Tennessee Comprehensive Assessment Program

TCAP

# TNReady — English III Part II

# PRACTICE TEST

Student Name

Teacher Name

Tennessee Department of Education

## Directions

This Practice Test contains several types of questions. The following samples show the types of test questions used. For all items, circle the correct answer(s).

### Sample A: Multiple-choice (one correct response)

What does the author mean by Maria's "radiant personality" in paragraph 4?

**A.** She is organized.

**B.** She is a hard worker.

**C.** She is outgoing and likable.

**D.** She is tired and sleepy.

### Sample B: Multiple-select (multiple correct responses)

According to passage 1, Mr. Gespy is planting a small garden in his backyard. He wants to know which vegetables will grow best in his garden.

Select **two** sentences that will help Mr. Gespy decide which vegetables to plant in his garden.

**A.** Mr. Gespy saw many flowers on his trip to the mountains last year.

**B.** The soil in Mr. Gespy's backyard is very sandy.

**C.** Mr. Gespy lives in a large neighborhood.

**D.** The winter months are usually cold where Mr. Gespy lives.

**E.** Mr. Gespy's backyard is shady, with little direct sunlight.

**Sample C: Two-part multiple-choice (with evidence responses)**

**Read the passage and answer the questions that follow.**

## The State Quarters Program

A profile of our first U.S. president, George Washington, has been featured on the quarter since 1932. While Washington graces the "heads" side, or obverse, of the coin, the reverse has had numerous variations, most notably during the State Quarters program launched by the U.S. government from 1999 to 2008. During this span, each of the 50 states was represented on the reverse with a depiction of its cultural legacy or a significant event in its history. The Delaware quarter depicts Caesar Rodney, an instrumental statesman during the American Revolution. The North Carolina quarter shows the Wright brothers' first airplane flight. The Tennessee quarter portrays the musical heritage of the Volunteer state, illustrated by a fiddle, a trumpet, and a guitar.

The following item has two parts. Answer Part A and then answer Part B.

***Part A***

What is meant by legacy, as mentioned in the passage?

**A.** pause

**B.** collection

**C.** tradition

**D.** instrument

***Part B***

Which phrase from the passage **best** supports the answer to Part A?

**A.** "Washington graces the 'heads' side"

**B.** "the reverse has had numerous variations"

**C.** "program launched by the U.S. government"

**D.** "portrays the musical heritage"

**Sample D: Editing Task**

Some test items require you to determine if an underlined word or phrase in a passage is used correctly.

**There are words or phrases in the passage that are underlined to show they may be incorrect. For each underlined word or phrase, select the correct replacement.**

Plastic water bottles and plastic grocery bags have become a major environmental issue in our country. The plastic often used to make many bottles and bags takes hundreds of years to <u>disintegrate, caused</u> unneeded pollution in our waters, parks, and land fields.

Replace <u>disintegrate, caused</u> with

**A.** disintegrate. Caused

**B.** disintegrate, causing

**C.** disintegrate; causing

**D.** disintegrate, caused

**Answers to Sample Questions**

**A** Ⓐ Ⓑ ● Ⓓ

**B** Ⓐ ● Ⓒ Ⓓ ●
Select **two**

**C** ***Part A*** Ⓐ Ⓑ ● Ⓓ
***Part B*** Ⓐ Ⓑ Ⓒ ●

**D** Ⓐ ● Ⓒ Ⓓ

**Read the passages and circle the answers for Numbers 1 through 7.**

## Passage 1
## from "Galaxy in Front of Supernova Creates Cosmic Mirage: Einstein Cross"

by Nadia Drake

**1** A galaxy's alignment lets astronomers watch a strange, distant supernova explode. And then watch it again. And again. And again and again.

**2** Instead of intergalactic voodoo, the twisted apparitions are the result of a fortuitous[1] cosmic alignment.

**3** Exactly one century ago, in his theory of general relativity, Einstein described how massive objects could tug on light, and even pull at the fabric of space-time. Put simply, strong gravitational fields can act as lenses—warping, magnifying, and redirecting light as it travels through the cosmos.

**4** "It's just this incredible verification of general relativity," says study co-author Ryan Foley of the University of Illinois at Urbana-Champaign.

