## Public

## EdUCATION

## COMMISSION

## Grade Level Change to Contract Amendment Request Form

The Charter Contract, was entered into by and between the New Mexico Public Education Commission and [Explore Academy-Las Cruces $\quad$ ], hereafter the School, effective [ ${ }^{\text {st }}$ ] of [July ], [2021 $\quad$ ]. The School was approved for a [ Five-vear term ] Charter Contract.

The School's Charter Contract currently states:

## AUTHORIZED GRADE LEVELS: 6-12

The School requests consideration from the Public Education Commission (PEC) to change the terms of its Charter Contract, Section_s $\qquad$ , as follows:

## PROPOSED CHANGE TO GRADE LEVELS SERVED: <br> K-12 (adding grades K-5)

## EFFECTIVE DATE: <br> no sooner than July 1, 2023

GRADE LEVELS SERVED:
INCREASE
DECREASE

The School's Grade Level Change to Contract amendment request is hereby submitted by [Clara Welles ] on [42120022 ], and affirms the school meets the following eligibility criteria:

The school must confer with the PEC to convert to the 2019 contract template within 30 days of a vote on this request;The school's governing board is in compliance with all reporting requirements; andIn the prior three (3) years, the school has:
o Received no lower than a "C" letter grade on the state report card (applicable for SY18 and prior) AND received no lower than the top 75\% academic designation on the NM System of School Support and Accountability (applicable for SY19 and forward);
o Received an overall academic tier rating of Tier 1 or Tier 2 on the school's PEC approved Academic Performance Framework, for years in which a PEC Tier Level is available;
And
o Has not had its board of finance revoked.
If the fiscal year has started or will start prior to the request being considered by the PEC, the amendment request will be effective only in the subsequent fiscal year


The School's Grade Level Change amendment request was reviewed and voted upon by the Public Education Commission and is hereby:

## CERTIFICATE OF GOVERNING BODY VOTE

This document certifies that on April 13, 2022 at 6:00 pm, a meeting of the Governing Body of Explore Academy - Las Cruces, a New Mexico public charter school, was held virtually via Zoom. The meeting and all votes were conducted in compliance with the New Mexico Open Meetings Act.

A quorum of the Governing Body's members being present and voting, it was voted four (4) in favor and zero (0) opposed to seeking an amendment request to the charter contract to add grades K-5 as grade levels served.

The members voting in favor were: Clara Welles, Gabriela Graham, Jenifer Lichtenfels, and Claren Mulhall.

No members voted in opposition.

I , the undersigned, certify that this is a true copy.


## NARRATIVE: Explore Academy - Las Cruces

## Describe the rationale for this request.

In response to several inquiries from families of current students and parents who attended the recent "Unique Options in Education Charter Schools Fair" in Las Cruces, Explore Academy - Las Cruces recognizes the need for more educational choices for elementary school students and their families. Presently, of the seven (7) state charter schools in the city, six (6) state charter schools offer grade levels between grades 6 and 12 yet only two (2) offer elementary school grades, K-5. One of those two schools maintains a consistent enrollment of 200 (its enrollment cap and building capacity) and has a waiting list of students who wish to attend.

Explore Academy - Las Cruces seeks to extend its grade level offering to meet the demand of families seeking high-quality options to the traditional public schools. An elementary program at Explore Academy - Las Cruces will allow the school to apply its academic program to more fundamental learning levels and provide an innovative elementary program model to students, families, and teachers to increase educational achievement for elementary students and provide a more robust educational pipeline for Explore Academy - Las Cruces' middle school program.

## Provide a detailed staffing plan consistent with each Staffing Chart submitted with this request. Describe how the staffing (administrative, instructional, and non-instructional), enrollment, and target population needs will be addressed by the following processes: Recruitment, Hiring and Training.

## See Staffing Chart attached.

The staffing for grades K-5, once implemented (no sooner than 2023-2024), is shown here.

| TEACHERS | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| KINDER | 4 | 4 | 4 | 4 | 4 |
| lst GRADE | 3 | 4 | 4 | 4 | 4 |
| 2nd GRADE | 3 | 3 | 3 | 4 | 4 |
| 3rd GRADE |  | 3 | 3 | 3 | 3 |
| 4th GRADE |  |  | 3 | 3 | 3 |
| 5th GRADE |  |  |  | 3 | 4 |
| ELECTIVES | 2 | 3 | 2 | 2 | 2 |
| ADMIN | 1 | 2 | 2 | 2 | 2 |
| SPED | 1 | 1 | 2 | 2 | 2 |
| COUNSELOR | 6 | 8 | 10 | 12 | 12 |
| EDUC ASST | 2 | 2 | 3 | 3 | 4 |
| INTERVENTION |  |  | 4 | 4 | 4 |

