause(B) causes(C) causing(D) the cause of
- 37. _____, they pick up fragments of rock which become frozen into the base of the ice.
 - (A) Glaciers move
 - (B) Glaciers moving
 - (C) They were glaciers
 - (D) As glaciers move
- **38.** The tape measure first evolved from _____used by the Egyptians.
 - (A) the chains measure
 - (B) the chains are measured
 - (C) the chains are measuring
 - (D) the measuring chains
- **39.** A typical Atlantic hurricane starts as a low pressure system near_____.
 - (A) Africa coasts
 - (B) coast to Africa
 - (C) the African coast
 - (D) Africa has a coast
- **40.** It is not clear whether the subdivisions of the neocortex _____units.
 - (A) individual
 - (B) are individual
 - (C) they are individual
 - (D) individually
- **41.** Modern humans, who first appeared about 600,000 years ago, _____ Homo sapiens.
 - (A) calling
 - (B) were called
 - (C) they called
 - (D) they were called

- **42.** The first writing
 - (A) we (B) that we
 - (D) that we have (C) has
- drought-resistant plants which store water in fleshy tissue. 43.
 - $\overline{(A)}$ Succulents are
 - (B) Succulents
 - (C) They are succulents
 - (D) Succulents which are
- 44. Benjamin Kabelsky, whom _____as Jack Benny, was a famous comedian in vaudeville and on radio and television.

_____evidence of is on Mesopotamian clay tablets.

- (A) most people's knowledge
- (B) most people know
- (C) knowing most people
- (D) the knowledge of most people
- 45. ____ that hunted other animals tended to have very narrow, sharp, curved claws.
 - $\overline{(A)}$ For dinosaurs
 - (B) Dinosaurs are known
 - (C) Dinosaurs
 - (D) Like dinosaurs
- **46.** The first eyeglasses had convex lenses for the aged who farsighted.
 - (A) had become
 - (B) they had become
 - (C) becoming
 - (D) it became
- **47.** Chimney Rock,_____500 feet above the North Platte River, has eroded considerably in the last two centuries.

 - (A) stands(B) is standing(C) it stands(D) which stands
- _____that accompany recurring bouts of severe depression reduce bone density. 48. ____
 - (A) It changes hormones
 - (B) Hormonal changes
 - (C) The hormones change
 - (D) The change in hormones is
- **49.** Willa Cather is an author ______for her evocative and memorable vision of frontier prairie life.
 - (A) whom readers
 - (B) the praise of readers
 - (C) whom praisings
 - (D) whom readers praise
- 50. Mars's tiny moon Phobos is a small mountain of rock that ______ from the asteroid belt by Mars's gravitational pull.
 - (Å) was probably captured
 - (B) it probably
 - (C) the probable capture
 - (D) probably the capture

_____is famous as the home of the U.S. Naval Academy. 51.

- (A) Annapolis
- (B) Because of Annapolis
- (C) Why Annapolis
- (D) Because Annapolis

52. Some scientists think _____ be a planet but a moon of Neptune. (A) that Pluto does not seem.

- (B) not Pluto
- (C) Pluto that might not
- (D) that Pluto might not
- **53.** With of sophisticated oil lamps, elaborate tools were made to cut the wicks.
 - (A) appeared
 - (B) the appearance
 - (C) the appearance was
 - (D) it appeared
- 54. Fort Union was the site of what _____ principal fur- trading post on the upper Missouri River.

(A) the	(B) being the
(C) was the	(D) it was the

- 55. Since commercial risk, it has to appeal to a large audience to justify its cost.
 - (A) the face of the movie
 - (B) moving faces
 - (C) a movie faces
 - (D) to face a movie
- 56. A current of water known as the Gulf Stream comes up from the Gulf of Mexico, and then _____the North Atlantic toward Europe.

