

Computer-Based Released Items
Grade 8 Science and Technology/Engineering
Spring 2018

The spring 2018 grade 8 Science and Technology/Engineering (STE) test was administered in two formats: a computer-based version and a paper-based version. The operational items on the test were the same, regardless of whether a student took the computer-based version or the paper-based version.

Released items from the grade 8 test are being made available in both formats:

- **Computer-based versions** of the released items are available online at mcas.pearsonsupport.com/released-items. The computer-based released items are collected in a mini test called an ePAT (electronic practice assessment tool). Items in the ePAT are displayed in TestNav 8, the testing platform for the computer-based tests.
- **Paper-based versions** of the released items are available in PDF format on the Department's website at www.doe.mass.edu/mcas/testitems.html.

This document provides information about each computer-based released item, including: reporting category, standard covered, item type, and correct answer (for multiple-choice items only). Information about unreleased operational items is also presented here, along with scoring rubrics for open-response questions.

**Grade 8 Science and Technology/Engineering
Spring 2018 Computer-Based Released Operational Items:
Reporting Categories, Standards, Item Types, and Correct Answers**

CBT Item No.*	ePAT Item No.*	Reporting Category	2006 Standard	2016 Standard	Item Type**	Correct Answer***
2	1	<i>Technology/Engineering</i>	1.3	6.MS-ETS2-3(MA)	MC	D
4	2	<i>Earth and Space Science</i>	5	8.MS-ESS2-1	MC	D
7	3	<i>Physical Science</i>	10	8.MS-PS1-2	MC	B
8	4	<i>Earth and Space Science</i>	8	8.MS-ESS1-2	MC	D
13	5	<i>Technology/Engineering</i>	5.1	7.MS-ETS3-4(MA)	MC	B
15	6	<i>Physical Science</i>	8	8.MS-PS1-1	MC	C
16	7	<i>Technology/Engineering</i>	2.6	7.MS-ETS3-5(MA)	MC	A
19	8	<i>Life Science</i>	10	8.MS-LS4-4	MC	C
21	9	<i>Physical Science</i>	13	7.MS-PS3-7(MA)	OR	
24	10	<i>Earth and Space Science</i>	2	8.MS-ESS2-1	MC	D
25	11	<i>Earth and Space Science</i>	4	8.MS-ESS2-5	MC	D
26	12	<i>Life Science</i>	9	8.MS-LS3-2	MC	A
32	13	<i>Technology/Engineering</i>	4.4	8.MS-ETS2-5(MA)	MC	A
34	14	<i>Earth and Space Science</i>	11	8.MS-ESS1-1b	MC	C
35	15	<i>Technology/Engineering</i>	6.1	7.MS-ETS3-3(MA)	MC	A
36	16	<i>Earth and Space Science</i>	3	7.MS-PS3-6(MA)	MC	B
37	17	<i>Technology/Engineering</i>	2.2	6.MS-ETS1-5(MA)	MC	C
38	18	<i>Earth and Space Science</i>	9	8.MS-ESS1-2	MC	B
39	19	<i>Life Science</i>	5	6.MS-LS1-3	MC	C
40	20	<i>Physical Science</i>	5	8.MS-PS1-1	MC	C
42	21	<i>Life Science</i>	15	7.MS-LS2-3	OR	

*“CBT Item Number” refers to the position of the item on the operational computer-based test. This is the item number that DESE refers to when reporting student results for a CBT item. “ePAT Item Number” refers to the position of the item in the 2018 released item set for grade 8 STE, found online at mcas.pearsonsupport.com/released-items.

**STE item types are: multiple-choice (MC) and open-response (OR).

***Answers are provided here for multiple-choice items only. Sample responses and scoring guidelines for any open-response items will be posted to the Department’s website later this year.

**Grade 8 Science and Technology/Engineering
Spring 2018 Computer-Based Unreleased Operational Items:
Reporting Categories, Standards, and Item Types**

CBT Item No.*	Reporting Category	2006 Standard	2016 Standard	Item Type**
1	<i>Physical Science</i>	14	7.MS-PS3-4	MC
3	<i>Life Science</i>	11	6.MS-LS4-2	MC
5	<i>Earth and Space Science</i>	12	6.MS-ESS1-5(MA)	MC
6	<i>Life Science</i>	8	8.MS-LS3-3(MA)	MC
9	<i>Life Science</i>	7	8.MS-LS3-4(MA)	MC
10	<i>Technology/Engineering</i>	3.1	7.MS-ETS3-1(MA)	MC
11	<i>Life Science</i>	2	6.MS-LS1-1	MC
12	<i>Technology/Engineering</i>	2.1	6.MS-ETS1-1	MC
14	<i>Earth and Space Science</i>	6	7.MS-ESS2-2	MC
17	<i>Life Science</i>	6	6.MS-LS1-3	MC
18	<i>Physical Science</i>	7	8.MS-PS1-1	MC
20	<i>Earth and Space Science</i>	7	6.MS-ESS2-3	OR
22	<i>Physical Science</i>	15	8.MS-PS1-4	MC
23	<i>Life Science</i>	13	7.MS-LS2-3	MC
27	<i>Physical Science</i>	4	8.MS-PS1-5	MC
28	<i>Technology/Engineering</i>	2.3	7.MS-ETS1-7(MA)	MC
29	<i>Physical Science</i>	9	8.MS-PS1-4	MC
30	<i>Life Science</i>	12	7.MS-LS2-4	MC
31	<i>Physical Science</i>	2	6.MS-PS1-7(MA)	MC
33	<i>Physical Science</i>	16	7.MS-PS3-6(MA)	MC
41	<i>Technology/Engineering</i>	1.1	6.MS-ETS2-2(MA)	OR

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**STE item types are: multiple-choice (MC) and open-response (OR).

Rubric for CBT Item #21: Open Response

Scoring Guide	
Score	Description
4	The response demonstrates a thorough understanding of the difference between potential energy and kinetic energy. The response clearly explains why the ball has kinetic energy and potential energy at positions 2 and 4. The response clearly describes the energy transformation that occurs from position 1 to position 2 and from position 4 to position 5. The response correctly determines the height at which the ball has approximately equal amounts of kinetic and potential energy.
3	The response demonstrates a general understanding of the difference between potential energy and kinetic energy.
2	The response demonstrates a limited understanding of the difference between potential energy and kinetic energy.
1	The response demonstrates a minimal understanding of the difference between potential energy and kinetic energy.
0	The response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	No response.

Rubric for CBT Item #42: Open Response

Scoring Guide	
Score	Description
4	The response demonstrates a thorough understanding of how dead plants and animals are broken down by other living organisms and how this process contributes to the system as a whole. The response correctly identifies and clearly describes what happens over time to ground-up grass clippings spread on a lawn. The response also clearly describes two advantages of spreading ground-up grass clippings on a lawn.
3	The response shows a general understanding of how dead plants and animals are broken down by other living organisms and how this process contributes to the system as a whole.
2	The response shows a limited understanding of how dead plants and animals are broken down by other living organisms and how this process contributes to the system as a whole.
1	The response shows a minimal understanding of how dead plants and animals are broken down by other living organisms and how this process contributes to the system as a whole.
0	The response is incorrect or contains work that is irrelevant to the skill or concept being measured.
Blank	No response.