Released Items
Grade 8 ELA-Reading
AzM2

Updated September 2019

Prepared by the Arizona Department of Education
About the Released Items

The AzM2 Released Items provides details about the items, student response types, correct responses, and related scoring considerations for released AzM2 test items.

Within this guide, each item is presented with the following information:
- Domain
- Cluster
- Content Standard
- Depth of Knowledge (DOK)
- Static presentation of the item
- Static presentation of student response field (when appropriate)
- Answer key, rubric or exemplar
- Applicable score point(s) for each item
- Option rationales (when applicable)

The items included in this guide are representative of the kinds of items that students can expect to experience when taking the computer-based test for AzM2 Grade 8 ELA-Reading.
Passage(s):

**Passage 1: How the Hyperloop Works**

by Catherine Casteel

1. The Hyperloop is an idea for a high-speed transportation system that was proposed by Elon Musk in 2013. Elon Musk is an entrepreneur, engineer, and inventor who founded SpaceX and is the co-founder of Zip2, PayPal, and Tesla Motors.

2. The Hyperloop is different from bullet trains or high-speed rail. Bullet trains use magnetic levitation (maglev) to move vehicles without touching the ground. With maglev, a vehicle travels along a guideway, using magnets to create both lift and propulsion, which reduces friction and allows for very high speeds to be achieved. High-speed rail is more like a traditional train system, but uses a system of specialized train cars and tracks.

3. The Hyperloop uses magnets and fans to push aluminum pods through pressurized tubes. The steel tubes are topped with solar panels and carry battery packs to store energy that can be used at night or in cloudy weather.

4. While there are some innovations, a lot of technology already exists to support the project. It’s very similar to the old pneumatic tubes that used air pressure to move messages in banks and other buildings in the twentieth century.

5. In Hyperloop transportation, the pods or capsules travel inside tubes elevated by pylons that are 17 to 20 feet above ground.
"How the Hyperloop Works" written for the Arizona Department of Education.

Passage 2: Hyperloop Is Real: Meet the Startups Selling Supersonic Travel
by Bruce Upbin

You remember the hyperloop, don’t you? It’s that far-out idea billionaire industrialist Elon Musk proposed in a 58-page white paper in August 2013 for a vacuum-tube transport network that could hurtle passengers from San Francisco to Los Angeles at 760 miles an hour. Laughed off as science fiction, it is as of today an actual industry with three legitimate groups pushing it forward, including Hyperloop Technologies . . . .
It’s hard to overstate how early this all is. There are dozens of engineering and logistical challenges that need solving, from earthquake-proofing to rights-of-way to alleviating the barf factor that comes with flying through a tube at transonic speeds.

Yet it’s equally hard to overstate how dramatically the hyperloop could change the world. The first four modes of modern transportation—boats, trains, motor vehicles and airplanes—brought progress and prosperity. They also brought pollution, congestion, delay and death. The hyperloop, which Musk dubs “the fifth mode,” would be as fast as a plane, cheaper than a train and continuously available in any weather while emitting no carbon from the tailpipe. If people could get from Los Angeles to Las Vegas in 20 minutes, or New York to Philly in 10, cities become metro stops and borders evaporate, along with housing price imbalances and overcrowding.

... They [Hyperloop Tech] intend to go way beyond Musk’s original vision and focus first on freight rather than human transportation. This high-speed “cargoloop” could go over land or under water. Imagine submerged skeins of steel tubes crisscrossing the ocean or up and down the coasts hurtling shipping containers at near supersonic speeds. Need iPhones? Press a button and a container-load is on its way from Shenzhen overnight.

... “Elon felt that if we could prove it could work, even a two- or five-mile prototype, that would overcome any political challenges or regulatory issues,” says Sacks. “But we all agreed we had to prove it first with private money.”

... “I’m convinced hyperloop is doable from a technical standpoint, rights-of-way notwithstanding,” says Justin Gray, an aerospace engineer at NASA Glenn Research Center in Cleveland. That’s part of why Hyperloop Tech is focusing on cargo: Since much of the eastbound cargo that goes into the port of Los Angeles travels via rail or road through Las Vegas, that route offers a natural test.
Those are just the beginning of the issues. On the technical side the ride could be a barf rocket at Musk’s upper limit of 4.9 meters per second squared (or 0.5g) of lateral acceleration. Japan’s Tokaido train tops out at 0.67 meters per second squared and goes only 180 miles an hour. You can also forget an entirely carbon-free loop. Musk envisioned lining the tube length with solar panels. According to BamBrogan, the drain from the hyperloop electric propulsion system exceeds what even that many panels could provide. There will need to be grid power, and that means coal.

Money won’t be an issue. Pishevar says that once he gets liquid on his Uber stake (IPO, anyone?), he will personally fund half of Hyperloop Tech’s $80 million round. If they or any others then show results, billions will flood in. “We’re looking at the end of one civilization and the beginning of another, and this transportation infrastructure we’re building is the beginning of that new lattice,” says Pishevar, as understated as ever. “There’s no turning back.”