(A) it crosses	(B) crossing
(C) with its crosses	(D) crosses it

57. Systems_______the two symbols 0 and 1 are called binary number systems.

(A) use	(B) they use
(C) uses	(D) using

58. Genes, the blueprints for cell construction, exist in tightly organized packages called chromosomes.

(A) are	(B) they are
(C) which	(D) which are

- **59.** The Earth's atmosphere consists of gases _____ in place around the Earth by the gravitational pull of the planet.
 - (A) held (B) hold (C) it holds (D) the hold
- 60. Oscar Hammerstein II collaborated with a number of composers including Jerome Kern, in writing the musical Show Boat. whom (C) he joined (A) joined (B) was joined
 - (D) joining
- 61. __ _lived on Earth for nearly 150 million years.
 - (A) Dinosaurs
 - (B) Dinosaurs who
 - (C) If dinosaurs
 - (D) Since dinosaurs
- **62.** Early printers arranged type into ______a small, flat composing stick.
 - (A) words
 - (B) are words on
 - (C) words on
 - (D) the words are on

- 63. _____along most of its length into an upper chamber and a lower chamber.
 - (A) The divided cochlea
 - (B) Dividing the cochlea
 - (C) The cochlea is divided
 - (D) With a divided cochlea
- **64.** Yeast is an organic catalyst_____known to prehistoric humanity.
 - (A) was
 - (B) which was
 - (C) which it
 - (D) which
- 65. Many communities_____a complex system of linguistic levels in order to show respect. (A) useful
 - (B) use already made
 - (C) making it useful
 - (D) make use of
- **66.** The ear is a flexible organ, ________ simply was not designed to withstand the noise of modern living.
 - (A) but it
 - (B) it
 - (C) but
 - (D) its
- **67.** In 1934, chemist Wallace Carothers produced a plastic which _____nylon.
 - (A) his call
 - (B) he called
 - (C) to call him
 - (D) calling

68. As ______ grows, the shell in which it lives grows, too.

(A) a mollusk

- (B) a mollusk it
- (C) has a mollusk
- (D) it has a mollusk
- **69.** The first ______ the Civil War was fired from Fort Johnson upon Fort Sumter on April 12, 1861.
 - (A) shot(B) shot in(C) shot was in(D) it was shot
- **70.** Stalactites are formed in caves by groundwater ______dissolved lime.
 - (A) it contains
 - (B) containing
 - (C) contains
 - (D) containment
- **71.** By studying the movements of the Sun and Moon, even early astronomers could ______eclipses would take place.
 - (A) predicting when
 - (B) when it predicts
 - (C) the prediction when
 - (D) predict when
- **72.** Coffee probably originally grew wild in Ethiopia in the province of Kaffe, and from there ______to southern Arabia.
 - (A) bringing it
 - (B) it was brought
 - (C) brought it
 - (D) brought with it

73. Alabama was occupied by the French and Spanish before ______to England in 1763.

- (A) was ceded (B) ceded to it (C) it was ceded (D) ceded it
- 74. A group of winged reptiles______ pterosaurs is believed to have been the first vertebrates with the power of flight.

(A) call

(B) calls

(C) called

(D) is called

75. On November 23, 1863, Grant stunned the Confederates on Missionary Ridge with what _ to be a full-dress military parade of troops who unexpectedly opened fire.

(A) appeared

(B) appearing(C) appearance(D) apparent

WRITTEN EXPRESSIONS

Written Expression

Directions: In these questions, each sentence has four underlined words or phrases. The four underlined parts of the sentence are marked (A), (B), (C), and (D). Identify the one underlined word or phrase that must be changed in order for the sentence to be correct. Then, on your answer sheet, find the number of the question and fill in the space that corresponds to the letter of the answer you have chosen.

Look at the following examples.

Exar	nple I		Sample Answer
			A
<u>The</u> fo	ur <u>string</u> on a	violin <u>are tuned</u> in fifths.	
А	В	C D	C D

The sentence should read, "The four strings on a violin are tuned in fifths." Therefore, you should choose answer (B).

The research for the book Roots taking Alex Haley twelve years. A B C D \mathbb{P}	Example	II			Sample Answer
The research for the book Roots taking Alex Haley twelve years. A B C D (B)					A
A B C D 👤	The <u>resear</u>	<u>ch for </u> the	e book Roots <u>taking</u> Alex Hale	ey <u>twelve years</u> .	B
	А	В	С	D	

The sentence should read, "The research for the book Roots took Alex Haley twelve years." Therefore, you should choose answer (C).

1. Nobody know when	n the <u>process</u> of gl	ass-making <u>was</u> i	nvented	<u>1</u> .
А	В	С	D	

2. Sugars <u>like glucose is made up of</u> carbon, hydrogen, and oxygen atoms. A B C D

3. Part of the electricity <u>used</u> in the United States <u>today</u> <u>come</u> from hydroelectric <u>sources</u>. A B C D

4. The languages of the world presents a vast array of structural similarities and differences. A B C D

5. The rise of multinationals <u>have resulted</u> in a great deal of legal ambiguity because A B multinationals <u>can operate</u> in so many jurisdictions.

