Test Form Canadian PA
- Science

Tests of
General Educational Development

Science
Official GED Practice Test

GED Testing Service
American Council on Education
Dear Student,

Congratulations on deciding to earn your high school credential!

Why should you take the GED Practice Tests? Because they are similar in content, difficulty, and format to the actual GED Tests. These Practice Tests will provide you with a solid introduction to the types of topics and questions you can expect to find on the GED Tests. They will also help you practice your test-taking skills under simulated test conditions. (Note that the Practice Tests are only half as long as the actual tests.) Additionally, the scores you earn on the Practice Tests will help you estimate your scores on the actual GED Tests. With all this practice, by the time you walk into the actual test center, you'll feel confident and prepared to do your best!

Here are a few tips to help you do well on both the Practice and GED Tests:

- Read all directions and questions carefully and completely.

- Pick the single best answer. All multiple-choice questions have five answer choices. There are no "trick" questions. Some questions in the math sections ask you to grid in your own numerical solution to a problem; in these cases, you will not have multiple-choice options.

- Answer every question. If you get stuck on a question, move on. Complete the rest of the test, and then come back to the questions you skipped. Eliminate the answer choices that you know are wrong and pick the best remaining answer. Even if you are unsure, mark an answer choice for every question because you will not be penalized for wrong answers.

The Practice Test is a good predictor of your success on the actual GED Tests. Use the guidelines below and consult with your teacher or tutor to help you determine your readiness to take the tests:

- If your Practice Test scores are much higher than those required to pass the tests, you are probably ready to take the actual GED Tests.

- If your Practice Test scores are about the same as the required scores, consider studying more before taking the actual GED Tests.

- If your Practice Test scores are significantly lower than the required scores, we encourage you to attend class, work with a tutor, or study GED books before taking the actual GED Tests.

We wish you much success as you work to earn your high school credential and accomplish your other educational, professional, and personal goals. Good luck!

Sincerely,
Joan C. Auchter, Executive Director
GED Testing Service Staff
Directions: Choose the one best answer to each question.

1. Based on the data provided in the chart, in which months is the rainfall about the same?
   
   Rainfall in the Rain Forest
   
   Months
   
   (1) March and August
   (2) January and November
   (3) February and June
   (4) May and September
   (5) October and December

2. A naturalist wanted to answer the question, "How many petals does an average daisy have?" He gathered a large number of daisies and counted the number of petals on each. He then listed his observations in the following graph.

   A Survey of the Number of Petals Produced by Daisy Flowers

   Which of the following statements could BEST be supported by his observations?

   (1) The most common number of petals on a daisy is 15.
   (2) The least common number of petals on a daisy is 20.
   (3) The largest number of petals on a daisy is 19.
   (4) The smallest number of petals on a daisy is 14.
   (5) The number of petals on a daisy varies.
3. Which of the following statements could be directly derived from the fact that Earth rotates on a tilted axis while revolving about the Sun?

(1) Earth is widest at the equator.
(2) While the Northern Hemisphere experiences winter, the Southern Hemisphere experiences summer.
(3) Most of Earth’s surface is covered by ocean.
(4) The desert area of East Africa increases in size every year.
(5) Erosion occurs in a west-to-east pattern.

4. At high altitudes, the atmosphere contains fewer molecules per unit volume of air than it does at low altitudes.

For which reason may people experience shortness of breath more quickly at the top of a mountain than along a seashore?

(1) a slower pulse rate
(2) a greater gravitational force on the body
(3) a lower percent of oxygen in the blood
(4) a faster heartbeat
(5) a slower circulation of blood

5. As a moist air mass begins to ascend one side of a mountain, the cooler, high altitudes cause the water vapor to condense and fall onto the mountain in the form of rain, hail, or snow. After the condensation occurs, the now-dry air mass continues on across the mountain.

A certain mountain range runs from north to south across a continent. At this location, the winds always blow from the west to the east. Based on the process described above, which represents the BEST description of the location involved?

(1) much vegetation on the west side of the mountain range and dry conditions on the east side
(2) desert on both sides of the mountain range
(3) a large lake on the east side of the mountain range
(4) tropical conditions in the northern part of the continent
(5) desert conditions on the west side of the mountain range and lush forests on the east side
Questions 6 through 9 refer to the following information.