**5** Depending on the lensing geometry and position of the viewer—in this case, the Hubble Space Telescope—multiple images of the same background object can be produced. Some of those images might even arrive years apart.

**6** Here, one of the galaxies in a massive cluster five billion light-years away is acting as a lens for the dying star. The supernova's four projected images are arranged in a configuration known as an Einstein Cross—but they're not all playing at the same speed, because the light took slightly different paths on its way to Earth. Though a handful of bright, active galaxies have been caught in a cross shape before, this is the first supernova found in perfect quadruplicate.

**7** "They are definitely very unusual," says University of California, Berkeley postdoc Patrick Kelly, who spotted the supernova in images from Hubble. "Probably because no one had found a similar object before, I had not even seriously entertained the possibility of finding multiple images of the same supernova."

**8** Scientists predict this explosion will replay in a completely different part of the cluster sometime in the next decade, but the rerun could air as early as next year. Studying the delay between showtimes will help astronomers gather information about the rate at which the universe is expanding.

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[1] **fortuitous:** occurring by chance

**9** Without lensing, the supernova wouldn't have been visible at all—at roughly nine billion light-years away, it would have been too faint. The images taken by Hubble, though, are part of a program designed specifically to look for lensed objects. Through the quirks of their image manipulation, gravitational lenses can reveal information about how dark matter is distributed and how the expansion rate of the universe has changed over time—things that are otherwise pretty tricky to measure.

**10** "We can try to reverse engineer the properties of the gravitational lens," says Robert Kirshner of the Harvard-Smithsonian Center for Astrophysics. "The lens itself is not really the bright stars we can see. The thing that is doing the lensing is the dark matter."

**Superweird Supernova**

**11** The supernova itself is something of an enigma.[2] Kelly and the team named it after Sjur Refsdal, the Norwegian astrophysicist who first predicted that lensed supernovae could be used to probe cosmic expansion, back in 1964.

**12** Scientists caught it early and have watched as the explosion keeps getting brighter—which it's been doing for the past four months. Normally, supernovae would have peaked in brightness and begun dimming by now, but this one isn't obeying the rules. What's more, the spectrum of light from the explosion doesn't match any of the known types of supernovae. Scientists' best guess right now is that it's a peculiar type of core-collapse supernova, similar to one that went off in 1987 in the Large Magellanic Cloud.

**13** It's also possible that nine billion years ago, stars were following a slightly different set of rules. The younger universe contained fewer metals, scientists say, and the stars grew bigger and died faster. So it's not inconceivable that supernovae behaved differently, too.

**14** "I would not be surprised if this was a little bit different than local examples," Foley says. "One of the big open areas of research is determining exactly what changes with cosmic time or distance."

**15** The team will continue to observe the brightening explosion, and will do its best to catch the rerun from the very beginning. In fact, it's probably not the first time this supernova has lit up the cosmic screen: Simulations based on the lensing cluster suggest the star's final act may have already played twice in the past century.

Excerpt from "Galaxy in Front of Supernova Creates Cosmic Mirage: Einstein Cross" by Nadia Drake in *National Geographic*, March 2015.

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[2] **enigma:** mystery

# Passage 2
# "Scientists See Same Star Explode 4 Times"

by Charles Q. Choi

*A galaxy-scale cosmic lens brings a faraway supernova into focus.*

**16** For the first time, a cosmic magnifying glass has allowed scientists to see the same star explosion four times, possibly offering a revealing glimpse into these explosive stellar deaths and the nature of the accelerating universe.

**17** Astronomers using the Hubble Space Telescope have captured four images of a supernova explosion in deep space thanks to a galaxy located between Earth and the massive star explosion. The galaxy cluster warped the fabric of space and time around it—like a bowling ball placed on a bed sheet—allowing scientists to see the supernova in four images.

**18** "It was predicted 50 years ago that a supernova could be gravitationally lensed like this, but it's taken a long time for someone to find an example," lead study author Patrick Kelly, an astronomer at the University of California, Berkeley told Space.com. "It's fun to have been able to find the first one."