C D

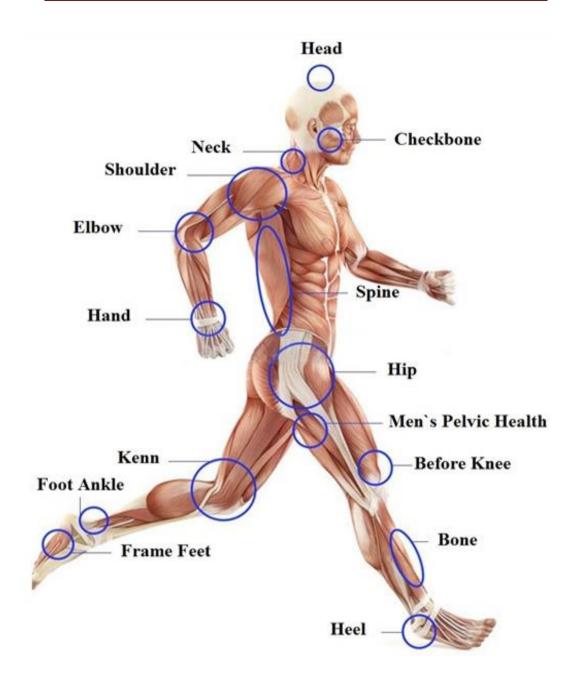
6. All of the east—west interstate highways in the United States <u>has</u> even <u>numbers</u> while A B				
north - south interstate highways <u>are odd-numbered</u> . C D				
 7. When a massive star in the large Magellanic Cloud exploded in 1987, a wave of A B neutrinos were detected on Earth. C D 				
8. Some of the agricultural <u>practices used</u> today is responsible for <u>fostering</u> desertification. A B C D				
9. Every open space in the <u>targeted</u> area that <u>has</u> grass and a few bushes <u>are occupied</u> by the A B C D white-crowned sparrow.				
10. Krakatoa is remembered as the volcano that put so much ash into the air that sunsetsABaround the world was affected for two years afterward.CD				
11. The waters of the Chattahoochee River fills Lake Lanier.ABCD				
12. The first set of <u>false teeth</u> similar to those in use today it was made in France in the 1780s.ABCD				
13. The term "Yankee" was originally a nickname for people from New England, but now anyone A from the United States are referred to as a Yankee. B C D				
 14. A network of small arteries, mostly <u>sandwiched</u> between the skin and the <u>underlying</u> muscles, A B <u>supply blood</u> to the face and scalp. C D 				
15. Mesquite is a small tree in the Southwest who can withstand the severest drought.ABCD 16. Ballpoint pens are less versatile but more population than fountain pens. ABCD				

17. Riddles vary greatly in both grammatical and phonology form.				
A B	С	D		
18. Blood pressure is <u>measured</u> by feeling the pulse	e and <u>app</u>	<u>ly</u> a <u>force</u> to th	e <u>arm</u> .	
А	В	С	D	
19. The Moon <u>has no</u> atmosphere, no air, <u>and</u> no <u>wa</u>	tery.			
A B C I 20. The first <u>matches were</u> too hard to ignite, <u>a mess</u>	D s or too d	angerouely eac	ev to ignite	
$\begin{array}{c} \textbf{A} \textbf{B} \textbf{C} \end{array}$	<u>s</u> of too <u>u</u>	D	y to ignite.	
21. A 1971 U.S. <u>government</u> policy not only put wa A television <u>advertising</u> of cigarettes. D	rnings on	i cigarette <u>pack</u> B	<u>es</u> but also <u>banning</u> C	
22. <u>Demand</u> beauty, durability, <u>rare</u> , and perfection	of cutting			
A B		С	D	
23. The Harvard Yard, <u>which</u> was Harvard's <u>origina</u> A B students and <u>visiting.</u> D	al campus	s, is still a <u>majc</u> C	or attraction for both	
24. In 1862, the American Confederacy raised the M B with iron plates and an outfit it with ten guns. C D	Ierrimacl	k, renamed it tl	ne Virginia, covered it A	
25. The liquid crystals in a liquid crystal $\underline{\text{display}}$ (LCD) $\underline{\text{affect}}$ the <u>polarized</u> light so that it is A B C either blocked <u>and</u> reflected by the segments of the display. D				
26. At the <u>end</u> of the Revolution, most of the army under A	units of th	e young natior	n <u>was</u> almost entirely B	
disbanded, leaving a total national military force o	f 80 men			
27.Coal, petroleum, <u>and natural gaseous</u> are <u>all</u> fos A B C	ssil <u>fuels.</u> D			
28. The mass of <u>neutron stars</u> generally <u>range</u> from A B	one-tenth		<u>nass</u> of the Sun. D	

