Appendix 2-F: Pilot Development Partner Report: Pilot Phase 1 Blueprint and Forms

Pilot Phase 1 Test Blueprints

Item Selection

In both reading and mathematics, the constructed linear forms included a mix of item tiers, or levels of item complexity. All items developed, across all levels of complexity (tiers) were included in Pilot Phase 1. However, no ELA writing selected-response or constructed-response items were included in Pilot Phase 1.

Form Development

Reading Design. The reading test design consisted of two sessions. Sessions 1 and 2 included two to three passages per session with accompanying selected-response comprehension and vocabulary items, plus any discrete items (i.e., foundational word identification open- or selected-response items in grades 3 and 4). Designed in this manner, the reading forms covered a combination of literary and informational texts.

The test designs for the different grades addressed the specified literary/informational emphasis for each grade as approved by NCSC leadership and partner states; this emphasis was consistent with the distribution of text types by grade in the Common Core State Standards (CCSS). See Exhibit 1.

Exhibit 1. Pilot Phase 1 ELA Reading Strand Emphasis by Grade

Strand	3rd	4th	5th	6th	7th	8th	11th
Reading Literary	35-37%	35-37%	40-43%	32-34%	32-34%	32%	24%
Reading Informational	35-37%	35-37%	40-43%	48-51%	48-51%	48%	56%
Reading Vocabulary	15-20%	15-20%	15-20%	15-20%	15-20%	20%	20%
Reading Foundational Skills	10%	10%					

The two sessions addressed all of the prioritized Core Content Connectors (CCCs). NCSC used the following assumptions to guide the reading Pilot Phase 1 test design:

- All pilot items must be tested/covered over the course of the pilot forms.
- Students will receive no more than 15 items per session in Sessions 1 and 2 (to reduce testing load and provide the best information).
- Testing time will be approximately 1.5 – 2 hours.

- Students must have the opportunity to attempt items at all tiers.
- "Enemy items" (or items from the same family/using the same stimulus) must be avoided in a form.
- For the eight reading passages covered over the two sessions, the percent of literary to informational passage was as follows:

  - Four literary and four informational passages at grades 3-5 (50-50 percent literary/informational mix)
  - Three literary and five informational passages at grades 6-8 (approximately 40-60 percent literary/informational mix)
  - Two literary and six informational passages at the high school level (approximately 30-70 percent literary/informational mix)

- Approximately four to five items would be tested per passage set (depending on CCC alignment/coverage)
- Sixteen foundational were tested across the pilot forms (grades 3, 4 only; 4 items per grade across 4 tiers)

Reading Session 1 began with a literary passage set (i.e., a passage and corresponding set of comprehension and vocabulary items) followed by an informational passage set. Session 1 for grades 3 and 4 included one foundational item. Reading Session 2 began with an informational passage set (i.e., passage and corresponding set of comprehension and vocabulary items) followed by a literary passage set. Starting in grade 5, the informational passage set in Session 2 was a paired passage set. (Paired passage sets include two passages with items that assessed each passage and across passages.) In grades 3 and 4, the session ended with discrete items, including one foundational item. Exhibits 2 - 8 detail the assessed content (prioritized reading CCCs) associated with literary informational passages, reading at the word level (i.e. vocabulary), and foundational skills (in grades 3 and 4 only) in Sessions 1 & 2 of the reading Pilot Phase 1 test design for Grades 3 – 8 and 11.

Exhibit 2. NCSC Reading Pilot Phase 1 Test Design – Grade 3

Session 1		**Session 2**	
Literary Passage	**Informational Passage**	**Informational Passage**	**Literary Passage**
3.RL.k2	3.RI.i2	3.RI.k5	3.RL.k2
3.RL.k2	3.RI.h4	3.RI.k5	3.RL.k2
3.RL.h1	3.RI.h1	3.RI.i2	3.RL.h1
3.RL.i2	3.RI.h1	3.RI.h4	3.RL.i2
3.RL.i2		3.RI.h1	3.RL.i2
3.RWL.i2	3.RWL.i2	3.RI.h1	3.RWL.i2
3.RWL.h2 (Foundational)		3.RWL.h2 (Foundational)	

