The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

REGENTS EXAMINATION

IN

ENGLISH LANGUAGE ARTS

Friday, June 14, 2024 — 9:15 a.m. to 12:15 p.m., only

The possession or use of any communications device is strictly prohibited when taking this examination. If you have or use any communications device, no matter how briefly, your examination will be invalidated and no score will be calculated for you.

A separate answer sheet has been provided for you. Follow the instructions for completing the student information on your answer sheet. You must also fill in the heading on each page of your essay booklet that has a space for it, and write your name at the top of each sheet of scrap paper.

The examination has three parts. For Part 1, you are to read the texts and answer all 24 multiple-choice questions. For Part 2, you are to read the texts and write one source-based argument. For Part 3, you are to read the text and write a text-analysis response. The source-based argument and text-analysis response should be written in pen. Keep in mind that the language and perspectives in a text may reflect the historical and/or cultural context of the time or place in which it was written.

When you have completed the examination, you must sign the statement printed at the bottom of the front of the answer sheet, indicating that you had no unlawful knowledge of the questions or answers prior to the examination and that you have neither given nor received assistance in answering any of the questions during the examination. Your answer sheet cannot be accepted if you fail to sign this declaration.

DO NOT OPEN THIS EXAMINATION BOOKLET UNTIL THE SIGNAL IS GIVEN.

Part 1

Directions (1–24): Closely read each of the ***three*** passages below. After each passage, there are several multiple-choice questions. Select the best suggested answer to each question and record your answer on the separate answer sheet provided for you. You may use the margins to take notes as you read.

Reading Comprehension Passage A

The Invisible Man

In this excerpt from a novel, a scientist who discovered a way to make himself invisible has traveled to the town of Iping, where he plans to develop a method to reverse this result.

The stranger came early in February, one wintry day, through a biting wind and a driving snow, the last snowfall of the year, over the down,[1] walking as it seemed from Bramblehurst railway station, and carrying a little black portmanteau[2] in his thickly gloved hand. He was wrapped up from head to foot, and the brim of his soft felt hat hid every inch of his face but the shiny tip of his nose; the snow had piled itself against his shoulders and chest, and added a white crest to the burden he carried. He staggered into the Coach and Horses, more dead than alive as it seemed, and flung his portmanteau down. "A fire," he cried, "in the name of human charity! A room and a fire!" He stamped and shook the snow from off himself in the bar, and followed Mrs. Hall into her guest parlour to strike his bargain. And with that much introduction, that and a ready acquiescence to terms and a couple of sovereigns[3] flung upon the table, he took up his quarters in the inn.

Mrs. Hall lit the fire and left him there while she went to prepare him a meal with her own hands. A guest to stop at Iping in the wintertime was an unheard-of piece of luck, let alone a guest who was no "haggler," and she was resolved to show herself worthy of her good fortune. As soon as the bacon was well under way, and Millie, her lymphatic[4] aid, had been brisked up a bit by a few deftly chosen expressions of contempt, she carried the cloth, plates, and glasses into the parlour and began to lay them with the utmost *éclat*.[5] Although the fire was burning up briskly, she was surprised to see that her visitor still wore his hat and coat, standing with his back to her and staring out of the window at the falling snow in the yard. His gloved hands were clasped behind him, and he seemed to be lost in thought. She noticed that the melted snow that still sprinkled his shoulders dropped upon her carpet. "Can I take your hat and coat, sir," she said, "and give them a good dry in the kitchen?"

"No," he said without turning.

She was not sure she had heard him, and was about to repeat her question.

He turned his head and looked at her over his shoulder. "I prefer to keep them on," he said with emphasis, and she noticed that he wore big blue spectacles with sidelights, and had a bushy side-whisker over his coat-collar that completely hid his cheeks and face.

"Very well, sir," she said. "*As* you like. In a bit the room will be warmer."

He made no answer, and had turned his face away from her again, and Mrs. Hall, feeling that her conversational advances were ill-timed, laid the rest of the table things in a

[1]down — field

[2]portmanteau — suitcase

[3]sovereigns — gold coins

[4]lymphatic — sluggish

[5]éclat — showy display

quick staccato[6] and whisked out of the room. When she returned he was still standing there, like a man of stone, his back hunched, his collar turned up, his dripping hat-brim turned down, hiding his face and ears completely. She put down the eggs and bacon with considerable emphasis, and called rather than said to him, "Your lunch is served, sir."

"Thank you," he said at the same time, and did not stir until she was closing the door. Then he swung round and approached the table with a certain eager quickness. …

She [Mrs. Hall, returning with more food] rapped and entered promptly. As she did so her visitor moved quickly, so that she got but a glimpse of a white object disappearing behind the table. It would seem he was picking something from the floor. She rapped down the mustard pot on the table, and then she noticed the overcoat and hat had been taken off and put over a chair in front of the fire, and a pair of wet boots threatened rust to her steel fender.[7] She went to these things resolutely.[8] "I suppose I may have them to dry now," she said in a voice that brooked no denial. …

He held a white cloth — it was a *serviette*[9] he had brought with him — over the lower part of his face, so that his mouth and jaws were completely hidden, and that was the reason of his muffled voice. But it was not that which startled Mrs. Hall. It was the fact that all his forehead above his blue glasses was covered by a white bandage, and that another covered his ears, leaving not a scrap of his face exposed excepting only his pink, peaked nose. It was bright, pink, and shiny just as it had been at first. He wore a dark-brown velvet jacket with a high, black, linen-lined collar turned up about his neck. The thick black hair, escaping as it could below and between the cross bandages, projected in curious tails and horns, giving him the strangest appearance conceivable. This muffled and bandaged head was so unlike what she had anticipated, that for a moment she was rigid.