29. Grasses grow in ways that help them to survive being nibbled, chilly or dried. Α В С D **30.** Most of Hemingway's novels glorifies heroic exploits such as bullfighting or boxing. R Α **31.** Paleographers <u>study</u> ancient and <u>medieval</u> handwriting in order to <u>establish</u> not only its age А В С and also its background. D **32.** The sounds produced by bullfrogs and toads vary greatly because each species have its own А В С particular call. D 33.By the 1920s, many radio transmitters had been build. А В С D 34. Fish farming has rose in the United States in recent years. А В С D 35. In areas of volcanic activity, beach sand may contains dark minerals and little quartz. D B Α C **36.** Cro-Magnon man was names after the caves in southwest France where the first remains were В А С discovered. D **37.** Lassie, the famous collie who made her first screen appearance in 1943, has always be played С D Α В by a male dog. **38.** A blue bigwig lizard stakes out a territory and will defending females within it against С А В courting males. D **39.** President George Washington was <u>inaugurates</u> on the <u>steps</u> of the Federal <u>Building</u> in New А B С D York City. 40. By 1627, Plymouth had became a viable and growing community of 50 families, 25 goats, А В С 15 cows, and more than 50 pigs. D

41. Water stored behind a dam can used to drive turbines. В С D Α 42. Our universe may <u>continue</u> to <u>expand</u> as it <u>gets</u> colder, <u>empty</u> and deader. В Α С D **43.** Every form of matter in the world are made up of atoms. В С D А 44. The <u>lens</u> and cornea are <u>supply</u> with <u>nutrients</u> and oxygen by the <u>aqueous</u> fluid. Α R D C 45. Dodge City, laid out in 1872, owed both its prosperity and its famous to the buffalo in its В С А early years. D **46.** The radioactive substances that pose the greatest harm to humanity have neither very short or В С А very long half lives. D 47. A robin cocks its head to peer at a worm with one eyes and not to hear it, as was once thought. А В С D **48.**Film <u>sound</u> is often <u>record</u> by an analog system <u>which</u> like the compact disc, <u>uses</u> light. В А С D **49.**The scribes of the Middle Ages used quill pens to produce their high decorated manuscripts. А В C D 50. The principles of physics described by Christian Doppler in 1842 for the movement of stars has В А been <u>adapted</u> to evaluate the movement of <u>blood</u> within the heart. С D

Part Five Physical Therapy Glossary



Glossary of commonly used Physical Therapy terms:

Abduction:

 \rightarrow A movement of a limb away from midline or the center of the body.

Adduction:

 \rightarrow A movement of a limb toward midline or the center of the body.

Ataxia:

→ Muscular incoordination especially manifested when voluntary muscular movements are attempted.

Base of support:

 \rightarrow The weight-bearing surface of the body. For example: in standing = the feet.

Bilateral:

 \rightarrow Pertaining to two sides of the body, as in: both arms or both legs.

Calcaneal Valgum:

→ Angling of the heel of the foot outward, thereby flattening the arch of the foot.

Calcaneal Varum:

→ Angling of the heel of the foot inward, thereby increasing or heightening the arch of the foot.

Cervical:

 \rightarrow Pertaining to the neck.

Core:

 \rightarrow Pertaining to the trunk (primarily abdominals and back).

Dissociation:

 \rightarrow To separate. For example: one extremity/limb performs a movement without the other extremity doing the same or similar movement at the same time.

Distal:

 \rightarrow Farthest from the center, from midline or from the trunk.

Dynamic:

→ Pertaining to vital forces or inherent power; refers to the body in motion; opposite of stationary.

Extension:

 \rightarrow A straightening or backward movement of the spine or limbs.

External rotation:

 \rightarrow An outward turning of the limb away from the body.

Flexion:

 \rightarrow A bending or forward movement of the spine or limbs.

Genu Valgum:

 \rightarrow Angling of the knees inward as in "knock kneed".