**19** The supernova, which was discovered on Nov. 11, 2014, is located about 9.3 billion light-years away from Earth, near the edge of the observable universe. The researchers have named the distant supernova SN Refsdal in honor of the late Norwegian astrophysicist Sjur Refsdal, a pioneer of gravitational lensing studies. Due to gravitational lensing, "the supernova appears 20 times brighter than its normal brightness," study co-author Jens Hjorth, head of the Dark Cosmology Centre at the Niels Bohr Institute at the University of Copenhagen, said in a statement.

**20** The lensing galaxy, which is about 5 billion light-years from Earth, is part of a large cluster of galaxies known as MACS J1149.6+2223. In 2009, astronomers discovered that this cluster was the source of the largest known image of a spiral galaxy ever seen through a gravitational lens.

**21** The four images of the supernova each appeared separately over the course of a few weeks. This is because light can take various paths around and through a gravitational lens, arriving at Earth at different times.

## Using gravity as a lens

**22** Gravity is created when matter warps the fabric of reality. The greater the mass of an object, the more space-time curves around that object and the

stronger its gravitational pull, the discovery enshrined in Einstein's theory of general relativity, which celebrates its centennial this year.

**23** As a result, gravity can also bend light like a lens, meaning objects seen behind powerful gravitational fields, such as those of massive galaxies, are magnified. Gravitational lensing was first discovered in 1979, and today gravitational lenses can help astronomers see features otherwise too distant and faint to detect with even the largest telescopes.

**24** "These gravitational lenses are like a natural magnifying glass. It's like having a much bigger telescope," Kelly said in a statement. "We can get magnifications of up to 100 times by looking through these galaxy clusters."

**25** When light is far from a gravitationally lensing mass, or if the gravitationally lensing mass is not especially large, only "weak lensing" occurs, barely distorting the light. However, when the light comes from almost exactly behind the gravitationally lensing mass, "strong lensing" can happen.

**26** When a strongly lensed object occupies a large patch of space—for instance, if it's a galaxy—it can get smeared into an "Einstein ring" surrounding a gravitationally lensing mass. However, strong lensing of small, pointlike items—for instance, super-bright objects known as quasars—often produces multiple images surrounding the gravitationally lensing mass, resulting in a so-called "Einstein cross."

**27** The observations of SN Refsdal mark the first time astronomers on Earth have witnessed strong lensing of a supernova, with four images of an exploding star arrayed as an Einstein cross.

**An expanding universe**

**28** These new findings could help scientists measure the accelerating rate at which the universe is expanding, researchers say.

**29** A computer model of the lensing cluster suggests the scientists missed chances to see the lensed supernova 50 and 10 years ago. However, the model also suggests more images of the explosion will repeat again within the next 10 years.

**30** The timing of when all these images of the supernova arrive depends on the gravitational pull of the matter generating the gravitational lens. So, by measuring those times, the researchers hope to map how visible normal matter and invisible dark matter is distributed in the lensing galaxy.

**31** Dark matter is currently one of the greatest mysteries in science, a poorly understood substance thought to make up five-sixths of all matter in the universe. A better understanding of how dark matter is behaving in this gravitationally lensing cluster might help shed light on the material's nature, Kelly said.

"Scientists See Same Star Explode 4 Times" by Charles Q. Choi from *Scientific American*, March 5, 2015.

**1.** Which quotation from passage 1 **best** helps convey the author's point of view that astronomers still have a great deal to learn about the cosmos?

**A.** "Instead of intergalactic voodoo, the twisted apparitions are the result of a fortuitous cosmic alignment."

**B.** "Depending on the lensing geometry and position of the viewer—in this case, the Hubble Space Telescope—multiple images of the same background object can be produced."

**C.** "The supernova's four projected images are arranged in a configuration known as an Einstein Cross—but they're not all playing at the same speed, because the light took slightly different paths on its way to Earth."

**D.** "Normally, supernovae would have peaked in brightness and begun dimming by now, but this one isn't obeying the rules."

**2.** The following item has two parts. Answer Part A and then answer Part B.

***Part A***
What is the meaning of the word quadruplicate as it is used in paragraph 6?

**A.** magnified by a gravitational pull

**B.** arranged in a spiral shape

**C.** expected at different times

**D.** composed of four parts

***Part B***
Select the word or phrase that **best** supports the correct answer in Part A.

**A.** "massive cluster"

**B.** "lens"

**C.** "configuration"

**D.** "bright, active galaxies"

**E.** "cross shape"

**F.** "perfect"

**3.** The following item has two parts. Answer Part A and then answer Part B.

***Part A***
Which sentence **best** summarizes the central ideas in passage 2?

**A.** A distant supernova has been named for a scientist who studied gravitational lensing; a supernova that was visible in the past will be visible again in the future.