Agriculture depends on a layer of soil that averages only 15 centimetres in depth over Earth's surface. Crop plants rely on this rich upper layer called "topsoil." Erosion is a natural process by which topsoil is removed by the action of wind or water. Plant cover helps hold soil in place and limits the amount of erosion that takes place.

Soil formation takes thousands of years, but across the world, topsoil is being lost at ten times the rate at which new soil is formed. People have accelerated the rate of erosion by using the land in an uncontrolled manner.

However, erosion can be reduced in several ways. Contour plowing (plowing along the contour of the land) and terracing (making a series of level plots in a steplike fashion along a slope) reduce water runoff. To minimize soil loss when crop plants are spaced far apart, a method called strip cropping is used. In strip cropping, farmers grow low strips of vegetation that hold down the soil between the crops. Trees called windbreaks are planted between fields to help prevent the wind from carrying away topsoil.

Soil depletion also threatens topsoil. In a natural setting, nutrients from plants are returned to the soil as a result of decay. Farmers use fertilizers to return nutrients to the soil. A technique of alternating crops, called crop rotation, can also return nutrients to the soil. Legumes such as alfalfa and beans can add nitrogen to the soil. Legumes can be alternately grown with plants like wheat or sorghum, which deplete nitrogen from the soil.

6. H.H. Bennett, one-time chief of the Soil Conservation Service, is known as the father of soil conservation. He once said, "Productive soil is life, and the production of soil is vanishing with each passing year."

Which solution would be the MOST beneficial to help resolve this environmental problem?

1. Tax farmers for every acre of the land they use.
2. Convince farmers to use accepted methods to prevent erosion.
3. Do not let farmers use the land.
4. Encourage landowners to clear-cut all vegetation.
5. Lower the price of fertilizers to reduce the total cost to the farmer.

7. If corn is grown in the same soil for many years, such corn will deplete nitrogen from the soil. Which method could help to return depleted nutrients to the soil?

1. contour plowing
2. terracing
3. crop rotation
4. strip cropping
5. windbreaks

8. Which method is used to counteract the effects of erosion caused by water?

1. crop rotation
2. soil depletion
3. fertilizers
4. legumes
5. terracing

9. Why are plants able to slow down soil erosion?

1. They prevent plant disease.
2. They prevent water from evaporating.
3. They use up nutrients in the soil.
4. Their roots hold the soil.
5. Their leaves catch water.
10. The living cells that conduct food and water up and down through the trunk of a tree are located in a relatively thin layer just under the bark. The center part of the trunk contains old, dead cells.

If it were necessary to kill a mature tree, which of the following methods would be most effective?

(1) Saw a deep cut about halfway into the trunk on one side.
(2) Remove most of the center of the trunk through a small opening.
(3) Drive a steel spike through the bark to the center of the trunk.
(4) Bore a hole through the center of the trunk.
(5) Cut a deep groove below the bark around the tree trunk.

11. The blocks in the figure below each float in water and are all the same size; each is constructed of a different substance. A block will float only if its weight is less than the weight of an equal volume of water that it displaces.

**Buoyancy**

Which of the blocks shown above displaces the largest volume of water?

(1) Block 1
(2) Block 2
(3) Block 3
(4) Block 4
(5) Block 5
12. Day-night rhythms dramatically affect our bodies. Probably no body system is more influenced than the nervous system. This figure illustrates the number of errors made by shift workers in different portions of the 24-hour cycle.

![Day-Night Cycles](image)

Based on the data illustrated in the figure, during which of these time periods did the most errors occur?

(1) 2 A.M. to 4 A.M.
(2) 8 A.M. to 10 A.M.
(3) 12 P.M. to 2 P.M.
(4) 2 P.M. to 4 P.M.
(5) 8 P.M. to 10 P.M.

13. As part of a laboratory experiment, five students measured the weight of the same leaf four times. They recorded 20 slightly different weights. All of the work was done carefully and correctly. Their goal was to be as accurate as possible and reduce error in the experiment to a minimum.

Which of the following is the BEST method to report the weight of the leaf?

(1) Ask the teacher to weigh the leaf.
(2) Report the first measurement.
(3) Average all of the weights that were recorded.
(4) Average the highest and lowest weights recorded.
(5) Discard the lowest five weights.

14. Smokestacks used by industries that burn coal or oil often give off sulfur dioxide as a by-product. Sulfur dioxide reacts with the oxygen in the air to form sulfur trioxide. Sulfur trioxide then combines with the water in the air to form sulfuric acid.