The school's staffing chart is shown below for its currently approved program, adding one grade level per year until grades 6 through 12 are served.

| TEACHERS | $2022-23$ <br> $(6-9)$ | $2023-24$ <br> $(6-10)$ | $2024-25$ <br> $(6-11)$ | 2025-26 <br> $(6-12)$ | $2026-27$ <br> $(6-12)$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| ENGLISH | 3 | 4 | 5 | 6 | 6 |
| MATH | 3 | 4 | 5 | 6 | 6 |
| SCIENCE | 3 | 4 | 5 | 6 | 6 |
| SOCIAL STUDIES | 3 | 4 | 5 | 6 | 6 |
| FINE ARTS | 1 | 1 | 1 | 2 | 2 |
| FOREIGN LANGUAGE | 0 | 1 | 1 | 2 | 2 |
| PHYSICAL EDUCATION | 1 | 1 | 1 | 1 | 1 |
| INSTRUCTIONAL COACH | 1 | 1 | 1 | 1 | 1 |
| COUNSELORS | 0 | 1 | 1 | 1 |  |
| TUTORS / EDUC ASST | 5 | 1 | 1 | 6 | 7 |
| Office Mgr/Health Asst | 1 | 1 | 1 | 1 | 1 |
| SPECIAL EDUCATION | 1 | 2 | 2 | 2 | 2 |
| ADMIN | 1 | 2 | 2 | 2 |  |

## Recruitment

To accommodate the elementary school staffing needs, there will be an additional 23 staff members added starting in year 1 . This will include content and specials teachers for grades kindergarten through second as well as one administrator, one counselor, and one special education teacher. We also plan to hire two intervention specialists for reading and math as well as six educational assistants. We will advertise openings for all grade levels and specialties through a multimodal approach, much like we are doing currently. We use Indeed.com and other recruiting sites, Facebook, and the school website to announce open positions and provide resources for applicants. We also receive word of mouth recommendations from staff, students, parents, and community members that have recruited some amazing educators to apply. We have received many applications for our open positions and are confident that we can expand the staff to include all grades K through 12 , as well as the necessary support and specialty positions. We are very pleased with the high quality educators who seek to work at Explore Academy - Las Cruces and embrace the educational model as it expands to include all grades kindergarten through twelve. This hiring process can be easily adjusted to hire teachers in an order outside of what is described if the need arises, taking into account student enrollment, phase-in grade adjustments, and specialty position needs. Additionally, we have many applications for educational assistants each year, so increasing the number of EAs we have on campus is an achievable staffing goal.

## Hiring and training

For hiring and training, we have developed a detailed onboarding plan for new teachers and staff members. The paperwork and required documentation systems have been codified to streamline the hiring process and ensure that all staff members are aware of and comply with required documentation provisions and hiring processes. This includes providing up-to-date transcripts and licenses, timely background checks and fingerprinting, check-out procedures for technology and
other supplies, onboarding and training, etc. In order to accommodate the added elementary grade levels and the corresponding staffing needs, the school has expanded its team to include elementary experts in both content and special education to ensure its staffing, model, curriculum, and training development efforts are effective, inclusive, and of high quality.

Starting as soon as they are notified and welcomed to the team (a process in progress throughout the spring each year and through July), there are training sessions scheduled for new staff within their content or grade level team to prepare them for the upcoming year. Using our employee handbook as well as customized, comprehensive training modules (digitally accessed anywhere through Google Classroom and Drive repositories), newly hired staff are given information on a steady basis that helps them begin their course and curriculum development as well as learn about the educational model of Explore Academy-Las Cruces and how it functions including pedagogy, instructional practices, data collections, scheduling, etc.

There are staff orientation days planned for the beginning of the year before the students' first day of school so that all staff have individual and group time to prepare for the school year. This also provides time for returning staff to assist and mentor new staff. These days will include training and activities specific to the elementary grade levels to ensure that all new staff in the added grade levels are prepared for the upcoming school year.

The elementary expert and the instructional coach have worked together to adapt all support and training practices to be responsive to and effective with all grade levels $\mathrm{K}-12$. These two staff members, in addition to other administrative and support staff, will assist with mentoring, teacher training and support, and curriculum guidance. The instructional coach is an experienced teacher in the Explore Learning Model with years of experience in assessment, instruction, curriculum, and mentorship programs. The elementary expert, as Director of Primary Instruction, will oversee the K-5 implementation of the Explore Learning model as well as its progress monitoring.