**B.** Astronomers are successfully using the Hubble Space Telescope to discover new types of supernovae; a supernova has resulted in a formation known as an Einstein cross.

**C.** Galaxy clusters sometimes serve as a natural magnifying glass for objects behind them; scientists have seen multiple images of a supernova in deep space.

**D.** Scientists are using computer models to make predictions about the universe; it becomes easier to see distant objects when they are viewed through gravitational lenses.

***Part B***
How are these central ideas developed in the passage?

**A.** Paragraphs 16 through 19 explain how the supernova's position in relation to a galaxy has caused the supernova image to appear four times.

**B.** Paragraphs 17 and 21 provide a detailed description of the Einstein cross to show the usefulness of the Hubble Space Telescope.

**C.** Paragraphs 19 and 27 refer to the supernova by name, and paragraph 29 explains when it is likely to be visible again.

**D.** Paragraphs 22 through 26 describe unique effects created by gravity, and paragraph 27 provides an example of its effects.

**4.** How do the authors use structure to present the main ideas of the passages?

**A.** Although both passages begin by contrasting a lensed supernova with other distant objects unaffected by gravitational lensing, passage 1 speculates about the cause of the supernova, while passage 2 describes its possible future effects.

**B.** Although both passages begin by establishing that gravitational lensing has led to the discovery of a distant supernova, passage 1 gives additional information about the supernova, while passage 2 provides a detailed explanation of gravitational lensing.

**C.** Both passage 1 and passage 2 define gravitational lensing, and then give various examples of how it has affected objects in space.

**D.** Both passage 1 and passage 2 describe the main problem astronomers face when attempting to study distant objects, and then explain how gravitational lensing provides a partial solution to that problem.

**5.** According to **both** passages, studying supernovae through gravitational lenses could ultimately lead to which **two** outcomes?

**A.** determining the frequency of the appearance of supernovae

**B.** understanding the nature of dark matter

**C.** measuring the rate at which the universe is expanding

**D.** focusing gravitational lenses on specific objects in space

**E.** warping the fabric of space and time around a large galaxy

**6.** The following item has two parts. Answer Part A and then answer Part B.

***Part A***
Arrange the four sentences in the order in which the events occurred according to the dates given in the passages. Place a number 1–4 in the blank next to each sentence.

____ Astronomers witnessed strong lensing of a supernova with four images of the exploding star forming an Einstein cross.

____ Sjur Refsdal predicted that lensed supernovae could increase astronomers' understanding of the universe.

____ Galaxy cluster MACS J1149.6+2223 was discovered.

____ Gravitational lensing was discovered.

***Part B***
In the context of the passages, why is it important to know when Einstein published his theory of general relativity?

**A.** The theory explains how the Hubble Space Telescope captured images of a core-collapse supernova in the Large Magellanic Cloud.

**B.** The theory proves the existence of dark matter.

**C.** The theory is the foundation for scientific developments that led to using a gravitational lens to study a supernova.

**D.** The theory was disproved by the weak lensing images of an Einstein cross captured by the Hubble Space Telescope.

**7.** The following item has two parts. Answer Part A and then answer Part B.

***Part A***
How do the authors of **both** passages support the conclusion that the discovery of the supernova is an important event?

**A.** They explain that the supernova is so far away that it could not have been seen without gravitational lensing.

**B.** They describe the elation felt by Patrick Kelly, the scientist who spotted the supernova in Hubble images.

**C.** They explain how gravitational lensing of small, bright objects produces a beautiful effect known as an Einstein cross.