Exhibit 3. NCSC Reading Pilot Phase 1 Test Design – Grade 4

Session 1		Session 2	
Literary Passage	**Informational Passage**	**Informational Passage**	**Literary Passage**
4.RL.k2	4.RI.i3	4.RI.i3	4.RL.k2
4.RL.k2	4.RI.h4	4.RI.h4	4.RL.k2
4.RL.l1	4.RI.l1	4.RI.l1	4.RLl1
4.RL.l1	4.RI.l1	4.RI.l1	4.RL.l1
4.RL.i1	4.RI.h4		4.RL.l1
4.RL.i1			4.RL.l1
			4.RL.i1
4.RWL.i2		4.RWL.i2	4.RWL.j1
4.RWL.h2 (Foundational)		4.RWL.h2 (Foundational)	

Exhibit 4. NCSC Reading Pilot Phase 1 Test Design – Grade 5

Session 1		Session 2	
Literary Passage	**Informational Passage**	**Informational Passage***	**Literary Passage**
5.RL.c2	5.RI.c4	5.RI.d5	5.RL.c2
5.RL.c2	5.RI.c4	5.RI.d5	5.RL.c2
5.RL.c2	5.RI.e2	5.RI.c4	5.RL.c2
5.RL.d1	5.RI.e2	5.RI.c4	5.RL.d1
5.RL.b1		5.RI.e2	5.RL.b1
5.RL.b1		5.RI.e2	5.RL.b1
5.RL.d1			
5.RWL.a2	5.RWL.a2		5.RWL.a2

*paired passage set

Exhibit 5. NCSC Reading Pilot Phase 1 Test Design – Grade 6

Session 1		Session 2	
Literary Passage	**Informational Passage**	**Informational Passage***	**Literary Passage**
6.RL.c3	6.RI.c2	6.RI.b4	6.RL.c3
6.RL.c3	6.RI.c2	6.RI.g4	6.RL.c3
6.RL.c3	6.RI.g4	6.RI.g4	6.RL.c3
6.RL.b3	6.RI.g4	6.RI.g6	6.RL.b3
6.RL.b2	6.RI.g6	6.RI.g6	6.RL.b2
6.RWL.a1	6.RWL.c1	6.RWL.c1	6.RWL.a1

*paired passage set

Exhibit 6. NCSC Reading Pilot Phase 1 Test Design – Grade 7

Session 1		Session 2	
Literary Passage	**Informational Passage**	**Informational Passage***	**Literary Passage**
7.RL.j1	7.RI.j1	7.RI.l1	7.RL.j1
7.RL.i2	7.RI.j1	7.RI.l1	7.RL.i2
7.RL.i2	7.RI.j5	7.RI.j1	7.RL.i2
7.RL.i2	7.RI.k4	7.RI.j1	7.RL.i2
7.RL.i2		7.RI.j5	7.RL.i2
		7.RI.k4	
		7RI.j1	
		7.RI.j1	
		7.RI.j5	
7.RWL.g1	7.RWL.g1	7.RWL.g1	7.RWL.g1

*paired passage set

Exhibit 7. NCSC reading Pilot Phase 1 Test Design – Grade 8

Session 1		Session 2	
Literary Passage	**Informational Passage**	**Informational Passage***	**Literary Passage**
8.RL.j2	8.RI.k4	8.RI.l1	8.RL.j2
8.RL.i2	8.RI.j1	8.RI.k2	8.RL.i2
8.RL.i2	8.RI.j1	8.RI.j1	8.RL.i2
8.RL.i2	8.RI.k2	8.RI.j1	8.RL.i2
8.RL.i2		8.RI.k4	8.RL.i2
		8.RI.j1	
		8.RI.j1	
		8.RI.k2	
		8.RI.k4	
8.RWL.g1	8.RWL.i1	8.RWL.i1	8.RWL.g1