He did not remove the *serviette*, but remained holding it, as she saw now, with a brown gloved hand, and regarding her with his inscrutable[10] blue glasses. "Leave the hat," he said, speaking very distinctly through the white cloth.

Her nerves began to recover from the shock they had received. She placed the hat on the chair again by the fire. "I did n't know, sir," she began, "that—" and she stopped embarrassed.

"Thank you," he said drily, glancing from her to the door and then at her again. …

When Mrs. Hall went to clear away the stranger's lunch, her idea that his mouth must also have been cut or disfigured in the accident she supposed him to have suffered, was confirmed, for he was smoking a pipe, and all the time that she was in the room he never loosened the silk muffler he had wrapped round the lower part of his face to put the mouthpiece to his lips. Yet it was not forgetfulness, for she saw he glanced at it as it smouldered out. He sat in the corner with his back to the window-blind and spoke now, having eaten and drunk and being comfortably warmed through, with less aggressive brevity than before. The reflection of the fire lent a kind of red animation to his big spectacles they had lacked hitherto.

"I have some luggage," he said, "at Bramblehurst station," and he asked her how

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[6]staccato — abrupt movement

[7]fender — fire screen

[8]resolutely — with determination

[9]serviette — napkin

[10]inscrutable — difficult to see through

he could have it sent. He bowed his bandaged head quite politely in acknowledgement of her explanation. "To-morrow!" he said. "There is no speedier delivery?" and seemed quite disappointed when she answered, "No." Was she quite sure? No man with a trap[11] who would go over?

Mrs. Hall, nothing loath,[12] answered his questions and developed a conversation. "It's a steep road by the down, sir," she said in answer to the question about a trap; and then, snatching at an opening, said, "It was there a carriage was upsettled, a year ago and more. A gentleman killed, besides his coachman. Accidents, sir, happen in a moment, don't they?"

But the visitor was not to be drawn so easily. "They do," he said through his muffler, eyeing her quietly through his impenetrable[13] glasses. …

—H.G. Wells
excerpted and adapted from *The Invisible Man: A Grotesque Romance*, 1897
Harper & Brothers Publishers

[11] trap — horse-drawn carriage

[12] nothing loath — quite willingly

[13] impenetrable — not clear

1 Mrs. Hall is not alarmed by the stranger (lines 1 through 6) because his
(1) clothing suits the winter weather
(2) arrival does not interest her
(3) presence does not seem odd
(4) dress reflects the current style

2 The description in lines 6 through 11 serves to introduce the stranger as
(1) frightened and desperate
(2) angry and preoccupied
(3) fatigued and impatient
(4) injured and distracted

3 Which phrase from the passage best helps the reader understand "ready acquiescence" (line 10)?
(1) "flung his portmanteau down" (line 7)
(2) "He stamped and shook the snow" (line 8)
(3) "to strike his bargain" (lines 9 and 10)
(4) "And with that much introduction" (line 10)

4 Lines 29 through 34 reinforce the idea that
(1) Mrs. Hall appreciates the stranger's companionship
(2) Mrs. Hall is discouraged by the stranger's lack of courtesy
(3) the stranger is insulted by Mrs. Hall's attention to him
(4) the stranger believes Mrs. Hall's service needs improvement

5 Lines 44 through 53 suggest that the image of the stranger
(1) exposes his intentions
(2) reveals his identity
(3) confuses Mrs. Hall
(4) shocks Mrs. Hall

6 Lines 61 through 65 suggest that Mrs. Hall
(1) determined that the conduct of the stranger is reasonable
(2) concluded that the stranger's actions could be dangerous
(3) assumed that the stranger's appearance is due to a mishap
(4) decided that the stranger should recover at her inn

7 Lines 66 through 69 impact the passage by

(1) changing the dynamic between the characters
(2) confirming a friendship between the characters
(3) establishing a rivalry between the characters
(4) resolving the conflict between the characters

8 Mrs. Hall's objective in lines 75 through 78 is to

(1) elicit sympathy from the stranger
(2) persuade the stranger to reveal his story
(3) warn the stranger to be careful
(4) frighten the stranger into leaving

9 As used in line 77, the word "upsettled" most nearly means

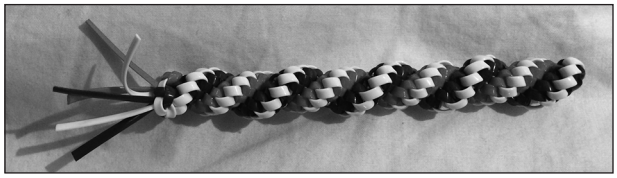
(1) vandalized
(2) stolen
(3) lost
(4) toppled

10 Which statement best presents a theme of the passage?

(1) Some people prefer their privacy.
(2) Some people enjoy sharing their feelings.
(3) People usually understand each other.
(4) People often take advantage of each other.

Reading Comprehension Passage B

The Lanyard[1]



The other day as I was ricocheting slowly
off the pale blue walls of this room,
bouncing from typewriter to piano,
from bookshelf to an envelope lying on the floor,
I found myself in the L section of the dictionary
where my eyes fell upon the word *lanyard*.