Genu Varum:

 \rightarrow Angling of the knees outward as in "bow legged".

Gross Motor:

 \rightarrow Refers to movement of large muscle groups.

Hamstrings:

 \rightarrow A muscle group on the back of the thigh that can bend/flex the knee and straighten/extend the hip.

Hyperextension:

 \rightarrow Excessive movement in the direction of extension.

Hypermobility:

 \rightarrow Movement beyond normal range of motion.

Hypertonic:

→ Muscle tone higher than normal; resistance to passive movement; in extreme form = spasticity.

Hypotonic:

 \rightarrow Less than normal tone; floppy.

Internal rotation:

 \rightarrow An inward turning of the limb toward the body.

Instability:

→ Lack of firmness in weight-bearing. Difficulty maintaining weight bearing.

Kinesthesia:

→ Conscious awareness (perception) of body movement (direction and speed), detected by joints.

Kyphosis:

 \rightarrow An increased convexity in the curvature of the thoracic spine (hunchback).

Long-sitting:

 \rightarrow Sitting with legs straight out in front.

Lordosis:

→ An anterior/forward curvature of the lumbar and cervical vertebrae (spine). An increase is often referred to as "sway-back".

Lumbar:

 \rightarrow Pertaining to the low back.

Midline:

 \rightarrow The theoretical lines that divide the body into two equal halves vertically or horizontally.

Motor Control:

→ The ability of the Central Nervous System to regulate or direct the musculoskeletal system in a purposeful act.

Motor Planning:

→ The ability to organize and perform movement in a meaningful manner.

Obliquity:

 \rightarrow A slanting

Pes Planus:

 \rightarrow Flat feet

Prone:

 \rightarrow Lying on the belly, face down.

Proprioception:

→ The awareness of posture, movement, changes in equilibrium, and the knowledge of position, weight, and resistance of objects in relation to the body. Sensed by muscles, tendons, and soft tissue.

Proximal:

 \rightarrow Nearest to the point of attachment or center of the body.

Quadriceps:

 \rightarrow A large muscle group on the front surface of the thigh responsible for knee extension.

Range of Motion:

→ A measure of the amount of movement/motion available at any given joint of the body.

Recurvatum:

 \rightarrow A backward bending, frequently referring to the knees.

Reflex:

 \rightarrow An involuntary/automatic response to a stimulus.

Ring Sitting:

 \rightarrow Sitting on the buttocks with legs forming a ring in front (not crossed).

Sacral:

→ The triangular-shaped bone below the lumbar spine formed, typically, by the fusion of 5 vertebrae.

Side-sitting:

 \rightarrow Sitting on one hip with legs flexed to the opposite side.

Spasticity:

 \rightarrow Hypertension of muscles causing stiff and awkward movements.

Static:

 \rightarrow At rest; in equilibrium; not in motion.

Supine:

 \rightarrow Lying on the back, face up.

Symmetrical:

→ Referring to symmetry of the body, whose right and left halves are mirror images of each other.

Tactile Defensiveness:

 \rightarrow A negative response or increased sensitivity to touch.

Tailor-sitting:

 \rightarrow Buttocks on the floor with legs flexed and crossed ("pretzel sitting").

Thoracic:

 \rightarrow Pertaining to or affecting the chest or upper back.

Tone (muscle):

 \rightarrow The degree of tension normally present in the resting state of a muscle.

Unilateral:

 \rightarrow Affecting or occurring on only one side of the body.

Vestibular Stimulation:

→ Stimulation of the vestibular apparatus (bones of the inner ear and canals) that provides information regarding acceleration and the position of the body in space.

Weight shift:

→ Translation or movement of body weight from one side to another, forward or back.

End of the Course

Important Links for Some Linguistic Drills

Improving English Language:

- 1. Part One: https://www.youtube.com/watch?v=FUZLQg-LZOc&t=559s
- 2. Part Two: https://www.youtube.com/watch?v=y2DY_CYt_FU&t=430s

Essay Writing:

1. <u>https://www.youtube.com/watch?v=tvaXf_i33ow&t=213s</u>

Some Reading Comprehension Passages:

- 1. Spiders: <u>https://www.youtube.com/watch?v=ljYWi_eKOd8&t=139s</u>
- 2. Jada and Jessie: <u>https://www.youtube.com/watch?v=gQeVC0A8-NI&t=10s</u>

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Good Luck