*paired passage set

Exhibit 8. NCSC Reading Pilot Phase 1 Test Design – Grade 11

Session 1		Session 2	
Literary Passage	**Informational Passage**	**Informational Passage***	**Literary Passage**
1112.RL.b1	1112.RI.b1	1112.RI.b1	1112.RL.b1
1112.RL.b1	1112.RI.b1	1112.RI.b1	1112.RL.b1
1112.RL.d1	1112.RI.b5	1112.RI.b5	1112.RL.d1
1112.RL.d1	1112.RI.b5	1112.RI.b5	1112.RL.d1
	1112.RI.d1	1112.RI.b5	
		1112.RI.b5	
		1112.RI.d1	
1112.RWL.c3	1112.RWL.b1	1112.RWL.b1	1112.RWL.b1

*paired passage set

Mathematics Design

To ease the testing load on students, three sessions of approximately the same number of items demarcated the mathematics Pilot Phase 1 tests. All prioritized CCCs were covered across the three sessions; each session covered all mathematics domains. The Pilot Phase 1 mathematics test blueprints provide the domain emphasis provided by NCSC leadership; the percent emphasis is consistent with CCSS percentages. See Exhibit 9.

Exhibit 9. Mathematics Domain Emphasis by Grade

Domain	3rd	4th	5th	6th	7th	8th	11th
Operations and Algebraic Thinking	30%	30%	10%				
Number and Operations Base Ten	20%	10%	40%				
Number and Operations Fractions	20%	30%	20%				
Measurement and Data	20%	20%	20%				
Geometry	10%	10%	10%	10%	20%	30%	10%
Ratio and Proportions				30%	40%		
Expressions and Equations				20%	10%	20%	
The Number System				30%	20%	10%	
Statistics and Probability				10%	10%	20%	20%
Functions						20%	
Algebra And Functions							50%
Number and Quantity							20%

Prioritized CCCs in the same domain were grouped together within each of the three sessions so that students were not required to shift focus frequently during a session.

NCSC used the following assumptions to guide the mathematics Pilot Phase 1 test design:

- All pilot items must be tested/covered over the course of the pilot forms.
- Students will receive no more than nine items per session (to reduce testing load and provide the best information).
- Testing time will be approximately 1.5 – 2 hours.
- Students must have the opportunity to take items at all tiers.
- "Enemy items" (or items from the same family/using the same stimulus) must be avoided in a form.

Exhibits 10 – 16 detail the assessed content (prioritized mathematics CCCs) by domain associated with the Mathematics sessions 1, 2, and 3 of the mathematics Pilot Phase 1 test design for Grades 3 – 8 and Grade 11.

Exhibit 10. NCSC Mathematics Pilot Phase 1 Test Design – Grade 3

Session 1 (8 items)	Session 2 (9 items)	Session 3 (8 items)
Mixed Tiers	**Mixed Tiers**	**Mixed Tiers**
3.NO.2d3	3.NO.2d3	3.NO.2d3
3.NO.2e1	3.NO.2e1	3.PRF.2d1
3.NO.1j3	3.PRF.2d1	3.NO.1j3
3.NO.2c1	3.NO.2c1	3.NO.2c1
3.SE.1g1	3.SE.1g1	3.NO.1l3
3.NO.1l3	3.NO.1l3	3.ME.1d2
3.ME.1d2	3.ME.1d2	3.DPS.1g1
3.GM.1i1	3.DPS.1g1	3.GM.1i1
	3.GM.1i1	

Exhibit 11. NCSC Mathematics Pilot Phase 1 Test Design – Grade 4

Session 1 (8 items)	Session 2 (9 items)	Session 3 (8 items)
Mixed Tiers	**Mixed Tiers**	**Mixed Tiers**
4.NO.2d7	4.NO.2d7	4.PRF.1e3
4.NO.2e2	4.PRF.1e3	4.NO.2e2
4.NO.1j4	4.NO.2e2	4.NO.1j4
4.NO.1m1	4.NO.1j4	4.NO.1m1
4.SE.1g2	4.NO.1n2	4.NO.1n2
4.ME.1g2	4.SE.1g2	4.SE.1g2
4.DPS.1g3	4.ME.1g2	4.DPS.1g3
4GM.1h2	4.DPS.1g3	4GM.1h2
	4GM.1h2	