**D.** They describe what scientists hope to learn from analyzing the timing between different supernova images.

***Part B***
Which **two** statements provide evidence for the correct answer in Part A?

**A.** The passages mention how little is known about dark matter.

**B.** The passages explain what gravitational lensing is.

**C.** The passages quote Patrick Kelly.

**D.** The passages mention quasars as an example of objects that can cause an Einstein cross.

**E.** The passages say it is difficult to measure the rate at which the universe is expanding.

**F.** The passages note that the supernova is 9.3 billion light-years away.

**Read the poem and circle the answers for Numbers 8 through 14.**

## After Apple-Picking

by Robert Frost

My long two-pointed ladder's sticking through a tree
Toward heaven still,
And there's a barrel that I didn't fill
Beside it, and there may be two or three
**5** Apples I didn't pick upon some bough.
But I am done with apple-picking now.
Essence of winter sleep is on the night,
The scent of apples: I am drowsing off.
I cannot rub the strangeness from my sight
**10** I got from looking through a pane of glass
I skimmed this morning from the drinking trough
And held against the world of hoary grass.
It melted, and I let it fall and break.
But I was well
**15** Upon my way to sleep before it fell,
And I could tell
What form my dreaming was about to take.
Magnified apples appear and disappear,
Stem end and blossom end,
**20** And every fleck of russet showing clear.
My instep arch not only keeps the ache,
It keeps the pressure of a ladder-round.
I feel the ladder sway as the boughs bend.
And I keep hearing from the cellar bin
**25** The rumbling sound
Of load on load of apples coming in.
For I have had too much
Of apple-picking: I am overtired
Of the great harvest I myself desired.
**30** There were ten thousand thousand fruit to touch,
Cherish in hand, lift down, and not let fall.
For all
That struck the earth,
No matter if not bruised or spiked with stubble,
**35** Went surely to the cider-apple heap
As of no worth.
One can see what will trouble
This sleep of mine, whatever sleep it is.

Were he not gone,
**40** The woodchuck could say whether it's like his
Long sleep, as I describe its coming on,
Or just some human sleep.

"After Apple-Picking" by Robert Frost. In the public domain.

**8.** The following item has two parts. Answer Part A and then answer Part B.

***Part A***
Select **two** sentences that **best** express central ideas of "After Apple-Picking."

**A.** The speaker is reflecting on a life of hard work.

**B.** The speaker is afraid to die.

**C.** The speaker greatly enjoys life and wishes it to continue.

**D.** The speaker feels he has done everything possible in his life.

**E.** The speaker is unhappy about leaving things undone when he dies.

**F.** The speaker is prepared for the end.

***Part B***
Select **two** details that **best** support the correct answers in Part A.

**A.** "there may be two or three / Apples I didn't pick upon some bough. / But I am done with apple-picking now."

**B.** "I could tell / What form my dreaming was about to take."

**C.** "Magnified apples appear and disappear, / Stem end and blossom end, / And every fleck of russet showing clear."

**D.** "My instep arch not only keeps the ache, / It keeps the pressure of a ladder-round."

**E.** "I am overtired / Of the great harvest I myself desired. / There were ten thousand thousand fruit to touch, / Cherish in hand, lift down, and not let fall."

**F.** "For all / That struck the earth, / No matter if not bruised or spiked with stubble, / Went surely to the cider-apple heap / As of no worth."

