

## 2018-19 TNReady Science Field Test Assessment Fact Sheet

### Science Field Test Assessment Overview

This fact sheet provides information about the TNReady science field test assessments. The science assessments will assess the Tennessee Academic Standards through measurement of student mastery and will require students to demonstrate a deep conceptual understanding of the three dimensions: disciplinary core ideas, science and engineering practices, and cross-cutting concepts. The science assessment will be delivered in one subpart. Specific information with regards to timing, calculator usage, item types and reference pages can be found below.

### Mode of Test Administration

Grades/Course	Delivery Mode
Grades 3-4	Paper-based assessment and separate answer document
Grades 5-8	Computer-based assessment (Nextera platform)
Biology	Computer-based assessment (Nextera platform)

### Test Design Timing

Grades/Course	Subpart Timing
Grades 3-4	<ul style="list-style-type: none"> <li>● One subpart</li> <li>● 30 items</li> <li>● 50 minutes</li> </ul>
Grades 5-8	<ul style="list-style-type: none"> <li>● One subpart</li> <li>● 45 items</li> <li>● 75 minutes</li> </ul>
Biology	<ul style="list-style-type: none"> <li>● One subpart</li> <li>● 45 items</li> <li>● 75 minutes</li> </ul>

## Test Design Information

The TNReady science assessment will include discrete items and cluster sets of items.

### ***Discrete items: Grades 3-8 and Biology***

Discrete items are multiple-choice or multiple-select items that do not have any connection to other items on the assessment. Discrete items align to the disciplinary core area of a grade-level standard and may or may not align additionally to science and engineering practices or cross cutting-concepts. Grades 3-4 will only have discrete items.

### ***Cluster Set: Grades 5-8 and Biology***

A cluster set is a group of items that is designed around a common phenomenon. Cluster item sets are designed to fully address the multi-dimensionality of the Tennessee Academic Standards for Science. While the items in the set will share common stimulus material, the items are independent from one another with regards to scoring. The only item types that will appear as part of the cluster item sets are multiple-choice or multiple-select items.

## Description of Item Types

Multiple-Choice Items	All multiple-choice items have four answer options and only one correct answer.
Multiple-Select Items	All multiple-select items have five options and either two or three correct answers. Multiple-select item stems will always indicate the number of correct answers by stating, "select two" or "select three."

## Reference Sheets

Grade/Course	Reference Sheet
Grades 3-5	No reference sheet
Grade 6	No reference sheet
Grade 7	TNReady approved periodic table ( <a href="#">here</a> )
Grade 8	No reference sheet
Biology	No reference sheet

### Science Calculator Policy

The Tennessee Academic Standards for Science incorporate mathematical concepts in a grade-appropriate manner and vertical progression that aligns to the Tennessee Academic Standards in Mathematics. Recognizing that students at some grade levels may encounter science items that involve the use of mathematical skills, and because the test is designed to look for mastery of the science standards not the mathematical ones, the Department has developed the following calculator guidance for the TNReady science assessments.

Grade/Course	Calculator Policy	Rationale
3-5	No calculator permitted	Tennessee Academic Standards for Science in grades 3-5 do not have a mathematic component or require any quantitative analysis. There is no need for any student to have a calculator as there will be no assessment items that require math calculations.
6-8	Calculators permitted.  All students should be given access to a hand-held calculator from the approved calculator list for grades 6-8 located (here).	Tennessee Academic Standards for Science in grades 6-8 include the introduction of mathematical skills within the context of science. There may be items on the assessment that incorporate grade-level math computation, and therefore, all students are permitted to use a calculator on the assessment.
Biology	Calculators permitted.  All students should be given access to a hand-held calculator from the approved calculator list for high school located (here).	Tennessee Academic Standards in Biology require students to analyze and interpret data at a level that may involve some mathematical calculations. Therefore, all students are permitted to use a calculator on the assessment.