Exhibit 12. NCSC Mathematics Pilot Phase 1 Test Design – Grade 5

Session 1 (8 items)	Session 2 (9 items)	Session 3 (8 items)
Mixed Tiers	**Mixed Tiers**	**Mixed Tiers**
5.PRF.2b1	5.PRF.2b1	5.PRF.2b1
5.NO.1b1	5.NO.1b1	5.NO.1b4
5.NO.1b4	5.NO.2c1	5.NO.2c1
5.NO.2c1	5.NO.2a5	5.NO.2a5
5.NO.2c2	5.NO.2c2	5.NO.2c2
5.ME.1b2	5.PRF.1a1	5.PRF.1a1
5.ME.2a1	5.ME.1b2	5.ME.2a1
5.GM.1c3	5.ME.2a1	5.GM.1c3
	5.GM.1c3	

Exhibit 13. NCSC Mathematics Pilot Phase 1 Test Design – Grade 6

Session 1 (8 items)	Session 2 (9 items)	Session 3 (8 items)
Mixed Tiers	**Mixed Tiers**	**Mixed Tiers**
6.PRF.1c1	6.ME.2a2	6.PRF.1c1
6.ME.2a2	6.NO.1f1	6.ME.2a2
6.NO.1f1	6.NO.2a6	6.NO.2a6
6.PRF.1d1	6.PRF.1d1	6.PRF.1d1
6.NO.2c3	6.NO.2c3	6.NO.2c3
6.NO.1d2	6.NO.1d4	6.NO.1d4
6.DPS.1d3	6.NO.1d2	6.DPS.1d3
6.GM.1d1	6.DPS.1d3	6.GM.1d1
	6.GM.1d1	

Exhibit 14. NCSC Mathematics Pilot Phase 1 Test Design – Grade 7

Session 1 (8 items)	Session 2 (9 items)	Session 3 (8 items)
Mixed Tiers	Mixed Tiers	Mixed Tiers
7.NO.2f1	7.NO.2f1	7.NO.2f2
7.NO.2f2/ 7.NO.3c3	7.NO.2f2	7.NO.2f6
7.PRF.1f1	7.NO.2f6	7.PRF.1f1
7.PRF.1g2	7.PRF.1g2	7.PRF.1g2
7.NO.2i2	7.NO.2i1	7.NO.2i1
7.DPS.1k1	7.NO.2i2	7.NO.2i2
7.ME.2d1	7.DPS.1k1	7.DPS.1k1
7.GM.1h2	7.ME.2d1	7.GM.1h2
	7.GM.1h2	

Exhibit 16. NCSC Mathematics Pilot Phase 1 Test Design – Grade 8

Session 1 (8 items)	Session 2 (9 items)	Session 3 (8 items)
Mixed Tiers	Mixed Tiers	Mixed Tiers
8.PRF.2e2	8.PRF.2e2	8.PRF.1f2
8.PRF.1f2	8.PRF.1f2	8.PRF.1e2
8.PRF.1e2	8.PRF.1e2	8.PRF.1g3
8.NO.1k3	8.PRF.1g3	8.NO.1k3
8.DPS.1h1	8.NO.1k3	8.DPS.1h1
8.DPS.1k2	8.DPS.1k2	8.DPS.1k2
8.ME.1e1	8.ME.1e1	8.ME.1e1
8.GM.1g1	8.GM.1g1	8.ME.2d2
	8.ME.2d2	

Exhibit 16. NCSC Mathematics Pilot Phase 1 Test Design – Grade 11

Session 1 (8 items)	Session 2 (9 items)	Session 3 (8 items)
Mixed Tiers	**Mixed Tiers**	**Mixed Tiers**
H.PRF.2b1	H.PRF.2b2	H.PRF.2b1
H.PRF.2b2/ H.NO.3a2	H.ME.1b2	H.PRF.2b2
H.PRF.1c1	H.PRF.1c1	H.ME.1b2
H.PRF.2c1	H.PRF.2c1	H.PRF.1c1
H.ME.1a2	H.ME.1a2	HS.NO.1a1
HS.NO.1a1	HS.NO.1a1	H.DPS.1b1
H.DPS.1c1	H.DPS.1b1	H.DPS.1c1
H.GM.1b1	H.DPS.1c1	H.GM.1b1
	H.GM.1b1	