Excerpt from “Hyperloop Is Real: Meet the Startups Selling Supersonic Travel” by Bruce Upbin. From Forbes, 2/11/2015 © 2015 Forbes. All rights reserved. Used by permission and protected by the Copyright Laws of the United States.
Select two ways the graphic in Passage 1 adds to the reader’s understanding of the Hyperloop.

- [ ] It shows the technology of the Hyperloop in greater detail.
- [ ] It shows how many human passengers one Hyperloop could hold.
- [ ] It shows that the Hyperloop is capable of moving quickly between cities.
- [x] It shows how the Hyperloop could be suitable for sizable cargo and freight.
- [ ] It shows how the Hyperloop uses existing technology to hover above the ground.

(1 Point)

Option Rationales

**Choice A: Key** - By graphically depicting the Hyperloop, including specific details and labels, the graphic makes it easier to understand some of the specifics of the Hyperloop’s design, which are difficult to visualize when described only in text.

**Choice B**: The graphic depicts a cargo container rather than passengers.

**Choice C**: The graphic does not show any particular fitness for intercity travel.

**Choice D: Key** - The graphic includes an image of, and details about, how cargo would fit into the “cargoloop.”

**Choice E**: The image does not show the Hyperloop hovering above ground, though its basic shape may seem familiar.
<table>
<thead>
<tr>
<th>Domain</th>
<th>Cluster</th>
<th>Content Standard</th>
<th>DOK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading for Informational Text</td>
<td>Key Ideas and Details</td>
<td>RI.8.3</td>
<td>2</td>
</tr>
</tbody>
</table>

Based on information in Passage 1, select the boxes to show how the Hyperloop compares to bullet trains and high-speed rail. You may choose more than one mode of transportation for each feature.

<table>
<thead>
<tr>
<th></th>
<th>Bullet Train</th>
<th>High-Speed Rail</th>
<th>Hyperloop</th>
</tr>
</thead>
<tbody>
<tr>
<td>uses magnets</td>
<td>✔️</td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>is pushed through tubes</td>
<td></td>
<td></td>
<td>✔️</td>
</tr>
<tr>
<td>stores energy for later use</td>
<td></td>
<td></td>
<td>✔️</td>
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<tr>
<td>is like a traditional train system</td>
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<tr>
<td>includes cars that do not touch the ground</td>
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(1 Point)
Read the sentence from Passage 2.

“Those are just the beginning of the issues.” (paragraph 12)

What is the role of this sentence in the paragraph?

- It alerts the reader that the Hyperloop is too complicated to benefit everyday people.
- It shifts to a presentation of the technical challenges faced by the Hyperloop.
- It emphasizes a key concept in the author’s proposed Hyperloop project.
- It develops the author’s argument that the Hyperloop will be unworkable.

(1 Point) Student selected the correct option.

Option Rationales

Choice A: This idea is not supported in the rest of the passage.

Choice B: Key - The sentence marks a pivot between the previous paragraph and the rest of the current paragraph; it has a key transitional role in the paragraph's structure.

Choice C: This idea is not supported in the rest of the passage.

Choice D: This idea is not supported in the rest of the passage.
(1 Point)

Option Rationales

**Choice A:** The passage highlights that the route from Los Angeles to Las Vegas would be ideal, so Musk already has a route to consider.

**Choice B: Key** - Although Musk originally intended to have solar panels, the passage says they are not viable in the quantities he needs.

**Choice C:** While the Hyperloop is an expensive endeavor, the passage does not suggest changing the design of the Hyperloop in order to lower costs.

**Choice D:** Musk is confident about his funding, as is Pishevar, who is prepared to invest his own money into the project.

**Choice E: Key** - Current projections mean that passengers will get sick from the speed.
Read the sentence from Passage 2.

“Laughed off as science fiction, it is as of today an actual industry with three legitimate groups pushing it forward, including Hyperloop Technologies” (paragraph 6)

What impact does the phrase “Laughed off as science fiction” have on the meaning of the sentence?

- It hints that the proposal for the Hyperloop was a prank.
- It implies that the Hyperloop requires technologies that are not real.
- **It suggests that many people had doubts about the Hyperloop at first.**
- It indicates that the author does not think the Hyperloop is a serious subject.

(1 Point) Student selected the correct option.

Option Rationales

**Choice A:** The phrase "laughed off" suggests that the plan was mocked, not that it was dismissed as a joke.

**Choice B:** The phrase "science fiction" suggests that the Hyperloop relies on technologies that have not been invented yet, but the passage stresses that this is not the case.

**Choice C: Key** - The phrase changes the meaning of the sentence by implying that the Hyperloop plan faced significant skepticism at first.

**Choice D:** The author is not referring to his own feelings about the Hyperloop.