No cookie nibbled by a French novelist[2]
could send one more suddenly into the past—
a past where I sat at a workbench at a camp
by a deep Adirondack lake
learning how to braid thin plastic strips
into a lanyard, a gift for my mother.

I had never seen anyone use a lanyard
or wear one, if that's what you did with them,
but that did not keep me from crossing
strand over strand again and again
until I had made a boxy
red and white lanyard for my mother.

She gave me life and milk from her breasts,
and I gave her a lanyard.
She nursed me in many a sickroom,
lifted teaspoons of medicine to my lips,
set cold face-cloths on my forehead,
and then led me out into the airy light

and taught me to walk and swim,
and I, in turn, presented her with a lanyard.
Here are thousands of meals, she said,
and here is clothing and a good education.
And here is your lanyard, I replied,
which I made with a little help from a counselor.

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[1]lanyard — a woven cord used to hold a whistle, key, or other object

[2]cookie nibbled by a French novelist — references Proust's recollection of his childhood, prompted by tasting a cookie

Here is a breathing body and a beating heart,
strong legs, bones and teeth,
and two clear eyes to read the world, she whispered,
and here, I said, is the lanyard I made at camp.
And here, I wish to say to her now,
is a smaller gift—not the archaic[3] truth

that you can never repay your mother,
but the rueful[4] admission that when she took
the two-tone lanyard from my hands,
I was as sure as a boy could be
that this useless, worthless thing I wove
out of boredom would be enough to make us even.

—Billy Collins
"The Lanyard"
from *The Trouble With Poetry and Other Poems*, 2005
Random House

[3]archaic — ancient

[4]rueful — sorrowful

11 Which phrase helps to clarify the meaning of the word "ricocheting" in line 1?

(1) "The other day" (line 1)
(2) "slowly off" (lines 1 and 2)
(3) "bouncing from" (line 3)
(4) "my eyes fell upon" (line 6)

12 The comparison of the lanyard to the cookie (lines 5 through 8) serves to

(1) remind the narrator of a famous novel
(2) transport the narrator to a different time
(3) confirm the narrator's appreciation for his mother
(4) clarify the narrator's purpose for his work

13 Lines 9 through 18 reveal that the boy believes

(1) in his skill as a weaver
(2) in the importance of his lanyard
(3) that his mother needed a lanyard
(4) that his effort would please his mother

14 The poem conveys a reflection on the

(1) value of the mother's love
(2) significance of the boy's dreams
(3) importance of the boy's achievement
(4) sincerity of the mother's beliefs

Reading Comprehension Passage C

Fools Rush In

This excerpt from a book regards the role of procrastination[1] in the creative process.

…In work and in life, we are constantly taught that acting early is the key to success, because "he who hesitates is lost." When we have a meaningful task, we're advised to get it done well ahead of schedule. When we have an original idea to invent a product or start a company, we're encouraged to be the first mover. There are, of course, clear advantages to speed: we can be sure to finish what we start and beat competitors to market. But surprisingly, as I've studied originals, I've learned that the advantages of acting quickly and being first are often outweighed by the disadvantages. It's true that the early bird gets the worm, but we can't forget that the early worm gets caught. …

Recently, an unusually creative doctoral student named Jihae Shin approached me with a counterintuitive[2] idea: procrastination might be conducive[3] to originality. When you procrastinate, you're intentionally delaying work that needs to be done. You might be thinking about the task, but you postpone making real progress on it or finishing it to do something less productive. Shin proposed that when you put off a task, you buy yourself time to engage in divergent thinking rather than foreclosing[4] on one particular idea. As a result, you consider a wider range of original concepts and ultimately choose a more novel direction. I challenged her to test it.

Shin asked college students to write proposals for a business on a university campus to fill a lot vacated by a convenience store. When they started the task immediately, they tended to propose conventional ideas—like another convenience store. When Shin randomly assigned some of the participants to procrastinate, putting off the task to play computer games like Minesweeper, FreeCell, and Solitaire, they produced more novel business ideas, like a tutoring center and a storage facility. Independent raters evaluated the final proposals, without knowing who procrastinated and who started immediately. The proposals from the procrastinators were 28 percent more creative.

Although we were excited by these results, we were concerned that procrastination wasn't the real cause of creativity. Perhaps it was playing the games that provided mental stimulation, giving people the energy to think more creatively—or that simply gave them a break away from the task to think. But the experiment showed that neither playing games nor taking a break boosted creativity. When people played the games first, before learning about the task, they didn't submit more novel proposals. To do that, they needed to actually be procrastinating while playing the games, keeping the business proposal task in the back of their minds. And when they started the task immediately and then took a break before returning to it, they had already made too much progress to start over afresh. It was only when they began thinking about the task and then deliberately procrastinated that they considered more remote possibilities and generated more creative ideas. Delaying progress enabled them to spend more time considering different ways to accomplish it, rather than "seizing and freezing" on one particular strategy. …

Procrastination may be the enemy of productivity, but it can be a resource for creativity.