What is the most prominent atmospheric consequence of this series of chemical reactions?

(1) The atmosphere is polluted with substances that are harmful to humans and to the environment.
(2) Plants that require a basic soil with a high pH level thrive.
(3) The atmosphere becomes less polluted because sulfuric acid dissolves all particles in the air.
(4) Marine life reproduces faster because of the increasing acidity of the water.
(5) Increased sulfur dioxide emissions have little effect because wind blows the emissions away.
Density of Some Gases at Standard Temperature and Pressure

<table>
<thead>
<tr>
<th>Gas</th>
<th>Density (grams per litre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>air (dry)</td>
<td>1.2929</td>
</tr>
<tr>
<td>ammonia</td>
<td>0.771</td>
</tr>
<tr>
<td>chlorine</td>
<td>3.214</td>
</tr>
<tr>
<td>helium</td>
<td>0.1785</td>
</tr>
<tr>
<td>oxygen</td>
<td>1.429</td>
</tr>
</tbody>
</table>

15. Which gas listed above is the LEAST dense?

(1) air (dry)
(2) ammonia
(3) chlorine
(4) helium
(5) oxygen

16. Bats navigate by sending out and receiving sound waves. The bat can determine the shape, size, and location of an object by measuring the time it takes for the sound waves to return.

Which of the following uses this principle?

(1) a telephone call that is transmitted via satellite
(2) a radio signal that is sent from a tower to a radio receiver
(3) a special photograph taken by a satellite that shows areas of different temperature
(4) a message transmitted over phone lines from one computer to another
(5) a sonar system that can determine if there are fish beneath a ship

17. The graph illustrates the cooling rates of two solutions of 150 ml of potassium nitrate (KNO₃), using a 250-ml glass beaker with a cardboard cover and an uncovered 250-ml glass beaker.

The Cooling of a Solution

What is the BEST conclusion about cooling rates of solutions based on the data available in the graph?

(1) The covered solution cools more rapidly.
(2) The uncovered solution cools more rapidly.
(3) The concentration of the solution affects the cooling rate.
(4) The original temperature of the solution affects the cooling rate.
(5) The volume of the beakers affects the cooling rate.
18. The force of gravity causes objects to fall toward Earth, but it is commonly observed that a feather falls more slowly than a penny. However, when a feather and a penny are placed in a chamber where all the air has been removed, they both fall at the same rate.

These observations indicate that:

1. the shape of the feather causes gravity to have less force
2. metals fall faster than feathers even when no air is present
3. air resistance will cause the feather to fall more slowly
4. air resistance acts more on the penny than on the feather
5. both the feather and the penny fall more slowly in a vacuum

19. When sunlight is absorbed by an object, the energy heats the object. But if the light is reflected by or passes through the object, the object is heated to a lesser degree.

An automobile with black seatcovers is left outside on a sunny day with its windows rolled up. Which of the following will heat up the MOST while causing the inside of the automobile to get warm?

1. window glass in the side windows
2. the white steering wheel cover
3. window glass in the front windshield
4. the black seatcovers
5. the air inside the automobile

20. The graph below shows the percentage of light of different wavelengths that is absorbed by chlorophyll.

![Light Absorption by Chlorophyll](image)

For a plant to achieve the maximum rate of photosynthesis, what wavelengths of light would be MOST effective?

1. violet and blue
2. blue and red
3. green and orange
4. orange and red
5. violet and yellow
21. As many as 20 percent of patients who take prescription drugs including insulin also consume herbal supplements, but without realizing that such a combination may pose a health risk under certain circumstances. Patients should always consult their pharmacists or physicians before taking herbal supplements with prescription drugs.

**Herb Interactions**

<table>
<thead>
<tr>
<th>HERB</th>
<th>INTERACTION</th>
<th>WHEN TAKEN WITH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garlic</td>
<td>Increased internal bleeding</td>
<td>Blood-thinning drugs</td>
</tr>
<tr>
<td>Gingko Biloba</td>
<td>Increased internal bleeding</td>
<td>Blood-thinning drugs</td>
</tr>
<tr>
<td>St. John's Wort</td>
<td>Increased sedation</td>
<td>Prozac</td>
</tr>
<tr>
<td>Ginseng</td>
<td>Lowered blood-sugar level</td>
<td>Insulin or blood-sugar regulators</td>
</tr>
</tbody>
</table>

From information provided in the chart above, which of the following statements is true?