Explore Academy-Las Cruces values teacher training and preparation, so a lot of time and energy is devoted to properly training and supporting both new staff and returning staff each year. There are comprehensive staff training sessions built into the start of each school year to provide training to new and returning staff. New staff are given extra time to work one-on-one with administration, department/content experts, and the Director(s) of Instruction. The new elementary staff will have dedicated time to work with the training team to address training and preparation needs, as they arise, on a group and individual basis. The training for new hires, especially for the elementary grades, will include some of the following training topics which are also contained within the comprehensive staff onboarding modules:

- Explore Learning model
- Flavor-based instruction and seminar design
- Introduction and incorporation of choice
- Frontloading and other instructional practices
- Seminar-style instruction
- Using thematic units
- Early literacy and math skills
- Closing achievement and learning gaps
- Inquiry teaching models
- Formative vs. summative assessment and exit exams
- Standards-based assessment at all grade levels
- Standards-based grading
- Student support systems
- Socio-emotional learning and instructional practices
- Google and other Explore Academy technology practices


## Provide a detailed description of how the Charter school will meet the enrollment targets identified

 in each Enrollment Matrix submitted.The school will meet its enrollment target through the following targeted action steps:

- General marketing
- Outreach to current families for sibling interest
- Outreach to staff members


## General Marketing

As mentioned previously, the school has received multiple communications from parents, both via email and in-person, regarding their interest in a potential expansion to add grade levels K to 5 . Parents of existing students have asked when the charter school will offer lower grades. Parents who attended the charter school fair in January 2022 repeatedly asked about options for the elementary grades.

The school has conducted exploratory marketing to the general population to gauge interest in a potential expansion effort to include the addition of new grades levels $K$ to 5 . The school will utilize digital (social media) and paper-based (newspaper, flyers, direct mailers) media to provide general information and recruitment of new students for the new grade level range, as we do with all open seats.

The school aims to serve any and all students who choose the Explore Learning Model, regardless of background or ability. To continue serving majority-minority (currently at $58 \%$ ) and underserved student populations, the school advertises throughout the entire city of Las Cruces, including community centers, after school programs and service agencies geared toward supporting families. The school provides materials in both English and Spanish and has a video about the school, in Spanish, on the school website. It is important to note that the school is the only charter school in Las Cruces that provides both food service (including free and reduced lunches) and school transportation, eliminating the largest barriers to serving economically disadvantaged youth.

Based on the significant feedback in its exploratory investigation and the success of the current efforts for grades 6-9 for the 2022-2023 school year, the school is confident that it can meet its targets through these mechanisms.

## Outreach to Current Families

The school has already reached out to its current families (with students in grades 6-8) for potential siblings that may be interested in attending its K-5 program. Based on the feedback received, there is significant interest from current families to enroll their students in a potential Explore Academy Las Cruces elementary program in the future.

## Outreach to Current Staff Members

In addition to its current families, the school has reached out to its staff to see if there exists interest in the proposed program. There are an estimated seven (7) students of staff who would attend K-5 classes, if offered. Of course, this is rather low due to the fact that only 15 staff members are presently employed onsite. However, this is expanding with the addition of grade 9 and will continue to increase each year.

## Summary

Based on the above methods, the school is confident that it can meet enrollment objectives. While there are many charter schools serving secondary grades, families in Las Cruces are seeking more
options for elementary school students. As mentioned previously, six (6) state charter schools offer grade levels between grades 6 and 12. Only two (2) offer grades K-5.

- Alma d'arte Charter High School (9-12)
- Explore Academy (presently 6-9)
- J. Paul Taylor Academy (K-8)
- La Academia Dolores Huerta (6-8)
- Las Montanas High School (9-12)
- New America School Las Cruces (9-12)
- Raices Del Saber Xinachtli Community School (presently K-4)

The school's projected enrollment chart is shown below, aligning to the Enrollment Matrix attached to this request. The enrollment targets are both reasonable and achievable.

| GRADE BREAKDOWN | YEAR 1 | YEAR 2 | YEAR 3 | YEAR 4 | YEAR 5 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| KINDER | 60 | 70 | 70 | 70 | 70 |
| 1st GRADE | 50 | 60 | 65 | 65 | 65 |
| 2nd GRADE | 40 | 50 | 55 | 60 | 60 |
| 3rd GRADE |  | 40 | 45 | 50 | 55 |
| 4th GRADE |  |  | 40 | 40 | 45 |
| 5th GRADE |  |  |  | 40 | 40 |
| TOTAL | 150 | 220 | 275 | 325 | 335 |


| GRADE BREAKDOWN | 2022-2023 |  |  |  |  |  | 2023-2024 | 2024-2025 | 2025-2026 | 2026-2027 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6th GRADE | 80 | 80 | 100 | 100 | 100 |  |  |  |  |  |
| 7th GRADE | 60 | 80 | 90 | 95 | 95 |  |  |  |  |  |
| 8th GRADE | 60 | 80 | 90 | 95 | 95 |  |  |  |  |  |
| 9th GRADE | 60 | 80 | 90 | 95 | 95 |  |  |  |  |  |
| 10th GRADE |  | 80 | 90 | 90 | 90 |  |  |  |  |  |
| 11th GRADE |  |  | 80 | 85 | 85 |  |  |  |  |  |
| 12th GRADE |  |  |  | 75 | 80 |  |  |  |  |  |
| TOTAL | 260 | 400 | 540 | 635 | 640 |  |  |  |  |  |