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[1] procrastination — delaying

[2] counterintuitive — illogical

[3] conducive — a pathway

[4] foreclosing — settling

Long before the modern obsession with efficiency precipitated[5] by the Industrial Revolution and the Protestant work ethic, civilizations recognized the benefits of procrastination. In ancient Egypt, there were two different verbs for *procrastination*: one denoted laziness; the other meant waiting for the right time. …

After being involved in starting over one hundred companies, Idealab founder Bill Gross ran an analysis to figure out what drove success versus failure. The most important factor was not the uniqueness of the idea, the capabilities and execution of the team, the quality of the business model, or the availability of funding. "The number one thing was timing," Gross reveals. "Timing accounted for forty-two percent of the difference between success and failure." …

In a classic study, marketing researchers Peter Golder and Gerard Tellis compared the success of companies that were either pioneers or settlers. The pioneers were first movers: the initial company to develop or sell a product. The settlers were slower to launch, waiting until the pioneers had created a market before entering it. When Golder and Tellis analyzed hundreds of brands in three dozen different product categories, they found a staggering difference in failure rates: 47 percent for pioneers, compared with just 8 percent for settlers. Pioneers were about six times more likely to fail than settlers. Even when the pioneers did survive, they only captured an average of 10 percent of the market, compared with 28 percent for settlers. …

Settlers are often branded as copycats, but this stereotype misses the mark. Instead of conforming to the existing demand, they bide their time until they're ready to introduce something new. They're often slow to enter because they're working on revolutionary products, services, or technologies within the category. In home video-game consoles, the pioneer was Magnavox Odyssey in 1972, which mostly featured rudimentary[6] sports games. A settler, Nintendo, acquired the Odyssey's distribution rights for Japan in 1975, and then blew Magnavox out of the water in the following decade by creating an original Nintendo Entertainment System that featured games like *Super Mario Bros.* and *The Legend of Zelda*. Nintendo transformed gaming with a user-friendly controller, sophisticated characters, and interactive role-playing. Being original doesn't require being first. It just means being different and better. …

—Adam Grant
excerpted from *Originals: How Non-Conformists Move the World*, 2017
Penguin Books

[5]precipitated — caused

[6]rudimentary — basic

15 Which statement helps clarify the meaning of the metaphor, "the early bird gets the worm" (lines 7 and 8)?

(1) "In work and in life, we are constantly taught that acting early is the key to success" (line 1)
(2) "we can be sure to finish what we start and beat competitors to market" (line 5)
(3) "I've learned that the advantages of acting quickly and being first are often outweighed by the disadvantages" (lines 6 and 7)
(4) "procrastination might be conducive to originality" (line 10)

16 As used in line 14, the word "divergent" most nearly means

(1) disturbing
(2) wasteful
(3) different
(4) higher

17 According to lines 9 through 16, Shin's theory suggests that

(1) procrastination provides time for ideas to develop
(2) procrastination wastes energy needed for progress
(3) having too many choices makes people less productive
(4) being the first mover makes success more likely

18 It may be inferred from lines 19 through 22 that the individuals who were directed to put off the task "to play computer games" were more likely to

(1) address trivial details
(2) generate more original solutions
(3) complete business proposals efficiently
(4) solve tasks quickly

19 The phrase "seizing and freezing" (line 37) emphasizes the

(1) importance of targeting specific solutions
(2) necessity of limiting solution choices
(3) benefits associated with following set plans
(4) problems associated with acting too fast

20 The purpose of lines 38 through 42 is to present

(1) historical differences regarding attitudes toward procrastination
(2) evidence that the Protestant work ethic valued procrastination
(3) historical verification of the consequences of procrastination
(4) evidence that the Industrial Revolution was hindered by procrastination

21 Golder and Tellis's findings (lines 49 through 57) suggest that settlers' success is the result of

(1) insufficient funding
(2) inefficient marketing
(3) competitive pricing
(4) strategic timing

22 The "staggering difference" in lines 53 and 54 refers to a comparison between the

(1) time it took pioneers and settlers to create their product
(2) kinds of products pioneers and settlers develop to market
(3) profits made by pioneer and settler companies
(4) success rate of pioneer and settler companies

23 In the context of lines 63 through 68, the phrase "blew Magnavox out of the water" suggests the author's

(1) resignation
(2) admiration
(3) disbelief
(4) antagonism

24 Which statement best reflects a central idea of the text?

(1) "When we have a meaningful task, we're advised to get it done well ahead of schedule" (lines 2 and 3)
(2) "Perhaps it was playing the games that provided mental stimulation, giving people the energy to think more creatively" (lines 26 and 27)
(3) "Procrastination may be the enemy of productivity, but it can be a resource for creativity" (line 38)
(4) "The pioneers were first movers: the initial company to develop or sell a product" (lines 50 and 51)

Part 2

Argument

Directions: Closely read each of the ***four*** texts provided on pages 12 through 18 and write a source-based argument on the topic below. You may use the margins to take notes as you read and scrap paper to plan your response. Write your argument beginning on page 1 of your essay booklet.

Topic: Is vertical farming a sensible means of supplementing food production?

Your Task: Carefully read each of the ***four*** texts provided. Then, using evidence from at least ***three*** of the texts, write a well-developed argument regarding whether or not vertical farming is a sensible means of supplementing food production. Clearly establish your claim, distinguish your claim from alternate or opposing claims, and use specific, relevant, and sufficient evidence from at least ***three*** of the texts to develop your argument. Do *not* simply summarize each text.