**9.** The following item has two parts. Answer Part A and then answer Part B.

***Part A***
What does the word skimmed mean in line 11?

**A.** read

**B.** crossed

**C.** lifted

**D.** touched

***Part B***
Which phrase from the poem **best** helps the reader determine the meaning of skimmed?

**A.** "from looking through"

**B.** "pane of glass"

**C.** "from the drinking trough"

**D.** "world of hoary grass"

**10.** The following item has two parts. Answer Part A and then answer Part B.

***Part A***
What is the literal meaning of "a pane of glass" in line 10?

**A.** a sheet of ice

**B.** a magnifying lens

**C.** a pair of eyeglasses

**D.** a stained-glass window

***Part B***
Select **two** words or phrases from the poem that **best** support the correct answer in Part A.

**A.** "my sight"

**B.** "skimmed this morning from the drinking trough"

**C.** "held against the world"

**D.** "melted"

**E.** "Upon my way"

**F.** "it fell"

**11.** What do lines 9–15 suggest about the speaker?

**A.** He has begun to see the world in a different way.

**B.** He has become mentally and physically weak.

**C.** He has a strong appreciation for the beauty of nature.

**D.** He has concerns about how the coming winter will affect his apple trees.

**12.** Select **two** lines that suggest the speaker has lived a busy life.

**A.** "I feel the ladder sway as the boughs bend."

**B.** "And I keep hearing from the cellar bin"

**C.** "For I have had too much"

**D.** "Of apple-picking: I am overtired"

**E.** "No matter if not bruised or spiked with stubble,"

**F.** "Went surely to the cider-apple heap"

**13.** The following item has two parts. Answer Part A and then answer Part B.

***Part A***
Which is the **best** literal interpretation of lines 30–38?

**A.** The speaker often dropped apples because he was distracted by his thoughts.

**B.** The speaker had to remember to set some apples aside with which to make cider later.

**C.** The speaker enjoyed the challenge of picking many apples quickly without letting them drop to the ground.

**D.** The speaker dropped some apples and left them on the ground even if they were undamaged.

***Part B***
How do these lines help develop a theme of the poem?

**A.** They reveal the speaker's concern that others may do his work improperly after he dies.

**B.** They suggest that the speaker may regret some wasted opportunities.

**C.** They reveal that the speaker was once a greedy man but has changed his ways.

**D.** They show that the speaker has led a satisfying life.

**14.** Which **two** excerpts from "After Apple-Picking" **best** reveal that the speaker believes he has reached the end of his life?

**A.** "But I am done with apple-picking now. / Essence of winter sleep is on the night, / The scent of apple: I am drowsing off."

**B.** "But I was well / Upon my way to sleep before it fell, / And I could tell / What form my dreaming was about to take."

**C.** "Magnified apples appear and disappear, / Stem end and blossom end, / And every fleck of russet showing clear."

**D.** "My instep arch not only keeps the ache, / It keeps the pressure of a ladder-round. / I feel the ladder sway as the boughs bend."

**E.** "And I keep hearing from the cellar bin / The rumbling sound / Of load on load of apples coming in."

**F.** "There were ten thousand thousand fruit to touch, / Cherish in hand, lift down, and not let fall."

**There are seven words or phrases in the passage that are underlined to show they may be incorrect. For each underlined word or phrase, circle the correct replacement.**

New findings point toward the idea that many, if not all, animals use a form of language to communicate. Even insects may use language. A surprising fact brought to light by one determined scientist's research on bees in the twentieth century.

Using a special glass-walled-hive and bees marked with colored paint, the German scientist Karl von Frisch and his fellow researchers watched as they discovered food sources at specific locations and then returned to the hive. The scientists noticed the bees buzzed circled and "waggled" when they returned to the hive after foraging for food, a set of actions researchers described as a dance. Through careful observation, von Frisch was able to determine that the foraging bees' movements communicated distance and direction to the bees at the hive. These other bees could then use the information communicated by the foraging bees to find the food source themselves. When the location of the food source changed, the foraging bees' dance changed, too. Since bees' sense of direction was based on the location of the sun and not a compass, the bees' dance also changed with the time of day. These clues helped von Frisch develop his theory of bees' "dance language."

While some scientists believe the bee dance is not a true language, von Frisch won the nobel prize in Medicine in 1973 for his work. Today scientists continue to research the puzzle of animal communication, hoping that one day we will be able not only to understand what animals say to one another but also to communicate with them ourselves.

**15.** Replace language. A surprising with

**A.** language. A surprising

**B.** language—a surprising

**C.** language; a surprising

**D.** language a surprising,

**16.** Replace glass-walled-hive with

**A.** glass-walled-hive

**B.** glass, walled hive

**C.** glass walled-hive

**D.** glass-walled hive

**17.** Replace they with

**A.** they

**B.** the researchers

**C.** von Frisch

**D.** the bees

**18.** Replace buzzed circled and "waggled" with

**A.** buzzed circled and "waggled"

**B.** buzzed circled and "waggled,"

**C.** buzzed, circled, and "waggled"

**D.** buzzed circled, and "waggled"

**19.** Replace distance and direction with

**A.** distance and direction

**B.** some information

**C.** advice and wisdom

**D.** various things

**20.** Replace <u>was based</u> with

**A.** was based

**B.** is based

**C.** will be based

**D.** had been based

**21.** Replace <u>nobel prize in Medicine</u> with

**A.** nobel prize in Medicine

**B.** Nobel prize in Medicine

**C.** nobel Prize in Medicine

**D.** Nobel Prize in Medicine