Herbal supplements

(1) are types of vitamins that have a high calorie content
(2) interfere with all prescription drugs
(3) are cheaper than prescription drugs
(4) boost the human immune system
(5) may change the effect of certain prescription drugs

22. Two identical balls are suspended by a rod, as shown in the diagram below.

A positive electrical charge is put on the left ball, and a negative charge on the ball on the right.

**Expected Change in Position When Particles Have Opposite Charges**

After placing the charges on the balls, which of the following BEST represents how the balls will react to each other?

(1) A
(2) B
(3) C
(4) D
(5) E
23. If object A and object B below both have the same mass, object B will lose heat more quickly than object A.

**Body Structures and Heat Loss**

If minimizing heat loss were the main consideration, which type of animal adaptation would be **BEST** suited to a small animal that lives in a cold climate?

1. long ears and long body
2. small ears and short tail
3. long nose and long tail
4. short nose and large ears
5. long tail and short nose

24. In order to cut her grass, Georgette recently purchased a string trimmer with the following instructions.

**Mixing Instructions for 2-Cycle Engine Oil**

Mix 2-cycle oil with unleaded gasoline in a 24:1 ratio of gasoline (gallons) to oil (ounces). Use the mixing instructions from an 8-ounce container of 2-cycle engine oil as listed in the following table.

<table>
<thead>
<tr>
<th>Ratio</th>
<th>16:1</th>
<th>20:1</th>
<th>24:1</th>
<th>32:1</th>
<th>40:1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gas (Gal)</td>
<td>1.0</td>
<td>1.25</td>
<td>1.5</td>
<td>2.0</td>
<td>2.5</td>
</tr>
<tr>
<td>Oil (Oz)</td>
<td>8.0</td>
<td>8.0</td>
<td>8.0</td>
<td>8.0</td>
<td>8.0</td>
</tr>
</tbody>
</table>

Georgette needs to fill the trimmer’s engine properly before she uses it.

Which amount of gasoline should she mix with the contents of the oil container?

1. 1.0 gallon
2. 1.25 gallons
3. 1.5 gallons
4. 2.0 gallons
5. 2.5 gallons
25. Earth’s environment has changed over the centuries. Such changes can be viewed by examining fossils below Earth’s surface. The fossils shown in the following diagram were found in a rock cliff.

| Location of Fossils in Earth’s Layers |
|-----------------|----------------------------------|
| Surface         | D  | leaf, plant stem, animal footprints |
|                 | C  | tree trunk, flower stem, animal footprints |
| Deep Below Surface | B  | shark teeth, fish scales, plant stem |
|                 | A  | plant stem, leaf, flower prints |

What environmental change **BEST** explains the differences between layers A and B?

(1) The weather changed.
(2) Oceans covered the area.
(3) Earthquakes occurred.
(4) No observable changes are present.
(5) Drought conditions prevailed.

END OF EXAMINATION
The Science Test consists of multiple-choice questions intended to measure general concepts in science. The questions are based on short readings that often include a graph, chart, or figure. Study the information given and then answer the question(s) following it. Refer to the information as often as necessary in answering the questions.

You will have 40 minutes to answer the 25 questions in this booklet. Work carefully, but do not spend too much time on any one question. Be sure you answer every question.

Do not mark in this test booklet. Record your answers on the separate answer sheet provided. Be sure that all requested information is properly recorded on the answer sheet.

To record your answers, fill in the numbered circle on the answer sheet that corresponds to the answer you select for each question in the test booklet.

**FOR EXAMPLE:**

Which of the following is the smallest unit in a living thing?

1. tissue  
2. organ  
3. cell  
4. muscle  
5. capillary

(On Answer Sheet)

1 2 4 5

The correct answer is "cell"; therefore, answer space 3 would be marked on the answer sheet.

Do not rest the point of your pencil on the answer sheet while you are considering your answer. Make no stray or unnecessary marks. If you change an answer, erase your first mark completely. Mark only one answer space for each question; multiple answers will be scored as incorrect. Do not fold or crease your answer sheet. Return all test materials to the test administrator.

DO NOT BEGIN TAKING THIS TEST UNTIL TOLD TO DO SO