Guidelines:

Be sure to:

- Establish your claim regarding whether or not vertical farming is a sensible means of supplementing food production
- Distinguish your claim from alternate or opposing claims
- Use specific, relevant, and sufficient evidence from at least ***three*** of the texts to develop your argument
- Identify each source that you reference by text number and line number(s) or graphic (for example: Text 1, line 4 or Text 2, graphic)
- Organize your ideas in a cohesive and coherent manner
- Maintain a formal style of writing
- Follow the conventions of standard written English

Texts:

Text 1 – Will Indoor, Vertical Farming Help Us Feed the Planet — or Hurt It?
Text 2 – Feeding the Future of Agriculture with Vertical Farming
Text 3 – Why Vertical Farming Isn't a Miracle Solution to Food Security
Text 4 – Is Vertical Farming Really the Future of Agriculture?

Text 1

Will Indoor, Vertical Farming Help Us Feed the Planet — or Hurt It?

How can we feed a population that's growing on a planet that isn't? Grow up!

Outdoors, an acre of land can grow an acre of lettuce. Indoors, an acre of building with plants stacked floor to ceiling can grow many acres of lettuce. Which is why, in cities around the country, entrepreneurs are turning warehouses into vertical farms. They promise local produce, responsibly grown. Do they deliver?

There are big pluses to vertical farming, the most fundamental of which is its verticality. Traditional horizontal farming is limited by its two dimensions. But if you stack plants 10 or 100 high, that acre can do the work of 10 or 100 farmed acres. On top of that, the plants grow faster: You're not limited to the hours of daily light the sun delivers, so you get even more lettuce per square foot.

Less land is a win.

Because indoor plants are fed by fertilizer either delivered through water (hydroponic) or misted directly onto dry roots (aeroponic), they get only what they need. There's no extra, and there's no runoff, which translates to no algae blooms in rivers, lakes and estuaries.[1]

Less fertilizer is a win.

Then there's less water. As that commodity is in increasingly short supply in many parts of the world, a system that can cut water use by up to 95 percent should command our attention.

Less water is a win.

Because the climate is controlled, and there's no soil to harbor pests or disease, indoor farming requires few pesticides. Workers are exposed to fewer toxic substances, and there are no threats to honeybees or other desirable plants or animals.

Fewer chemicals is a win.

Lettuce grown indoors can also be fine-tuned nutritionally by adjusting the fertilizer, but studies comparing indoor and outdoor lettuce nutrition find little difference, so I'll call that a wash.

Still, that's four non-trivial wins, and they are part of the reason vertical farming seems to have captured the imagination of urban food growers and consumers.

But before you shell out[2] for the microgreens, there are a couple of disadvantages. The first is that you'll have to shell out a lot, and the second gets at the heart of the inevitable trade-off between planet and people: the carbon footprint.

If you farm the old-fashioned way, you take advantage of a reliable, eternal, gloriously free source of energy: the sun. Take your plants inside, and you have to provide that energy yourself.

In the world of agriculture, there are opinions about every kind of system for growing every kind of crop, so it's refreshing that the pivotal issue of vertical farming — energy use — boils down to something more reliable: math.

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[1] estuaries — where freshwater meets saltwater

[2] shell out — spend money

There's no getting around the fact that plants need a certain minimum amount of light. In vertical farms, that light generally is provided efficiently, but, even so, replacing the sun is an energy-intensive business. Louis Albright, director of Cornell University's Controlled Environment Agriculture program, has run the numbers: Each kilogram of indoor lettuce has a climate cost of four kilograms of carbon dioxide. And that's just for the lighting. Indoor farms often need humidity control, ventilation, heating, cooling or all of the above.

Let's compare that with field-grown lettuce. Climate cost varies according to conditions, but the estimates I found indicate that indoor lettuce production has a carbon footprint[3] some 7 to 20 times greater than that of outdoor lettuce production. Indoor lettuce is a carbon Sasquatch. …

—Tamar Haspel
excerpted from "Will Indoor, Vertical Farming Help Us Feed the Planet — or Hurt It?"
www.washingtonpost.com, June 17, 2016

[3]carbon footprint — the amount of greenhouse gases, particularly carbon dioxide, released by a product or practice

Text 2

Feeding the Future of Agriculture with Vertical Farming

Average global food prices have gone up by 2.6 percent annually in the past two decades. If that trend continues, not only does it threaten a baseline quality of life as more disposable income goes toward food, it also threatens our overall food security.[1]

Hunger and malnutrition issues persist, especially in developing countries. Food scarcity problems have also been linked to political unrest and violence. According to the United Nations World Food Programme, record-high food prices in 2008 prompted riots in 48 countries, including fragile states like Somalia and Yemen.

Rising food costs reflect underlying trends leading to failures with traditional agriculture. Vertical farming, a technology-driven model of agriculture, may offer a means to address farm output and food security in the years to come, even if it may not impact food prices in the many months ahead.

Why is conventional farming frustrating us? …

• Demographic and social changes

The global food supply cannot keep up with the growing global population. According to the Food and Agriculture Organization of the United Nations, food production must increase by 70 percent before the year 2050 in order to meet global food needs. This growth must happen against a headwind—urbanization is taking over arable[2] land while simultaneously pushing people away from farming as a profession.

• Resource scarcity

Agriculture sucks up 70 percent of our global water consumption, adding to its total cost. Given the estimate that half of the world's population will experience water scarcity by 2030, agriculture's production methods are unsustainable. Supply chain inefficiencies compound the scarcity effect. Perishable crops blemish and spoil during harvesting, packaging, processing, and distribution. According to a Natural Resources Defense Council report on food from field to fork to landfill, up to 40 percent of all crops are ultimately wasted.