## Identify the concrete resources, if any, needed for implementation.

The school recognizes the following expenditures as significant areas in which the school will have to commit funding for implementation of an elementary program:

- Facilities,
- Furniture,
- Classroom resources, and
- Support programs


## Facilities

The school is currently in the process of closing on the purchase of a new permanent facility on the same street as the current, temporary facility. This facility will require minor re-configuration to modify classrooms for the younger grade levels prior to enrollment, including adjustment of restroom fixtures and the addition of age-appropriate play structures in the building's exterior. Additional reconfiguration of the facility space is planned to rollout slowly over subsequent school years as needed. An amendment request for relocation will be forthcoming once the details are finalized.

## Furniture

The school will need to purchase furniture for the addition of the younger students. The school will reach out to current elementary programs in traditional and charter schools, as well as the Public Charter Schools of New Mexico in anticipation that some degree of excess furniture may be available. That said, it is assumed that the school will have to commit spending to the purchase of new furniture over the coming years as new grade levels are phased in.

## Classroom Resources

The team acknowledges the significant expenditure required to purchase and adapt instructional materials to the needs of the program. Providing each teacher with the resources and materials they need to implement this innovative program in order to provide the immersive, thematic experience that aligns with the model. Until teachers begin their planning of their flavored thematic units, it is impossible to describe which specific curricular resources are needed, however the school anticipates this cost over the term of the phased-in enrollment described in the enrollment matrix. As has been the case to this point, the school is committed to funding teacher creativity to its fullest potential.

## Support Programs

The school acknowledges age-specific support programs that will need to be additionally funded, including learning interventionists and Speech Language therapy services. These will require their own expenditures to fulfill programming requirements.

## Consider the changes needed to curriculum, assessment, and instruction to implement this request. Provide the rationale for your response. If the response indicates that resources are not needed to implement the request, explain why.

With the addition of new grade levels, there is a significant need for resources required for an elementary program to be implemented and for the Explore Learning model at Explore Academy Las Cruces to be adapted to grades K-5.

## Curricular Planning

The school team has already successfully adapted the instructional framework, utilizing the Explore Academy model, for implementation in grades K to 5 . It has and will continue to consult with elementary educational specialists (elementary school instructional leaders, administrators, and teachers) in Las Cruces to further adapt the lessons to match the needs and priorities of the community. Many of these individuals may come aboard as staff members should the proposed plan be approved. To the degree that the instructional framework exists with the vertical alignment of standards, the plan is sound, applicable, innovative, and aligns with the Explore Academy model. As teachers are hired and the school works toward launch, the specific details about the instructional program will be developed to be ready for students no sooner than August 2023.

The school's plan maintains focus on thematic and "flavor"-based instruction. While many elementary teachers already utilize, to varying degrees, thematic units in their teaching, there will be formal training for teachers in the spring and summer leading up to the launch of school in August. This will allow teachers the ability to remain creative in how they integrate the standards into immersive flavor units, aligning with the model of the school as a whole.

Within the adapted elementary model, the school will remain focused on mastery-based learning with students moving to higher level skill sets only when they have demonstrated mastery. This method of teaching is typically implemented in elementary models already, so it can be assumed that many of the newly hired teachers will have familiarity with this approach.

## Assessment

Students in grades K-5 will participate in standards-based assessments in class that are aligned to be common across the humanities and STEM classes, measuring progress in specific standards addressed in all "flavors" of each grade level band. For example, students in Humanities (HUM) 021 and 022 will have the same standards-based assessment to measure their proficiency in the HUM 020 ELA and social studies standards, just as students in SCI 071 and 072 have the same common assessment covering the science standards for SCI 070 . These will become increasingly complex, incorporating grade-level appropriate tools and formatting, allowing the students to prepare for a smooth transition from 5th grade into the Explore Academy - Las Cruces grade 6-12 exit exams.

For grades K-3, the school plans to use the Istation systems of assessments for progress monitoring and screening. For grades $3-5$, the school will utilize the interim and summative assessments for ELA and math, the interim tests offered via NM-MSSA. These are standards-based and align with the model currently used at Explore Academy - Las Cruces. Grade 5 will also take the NM-ASR each spring along with the 8th and 11th grade students.