# Grade 7 Reference Sheet

## Periodic Table of the Elements

Key	
11 ←	Atomic Number
<b>Na</b> ←	Element Symbol
Sodium ←	Element Name

1																	18		
1 <b>H</b> Hydrogen												13	14	15	16	17	2 <b>He</b> Helium		
2	3 <b>Li</b> Lithium	4 <b>Be</b> Beryllium												5 <b>B</b> Boron	6 <b>C</b> Carbon	7 <b>N</b> Nitrogen	8 <b>O</b> Oxygen	9 <b>F</b> Fluorine	10 <b>Ne</b> Neon
3	11 <b>Na</b> Sodium	12 <b>Mg</b> Magnesium	3	4	5	6	7	8	9	10	11	12	13 <b>Al</b> Aluminum	14 <b>Si</b> Silicon	15 <b>P</b> Phosphorus	16 <b>S</b> Sulfur	17 <b>Cl</b> Chlorine	18 <b>Ar</b> Argon	
4	19 <b>K</b> Potassium	20 <b>Ca</b> Calcium	21 <b>Sc</b> Scandium	22 <b>Ti</b> Titanium	23 <b>V</b> Vanadium	24 <b>Cr</b> Chromium	25 <b>Mn</b> Manganese	26 <b>Fe</b> Iron	27 <b>Co</b> Cobalt	28 <b>Ni</b> Nickel	29 <b>Cu</b> Copper	30 <b>Zn</b> Zinc	31 <b>Ga</b> Gallium	32 <b>Ge</b> Germanium	33 <b>As</b> Arsenic	34 <b>Se</b> Selenium	35 <b>Br</b> Bromine	36 <b>Kr</b> Krypton	
5	37 <b>Rb</b> Rubidium	38 <b>Sr</b> Strontium	39 <b>Y</b> Yttrium	40 <b>Zr</b> Zirconium	41 <b>Nb</b> Niobium	42 <b>Mo</b> Molybdenum	43 <b>Tc</b> Technetium	44 <b>Ru</b> Ruthenium	45 <b>Rh</b> Rhodium	46 <b>Pd</b> Palladium	47 <b>Ag</b> Silver	48 <b>Cd</b> Cadmium	49 <b>In</b> Indium	50 <b>Sn</b> Tin	51 <b>Sb</b> Antimony	52 <b>Te</b> Tellurium	53 <b>I</b> Iodine	54 <b>Xe</b> Xenon	
6	55 <b>Cs</b> Cesium	56 <b>Ba</b> Barium	57 <b>La</b> Lanthanum	72 <b>Hf</b> Hafnium	73 <b>Ta</b> Tantalum	74 <b>W</b> Tungsten	75 <b>Re</b> Rhenium	76 <b>Os</b> Osmium	77 <b>Ir</b> Iridium	78 <b>Pt</b> Platinum	79 <b>Au</b> Gold	80 <b>Hg</b> Mercury	81 <b>Tl</b> Thallium	82 <b>Pb</b> Lead	83 <b>Bi</b> Bismuth	84 <b>Po</b> Polonium	85 <b>At</b> Astatine	86 <b>Rn</b> Radon	
7	87 <b>Fr</b> Francium	88 <b>Ra</b> Radium	89 <b>Ac</b> Actinium	104 <b>Rf</b> Rutherfordium	105 <b>Db</b> Dubnium	106 <b>Sg</b> Seaborgium	107 <b>Bh</b> Bohrium	108 <b>Hs</b> Hassium	109 <b>Mt</b> Meitnerium	110 <b>Ds</b> Darmstadtium	111 <b>Rg</b> Roentgenium	112 <b>Cn</b> Copernicium	113 <b>Nh</b> Nihonium	114 <b>Fl</b> Flerovium	115 <b>Mc</b> Moscovium	116 <b>Lv</b> Livermorium	117 <b>Ts</b> Tennessine	118 <b>Og</b> Oganesson	

58 <b>Ce</b> Cerium	59 <b>Pr</b> Praseodymium	60 <b>Nd</b> Neodymium	61 <b>Pm</b> Promethium	62 <b>Sm</b> Samarium	63 <b>Eu</b> Europium	64 <b>Gd</b> Gadolinium	65 <b>Tb</b> Terbium	66 <b>Dy</b> Dysprosium	67 <b>Ho</b> Holmium	68 <b>Er</b> Erbium	69 <b>Tm</b> Thulium	70 <b>Yb</b> Ytterbium	71 <b>Lu</b> Lutetium
90 <b>Th</b> Thorium	91 <b>Pa</b> Protactinium	92 <b>U</b> Uranium	93 <b>Np</b> Neptunium	94 <b>Pu</b> Plutonium	95 <b>Am</b> Americium	96 <b>Cm</b> Curium	97 <b>Bk</b> Berkelium	98 <b>Cf</b> Californium	99 <b>Es</b> Einsteinium	100 <b>Fm</b> Fermium	101 <b>Md</b> Mendelevium	102 <b>No</b> Nobelium	103 <b>Lr</b> Lawrencium