• Inequality

In addition to longstanding problems with malnutrition and widespread poverty in developing countries, inequalities related to food prices have also arisen in industrialized countries. In places like the United States, the cost of fresh foods has led vulnerable populations to opt for fat- and sugar-laden processed foods with little nutritional value. The consequence of these food "choices" is a nationwide obesity epidemic as well as an increase in diet-related diseases like diabetes. At the other end of the spectrum, higher-income households are driving demand for more health-conscious "superfoods" like antioxidant-rich kale and protein-packed quinoa.[3] As global food requirements and the costs of agriculture

[1] food security — reliable access to affordable, nutritious food

[2] arable — suitable for growing crops

[3] quinoa — a tall crop plant that produces edible seeds

continue to rise, the prospects of improving health and nutrition conditions are dire for low-income families in industrialized and developing countries alike.

• **Volatility**[4]

Agriculture remains one of the most vulnerable industries when it comes to natural disasters. Climate change has caused more frequent extreme weather events, which can damage an entire season's worth of harvest. Higher temperatures are also leading to rampant[5] spreading of crop pests. In addition, government policy can also affect food production and prices. For instance, in the United States ethanol mandates diverted corn fields used for food production to fuel production, and resulted in price hikes from $2 or $3 to $7 a bushel. Such forces, which determine the direction of price volatility, are here to stay. …

Vertical farming born out of challenges

One answer to these food supply problems is emerging from high-tech structures to our dining tables. Vertical farming, a term coined by Dickson Despommier, is the practice of producing food in vertically-stacked layers. These "farms" make use of enclosed structures like warehouses and shipping containers to provide a controlled environment to grow crops in a hydroponic or aeroponic system. Electronic sensors ensure that crops receive the right amount of LED light, nutrients, and heat. The benefits include independence from arable land, year-round growing capacities, less water consumption, and improved crop predictability.

For example, AeroFarms, a 70,000-square-foot vertical farm in a renovated steel plant in New Jersey, claims 95 percent less water use and 390 times more productivity than a commercial field farm with the same square footage. The company Growtainer sells easy-to-operate 20- or 40-foot shipping containers set up as insulated hydroponic farms. The goal is to help communities grow leafy vegetables in the same places where they will be consumed, such as schools, food banks, restaurants, and military bases.

Vertical farms can help meet our growing population's needs by offering an additional way to produce food that does not share the same volatility and risk as conventional agriculture. While vertical farms require less water and arable land than conventional farms, they are not carbon neutral. Their climate footprint depends heavily on the source from which they draw their electricity to power lighting and control the indoor environment. As renewable energy sources become adopted more widely, the carbon cost of vertical farming will continue decreasing. From a market perspective, it may not bring down prices, but on a societal level, the hope is that vertical farming can help address gaps in overall food demand where conventional agriculture fails. …

—Mark Esposito, Terence Tse, Khaled Soufani, & Lisa Xiong
excerpted from "Feeding the Future of Agriculture with Vertical Farming"
Stanford Social Innovation Review, December 27, 2017

[4]volatility — the quality of being likely to change suddenly

[5]rampant — uncontrolled

Text 3

Why Vertical Farming Isn't a Miracle Solution to Food Security

A company in Scotland has unveiled what it claims is arguably the world's most technically advanced indoor farm. Intelligent Growth Solutions' vertical farm uses artificial intelligence and specially designed power and communication technologies. The firm says this reduces energy costs by 50 per cent and labour costs by 80 per cent when compared to other indoor growing environments, and can produce yields of up to 200 per cent more than that of a traditional greenhouse.

Vertical farms like this aim to minimise water use and maximise productivity by growing crops "hydroponically" in small amounts of nutrient-rich water stacked in a climate-controlled building. But it's important to recognise that the increased productivity of indoor vertical farming comes at the cost of much higher energy usage due to the need for artificial lighting and climate control systems. …

Even with the reductions promised by Intelligent Growth Solutions, the energy demand associated with most vertical farms would still be very high, which positions vertical farming in a grey area. On the one hand, the world needs to produce more food, and on the other hand, it needs to reduce energy use and the production of greenhouse gases.

Urban alternatives

But indoor vertical farming isn't the only way to grow food in cities. A plethora[1] of naturally lit methods also exist, from raised beds in communal gardens to rooftop aquaponic[2] systems that grow food with the help of fish. These methods all require less energy when compared to vertical farming because they don't need artificial lighting. …

Gotham Greens in New York and Lufa Farms in Montreal, for example, are both commercial farms that use vacant roof space to grow food in naturally lit hydroponic greenhouses. Given the success of such projects and the area of roof space available, it seems strange that so many companies would skip ahead to methods of food production that still need a lot of costly development, as well as more energy to operate. Although they can't grow as much food, rooftop greenhouses need at least 70 per cent less energy for each square metre of growing area than artificially lit vertical farms. …

There is little question that vertical farms will play a big role in urban farming and agriculture in the future. But when considering any method of food production, we need to understand the impact and energy use of the practice to ensure it is a sustainable and comprehensive response to global food demands. Vertical farming currently requires a lot of energy, which will hopefully decrease over time as companies like Intelligent Growth Solutions make technical advances. But for the time being, the practice of vertical farming is still a long way from being a sustainable method of agriculture.