## (Adding Grades K-8 Only) Present clear criteria for promotion from one grade level to the next, to include the level of proficiency that students must obtain to demonstrate mastery of academic core content.

The Explore Academy elementary model will utilize mastery-based learning in alignment with its current mission and vision. Rather than maintain students in grade-level cohorts, students will be individually tracked based on their current state of proficiency. For the purposes of this proposal, "proficiency" will be rated at $70 \%-85 \%$ with "mastery" rated from $86 \%$ to $100 \%$. Similar to Explore Academy's current model, students will need to show proficiency on all standards before advancing. Students will remain in age-appropriate cohort clusters for class, however, within that division they will be aligned within a ten-tier skill alignment to track their progression in individual skill areas from K through 5th grade. Similar to Explore Academy's 100-800 level model, with students working from the 100 -level in 6th grade to the 800 -level in 12th grade, or as their rate of mastery would allow, students in the school's K-5 program will work from levels 10 to 90 with the transition from level 90 representing a seamless transitional step from 5th to 6th grade. All elementary-level standards have been divided and aligned within this system.

As an example, students will be required to demonstrate proficiency in MTH 60 (math, level 6) before advancing to MTH 70. It is predicted that teachers will be working with students within specific ranges within a skill. To cite the above example, a teacher will have students who are in both MTH 60 and MTH 70 and will be working with the needs of each individual student and subgroup. With class sizes estimated with an average of fifteen students per class, based on the budgetary plan
the school has completed, this individual attention can be achieved and is similar to the school's focus on individual learning progress in its current 6-12 model.

# (Adding Grades 9-12 Only) Describe the following: Course offerings: Process and criteria for awarding course credit; Policy on acceptance of transfer credit; and Graduation requirements that identify the number of credits in each content area and electives consistent with State requirements. 

Not Applicable

Occupancy Documentation for the proposed facility, clearly label and provide the following documents:

Documentation of the capacity load of the facility to document capacity that can sustain projected growth in enrollment.

## See attached floor plans.

The school is operating out of a temporary facility and is currently in the process of closing on the purchase of a new facility on the same street. The new facility has enough space to accommodate this proposed expansion of additional grade levels with minor re-configuration to modify classrooms for the younger grade level enrollment. This includes adjustment of restroom fixtures and the addition of age-appropriate play structures in the building's exterior. Additional reconfiguration of the facility space is planned to rollout slowly over subsequent school years as needed. The capacity load of the new facility is 700, which exceeds projected enrollment numbers for at least the next two years. (The enrollment cap, per the charter contract, is set at 700.) Depending on the timing of the addition of elementary grades and at the present projections, the school may need to seek an enrollment cap increase as soon as 2024.

An amendment request for relocation will be forthcoming once the details are finalized. Per the attached, signed assurances, the Governing Board will not permit the school to occupy any space:
(1) until the school possesses a Certificate of Occupancy and provides the same to the PEC;
(2) until the school possesses a NMCI letter from the PSFA and provides the same to the PEC;
(3) that does not have a sufficient capacity load to sustain the enrollment requested and provides documentation of the capacity load to the PEC; and
(4) that does not meet the ownership and leasing requirements of Section 22-8B-4.2 NMSA 1978.

## Attach each of the following documents:

Enrollment Matrix: Detail the current and targeted number of students served per grade for the subsequent three Fiscal Years both in the grade levels currently served and the requested additional grade(s).
See page 5 above and the attached Enrollment Matrix, showing both projected enrollment for K-5 and current projections for grades 6-12.

Staffing Chart: Identify the current and anticipated staffing information for the subsequent three Fiscal Years both in the grade levels currently served and the requested additional grade(s). See pages 1-2 above and the attached Staffing Chart.

Additional attachments from the school:

- Floor Plan
- Signed Facility Assurances


## FACILITY ASSURANCES

## EXPLORE ACADEMY - LAS CRUCES

TO: Public Education Commission

FROM: Explore Academy- Las Cruces Governing Board
DATE: April 13, 2022

The Governing Board of Explore Academy - Las Cruces hereby assures that the school will not occupy any space, for any grade levels, until/unless the following four (4) conditions are met:

1. The school possesses a Certificate of Occupancy and provides the same to the PEC;
2. The school possesses a NMCI letter from the PSFA and provides the same to the PEC;
3. The facility does not have a sufficient capacity load to sustain the enrollment requested and provides documentation of the capacity load to the PEC; and
4. The facility does not meet the ownership and leasing requirements of Section 22-8B-4.2 NMSA 1978.

The undersigned officials certify that we have read and understand the obligations as described and that the school will comply with the aforementioned requirements.


Chair Cara Wells
2.

3.


Secretary Claren Wilson Mulhall
4.


Explore Academy - Las Cruces


Current temporary site
$\square$ Proposed new location



DEMOLITION PLAN


- FLOOR PLAN


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KEYPLAN



## COMPUTER CAREER CENTERS ADULT EDUCATION CLASSROOMS

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- EXISTING overall site plan

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| KEYED NOTES |
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- FLOOR PLAN



## Executive Summary for Explore Academy Las Cruces Curriculum Samples

Our educational program is founded on student choice and ownership of their own education. Each quarter/semester/year, depending on developmental level, students select flavors ( thematic instruction) in Humanities (ELA and Social Studies), STEM (Math and Science) or Electives (Art, STEAM, PE, Music). Students receive instruction in the same standards, but the theme through which they learn those standards varies based on teacher passion and student interest. Students also have the opportunity to exercise choice through the day and course through classroom structures, options for topic and method of learning, and more. Students have daily time for independent work with tutoring support during flex periods, freeing up core instructional time for centers, 1:1 and small group instruction, hands-on activities and investigations, among other structures and methods.

Our educational program provides for concentrated instruction on focus standards, with student depth of mastery determined by a combination of common formative assessments and flavor assessment requiring extended application and thinking in line with DOK $3 \& 4$. Teachers collaborate to identify focus standards, create common essential questions, learning objectives, and success criteria for student mastery. They meet regularly to share instructional strategies and reflect on how to respond to qualitative and quantitative data. This is demonstrated through the unit snapshots and assessment items provided below.

Teachers will have access to select high-quality instructional materials to ensure that instruction is being designed and delivered at an appropriate level of rigor to the standards. For foundational literacy instruction, we ensure alignment with the approach through LETRS (Language Essentials for Teachers of Reading and Spelling - science of reading), including using Heggerty in K-3 for phonological awareness curriculum) and Wilson Fundations also in K-3, a comprehensive early literacy program which systematically emphasizes phonemic awareness, phonics/word study, high frequency words, reading fluency, vocabulary, comprehension strategies, handwriting, and spelling. Teachers will receive PD in identifying and selecting complex texts and planning for reading comprehension instruction that is culturally and linguistically responsive, as well as high interest and connected with the theme.

For math, teachers will leverage the open-educational resources provided by Zearn, based on the EngageNY curriculum. Zearn utilizes a blended learning approach founded on the idea that students progress through stages of understanding from concrete to pictorial to abstract. Students will receive both small group instruction by their teacher, as well as digitally guided instruction with scaffolding. We believe that this will help address unfinished learning resulting from the pandemic related to numeracy and mathematical reasoning. That said, teachers will adapt their instruction to their given flavor, skipping or extending certain lessons, dovetailing math instruction with science inquiry, etc. There are no specific instructional materials to be used in K-5 for science. Teachers plan their units both collaboratively and independently from the NM NGSS and utilize a variety of resources and complex texts in their instruction. PD focuses on inquiry based learning and increasing rigor through hands-on labs and strong instruction.

## For reference throughout -

Math rubric heading for Kindergarten:

| Assessment Task Item and Standards Assessed | STEP 1 Little evidence of reasoning without a correct answer. | STEP 2 Evidence of some reasoning without a correct answer. | STEP 3 <br> Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. | STEP 4 <br> Evidence of solid reasoning with a correct answer. |
| :---: | :---: | :---: | :---: | :---: |

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## Kindergarten ELA Curriculum Sample

| Grade Level | Kinder | Content Area |
| :--- | :--- | :--- |
| Alignment to Educational Program <br> Describe how the methods of instruction found in <br> this sequence of lessons align to the Educational <br> Program <br> described in the charter contract and the <br> Amendment Request. | In addition to the context provided in the Executive Summary section, this sample unit, "Exploring Famous <br> Fable The Tortoise and the Hare/The Three Little Pigs" is excerpted from the A/B-level seminar "The Play's <br> the Thing" which addresses kindergarten standards in language arts and social studies. This seminar extends <br> for one year and interweaves multiple reading, writing and social studies focus standards, and other skills <br> through the drama/acting/playwriting theme. This is of interest to students when they are choosing a seminar <br> because they currently have access to a variety of media forms made primarily with theatrical content (e.g. <br> Netflix, Disney+ or YouTube), where children are exposed to stories, characters and performances. By bringing <br> these performances off of the screen and to life, students will be engaged in deeper, more meaningful learning <br> and social connection. This flavor connects to the Humanities standards in a variety of ways; <br> Reading/Writing/Literature will be a heavy focus as we read through different texts and explore stories. <br> Students will gain further knowledge of these standards as they retell stories and create their own. |  |