—Andrew Jenkins
excerpted from "Why Vertical Farming Isn't a Miracle Solution to Food Security"
www.independent.co.uk, September 28, 2018

[1]plethora — abundance

[2]aquaponic — a method of growing plants by placing the roots in nutrient-rich water shared by fish, snails or other aquatic life

Text 4

Is Vertical Farming Really the Future of Agriculture?

By now, the images of shelves full of perfect greens in hulking warehouses, stacked floor to ceiling in sterile environs and illuminated by high-powered LED lights, have become familiar. Food futurists and industry leaders say these high-tech vertical farming operations are the future of agriculture — able to operate anywhere, virtually invincible against pests, pathogens, and poor weather, and producing local, fresh, high-quality, lower-carbon food year-round. …

But behind futurists' fervent[1] predictions about indoor agriculture, claims about product quality, and sexy technology lies a reality known by industry insiders but too often missing from media coverage: The future success of this nascent[2] industry is still very much an open question. …

Tricky Economics

Walking into any supermarket will reveal a small mountain of salad greens, carrying a price tag of between $9 and $12 per pound. They may be locally grown or organic, which will add $0.50 or $1 to the price tag. Meanwhile, a 4.5-ounce carton of Massachusetts-based FreshBox Farms' spring mix—grown in the company's hydroponic farm in Massachusetts—costs $3.99 for a 4-ounce box, or $15.96 per pound. Or kale: the conventional variety will run you $1.33 per pound at Walmart; organic kale costs around $4.99 per pound at Whole Foods; and vertically farmed kale grown at Newark, New Jersey-based AeroFarms will cost you a whopping $14.18 per pound.

That dramatic price gap is due to the millions of dollars currently needed to build one large indoor vertical farm — and that price is not going to drop until the industry scales up. Agritecture Consulting, whose clients include current and prospective indoor farms, estimates that a 30,000-square-foot vertical farm growing leafy greens and herbs in the tri-state area around New York City requires nearly $4 million in startup capital—*not* including labor. …

In 2016, AeroFarms, now considered an industry leader, spent $30 million on its flagship aeroponic farm in Newark. The majority of these costs lie in the equipment needed to grow greens without soil or sunlight—heating and cooling systems, ventilation, shading, environmental controls, and lights. …

Vertical farms' energy usage carries a significant carbon footprint. While vertical farm companies promise more-sustainable produce by growing it closer to consumers and using renewable energy to power their operations, the industry still has a long row to hoe.[3] …

FreshBox Farms began shipping greens from its 40,000-square-foot hydroponic facility in Millis, Massachusetts, in 2015. The warehouse farm, located 30 miles outside of Boston, runs on a combination of renewable energy and non-renewables, and CFO [Chief Financial Officer] Dave Vosburg admits his company is "not doing any better" than field-grown greens when it comes to carbon usage. …

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[1]fervent — enthusiastic

[2]nascent — developing

[3]row to hoe — more development is needed

And energy isn't even a vertical farm's top ongoing expense. The companies Civil Eats spoke to say labor is actually their largest budget item. Vertical farms typically pay workers higher, more metropolitan pay rates than both dirt farms—many of which rely heavily on migrant labor—and the more automated smart greenhouses. The fast-food chain Wendy's announced in June that it plans to source vine-ripened tomatoes exclusively from greenhouse farms by early 2019. …

Unproven Demand for Food Grown Indoors

In early 2016, researchers from the University of Illinois-Urbana set out to determine whether consumers would spring for produce grown indoors. They asked a panel of 117 participants a series of questions about their perceptions of and willingness to pay for lettuce grown in fields, greenhouses, and in vertical farms. While vertical farming ranked fairly high in terms of produce quality and safety, the tech-heavy production method was rated less "natural" than both field farming and greenhouse and ranked last in participants' willingness to purchase it. …

But as vertical farming companies like Plenty go city by city attempting to dominate local markets, it may be that small farmers get hurt the most. [Plenty's co-founder, Matt] Barnard drew the ire of Washington State dirt farmers last year when he told GeekWire that Plenty expanded to Seattle, in part, because it was the West Coast's "best example of a large community of people who really don't have much access to any fresh fruits and vegetables grown locally."

Not so, according to Sofia Gidlund, Farm Programs Manager at Tilth Alliance, which advocates for and supports local agriculture systems in Greater Seattle.

"We work with many hardworking local farmers who supply Seattle with high-quality, delicious, and nutritious food while caring deeply for our land. These farmers use sustainable farming practices, nurse the soil, create beautiful open green space and provide wildlife habitat," says Gidlund, who adds that she does not speak for all area farmers on the issue of vertical farming. "Many consumers in Seattle choose to support local farmers, both urban or rural, because of this deep connection to the land. Providing that support is a point of pride for many Seattleites." …

—Steve Holt

excerpted and adapted from "Is Vertical Farming Really the Future of Agriculture?"
www.eater.com, July 3, 2018

Part 3

Text-Analysis Response

Your Task: Closely read the text provided on pages 20 and 21 and write a well-developed, text-based response of two to three paragraphs. In your response, identify a central idea in the text and analyze how the author's use of ***one*** writing strategy (literary element or literary technique or rhetorical device) develops this central idea. Use strong and thorough evidence from the text to support your analysis. Do *not* simply summarize the text. You may use the margins to take notes as you read and scrap paper to plan your response. Write your response in the spaces provided on pages 7 through 9 of your essay booklet.