| 6. "The Three Pigs" by David Weisner <br> 7. "The Three Little Hawaiian Pigs and the Magic Shark" by Donavee Laird <br> 8. "Alaska's Three Pigs" by Arlene Laverde <br> Puppet videos of Three Little Pigs <br> Real Life Turtle vs Hare races on Youtube <br> Non fiction books/photos/factoids on Pigs, Wolves, Tortoises and Hares <br>  <br> Art and drama materials, including props |
| :--- | ---: |


| Lesson <br> (add as neede <br> d) | Instructional Strategies-Describe the Instructional Strategies, lesson by lesson, that would clearly provide students with opportunities to engage in the grade-level rigor defined by the Standard identified as the focus of review. | Student Activities-Describe the Student Activities, lesson by lesson, that would clearly provide students with opportunities to engage in or master the grade-level rigor defined by the standard identified as the focus of review. <br> Indicate alignment of Student Activities to the standard/component identified as the focus of review and specific Standard(s) of Mathematical Practice. |
| :---: | :---: | :---: |
| 1 | Read Aloud: "Hare and Tortoise" by Alison Murray Kinesthetic/musical learning through fast/slow scarf dancing; and fast/slow drawing with music. | I can ask and answer questions about a text. RL.K. 1 <br> Students will engage in a whole group discussion of the text as they look at the race map, play with tortoise and hare puppets to reenact the story, and hold up fast/slow cards to master understanding of the vocabulary. |
| 2 | Reading Reflection: "Hare and Tortoise" by Alison Murray <br> Whole group discussion, visualizing story elements to enhance comprehension <br> Read Aloud: "The Tortoise and Hare" by Bernadette Watts" Comparing and contrasting, visualizing, connecting to science/informational text | I can identify story elements such as characters, setting and major events. I can ask and answer questions about a text RL.K. 1 <br> Students will engage in a whole group discussion: Who are the characters? What are their characteristics? Let's draw a map together. Taking turns to add locations. <br> Students will engage in a whole group discussion: What are the similarities and differences in the two versions? Draw your own race track. <br> Animal Characteristics handout; label animal parts |
| 3 | Read Alouds:"The True Story of the Three Little Pigs" by Jon Scieszka; "The Three Little Hawaiian Pigs and the Magic Shark" by Donavee Laird <br> Discussing characterization, comparing and contrasting, using text evidence. Connection to self. | I can identify story elements such as characters, setting and major events. I can ask and answer questions about a text RL.K. 1 <br> Discuss and document (writing or drawing) characters of each story. Sort into categories of similar characters and different characters. |


|  |  | What are the similarities/differences in each story? What are the similar text, quotes? <br> Allow students to play with Three Little Pigs puppets and homes. Discuss: What makes a home strong? Why is it important to take our time? |
| :---: | :---: | :---: |
| 4 | Read:"The Three Pigs" by David Weisner <br> "The Three Little Wolves and the Big Bad Pig" by Eugene Trivizas "Alaska's Three Pigs" by Arlene Laverde <br> Discussing characterization, comparing and contrasting, using text evidence. Connection to self. <br> Story element mapping, RL K. 1 | I can identify story elements such as characters, setting and major events. <br> I can orally retell a story using beginning, middle and end <br> I can ask and answer questions about a text <br> RL.K. 1 <br> Whole Group: <br> Discuss and document (writing or drawing) characters of each story. <br> Sort into categories of similar characters and different characters. <br> What are the similarities/differences in each story? <br> What are the similar text, quotes? <br> Begin to add text to graphic organizer <br> Small Group/One on One: <br> Story mapping with beginning, middle, end of each book; label each drawing. |
| 5 | DOK 4: Extended thinking, create a play. | Planning our own version of The Three Little Pigs <br> Where will it take place (Setting)? Who are the characters? Will there be any added characters? How does it begin? What actions/problems take place in the middle? Adding lines? How does the story end? <br> Who will play each character? What materials do you need to make your costumes? <br> W.K. 7 - shared research \& writing projects |
| 6-8 | DOK 4: Extended thinking, create a play. | Create brief overview of story. Rehearse with costumes and film play. |
| S.A. | Provide an opportunity for students to complete the Summative Assessment Items. These Summative Assessment Items are assessed independently and are separate from instruction and guided or independent practice. In the Student Activities column, describe the Summative Assessment Items that will allow students to demonstrate mastery of the rigor of the standard/components identified as the focus of review, and the context in which the items will be administered. | Description of Items: <br> 1. Students are asked to select from 4 options an illustration of the main character learning something related to the theme of the story. <br> 2. Students must explain why they selected the illustration, using a sentence stem. <br> 3. Students create a visual representation of a story map of a particular book, including beginning, middle, end, and characters. <br> Context of administration: <br> Items $1 \& 2$ would be administered in a small group setting in accordance with the script below. Item 3 would be facilitated in small groups and 1:1: to allow for teacher support and questioning for assessment. |