Guidelines:

Be sure to:

- Identify a central idea in the text
- Analyze how the author's use of ***one*** writing strategy (literary element or literary technique or rhetorical device) develops this central idea. Examples include: characterization, conflict, denotation/connotation, metaphor, simile, irony, language use, point-of-view, setting, structure, symbolism, theme, tone, etc.
- Use strong and thorough evidence from the text to support your analysis
- Organize your ideas in a cohesive and coherent manner
- Maintain a formal style of writing
- Follow the conventions of standard written English

The Intelligence Test

You know the way it is: people think that because you're deaf, you're slow. In fact nothing could be further from the truth. If you're deaf you're often as sharp as a tack because you have to pick up so much from the other senses. I look at people's faces all the time and I watch to see what kind of mood they're in. I mean, if you look at the way people clench their fists, or bite their lips, or just fidget, you know exactly what's going on. I can walk the whole length of Castle Street and Market Street in Rossmore and tell you what kind of a mood the town is in.

So when they all started talking about the intelligence test, well, of course I knew it was important. And the more they said it was nothing to get worked up about, the more I knew it. I'm not a fool, profoundly deaf, yes, but not at all stupid. It was all about this school for girls like me called St. Martin's. …

I had already met a girl who was at school there so I knew all about it, it sounded [like] a great place. This girl, who was called Kim, said they had fantastic food, and you could be a vegetarian if you liked and even though it was a girls' school there were dances with fellows at them. They would even teach us to dance properly by getting us to recognize the reverberations[1] in the floorboards. They had art classes and an exhibition every year and played a whole rake of games like netball, and hockey, and rounders,[2] against hearing schools as well as other deaf schools. All the girls wore a sort of uniform, any kind of cream-colored blouse and a navy skirt or navy jeans. …

I was desperate to get into St. Martin's. …

We took a train from Rossmore to the town where the school was and then a bus to the gate and we walked up the long avenue. Well, the school looked terrific: as I said, there were these huge sports grounds and there was this walled garden that Kim had told me about where every pupil had a flower bed and they could all grow what they wanted, and I saw through the windows a terrific art room—I could see girls painting a mural and I longed to be part of it all. The school where I was at now seemed so dull compared to it, and it was so hard to get the teachers to remember I was deaf, and so tempting to stop paying attention. But if I were here at St. Martin's I'd work so hard, I really, really would. I must not tell them that, though. It would sound like pleading or begging.

It would all depend on the test. …

A woman came up to speak to me. She was obviously used to dealing with deaf people. She didn't speak until we were looking at each other.

She was very glamorous-looking, with long, dark, curly hair and a big smile. She was very elegant in a tight black skirt and a yellow blouse with a black and yellow brooch on it. She had a book bag over her shoulder and both her hands were free, so as well as speaking to me, she signed. …

She had asked me, was I lost?

I said, using both ways of talking, that no, thank you, I was waiting for my parents, who had both gone to the bathroom and that then we were going to go for an assessment. She said that was fine and she'd see me later because she was going to be taking part in it all.

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[1]reverberations — vibrations

[2]rounders — British game played with a bat and ball

She looked around the big hall and gave a sort of a little sigh.

"You must like it here," I said.

"I do. Very much," she said and there was something sad about the way she spoke as if she was going to be leaving soon. You have to try so hard when you're deaf to pick up the words, you end up picking up loads of other things as well. …

Anyway the woman with the black curly hair came in to join us and she said her name was Caroline and she would go through a few things with me. She would ask me some questions.

Well, first I thought it was a kind of a joke. They were things like a five-year-old would know about—the colors of traffic lights and about who was the taoiseach[3] of Ireland and who was prime minister of England and the president of the United States and what animal did St. George get involved with; then a little harder, like in what part of your body would you find a cuticle or a retina. And then a few puzzles about the speed of a train or the length of a platform. …

Then they came to the identifying-objects bit. …

But there was one I couldn't work out at all.

It was shaped like a triangle. I turned the card round a bit until I could get a better look at it. No, I still couldn't see what it might be, the drawing was very simple, too simple; there were no real clues.

"I'm afraid I have no idea," I said apologetically.

Caroline looked disappointed. I could see it in her eyes.

"Take your time," she said. …

"It *could* be Cheshire," I said doubtfully. "A slice of Cheshire taken from the block but it might be Cheddar. I'm torn between the two of them."

And then everything changed. They all seemed to be dissolving into tears and shaking one another's hands and hugging me. Caroline had as many tears on her face as Mum and Dad had. Apparently after all my nearly killing myself trying to work out what variety it was, the word "cheese" was all they had wanted me to say. Imagine. They didn't even know what kind of cheese it was, they just wanted the word. And the fact that I thought this was too easy a question had just settled everything. …

Caroline said, "See you at the start of next term then."

I said, "You are coming back then?"

She looked at me, astounded that I seemed to know there had been a doubt about it, although it had been written all over her face, and she said yes, she was, that she had just decided it this very day. About ten minutes ago. And she looked a lot less troubled somehow. …

—Maeve Binchy
excerpted and adapted from "The Intelligence Test"
Whitethorn Woods, 2007
Knopf

[3] taoiseach — prime minister

REGENTS IN ELA