## Items 1\&2:

## Part I:

1. Gather the first assessment group together.
2. Point out that students have a Llama Llama Time to Share text for the culminating task in front of them.
3. Explain that there are small sticky notes on four different pages in the book. They should leave those sticky notes in the book just where they are.
4. Read aloud the directions for the task:
"Using the four pages that I have chosen, decide which picture best shows what Llama Llama has learned about playing with others. Choose one picture that shows when Llama Llama is taking care of others. Then, place your larger sticky note beside that picture."
5. Briefly review how to place a sticky note beside a picture, using teacher models from previous close read-aloud sessions as examples.
6. Remind students that when they are done putting the sticky note on the picture, they will engage in a conversation with their conversation partner.
7. As students work, provide reminders about directions and assistance in placing their sticky note but allow them to make the selection independently.

## Part II:

Part II

1. Explain that students are going to Think-Pair-Share about this topic: "What does Llama Llama learn about playing with others?"
2. Remind students to describe what they see happening in the picture they placed the sticky note beside and what that picture shows them about what Llama Llama has learned.
3. Offer a sentence starter for students to use. Example: "In this picture, I see $\qquad$ .This shows that Llama Llama learned $\qquad$ .$"$
4. Guide students through one round of Think-Pair-Share.
5. As they talk, circulate and listen in. Use the Speaking and Listening Checklist to make note of student progress toward SL.K.1. Also listen for how students are interacting with one another. Direct them to the Conversation Norms anchor chart as needed.
6. Refocus the small group and invite a few students to share their ideas with their group.
7. Ask students to remove their sticky note from the text so that someone else can use it now.
8. Repeat the assessment process above with one more group.

## Answer Key -

## Part I:

Each student will need one copy of the text Llama Llama Time to Share with pages 12, 14, 27, and 28 pre-flagged with small sticky notes.
Students should select either the picture of Llama Llama and Nelly Gnu at the table with the cake at the top of page 27 or the picture of Llama Llama giving Fuzzy Llama to Nelly Gnu on the bottom of page 28 .

## Part II:

Display the sentence frame: "In this picture, I see $\qquad$ -
This shows that Llama Llama learned $\qquad$ ."

Listen for students to respond in ways similar to the following:
In this picture, I see Llama Llama and Nelly Gnu making a cake together. This shows Llama Llama learned that playing with someone can be more fun than playing alone.
In this picture, I see Llama Llama giving Fuzzy Llama to Nelly Gnu. This shows that Llama Llama learned that it can feel good to share.
Item 3:
Students are asked to create a storyboard representation of a particular book, including beginning/middle/end and main characters.
1 = Initiating Understanding (reliant on teacher guidance for formulating question responses, identifying/sequencing elements) $2=$ Developing Understanding (somewhat independent in articulating responses to question swith developmentally appropriate support and prompting), 3 = Mastery (independent in asking and answering questions about literature texts with developmentally appropriate support and prompting)


## Kindergarten Math Curriculum Sample

| Grade Level | Kinder |
| :--- | :--- | :--- |
| Alignment to Educational Program <br> Describe how the methods of instruction found in this sequence of <br> lessons align to the Educational Program <br> described in the charter contract and the Amendment Request. | In addition to the context provided in the Executive Summary section, this sample unit, is <br> excerpted from the A/B-level seminar "Over in the Jungle" which addresses kindergarten <br> standards in science and mathematics. This seminar extends for one year and interweaves <br> multiple standards and other skills through the rainforest/jungle theme. Students are <br> immersed in a rich classroom environment and are given many opportunities for hands-on <br> learning, choice, and inquiry labs. |
| Standard Number and Description <br> The standard number and description (see instructions) of the <br> standard being instructed and assessed to mastery in the curriculum <br> sample. If more than one Standard is listed for a content area, one is <br> clearly identified as the focus of review <br> by having (M) before the standard number. | (M) K.CC.B.5 Count to answer "how many?" questions about as many as 20 things <br> arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered <br> configuration; given a number from 1-20, count out that many objects. <br> SMP.2 Reason abstractly and quantitatively. Students represent teen numerals with <br> concrete objects separated as 10 ones and some ones. <br> SMP.3 Construct viable arguments and critique the reasoning of others. Students explain |
| their thinking about teen numbers as 10 ones and some ones and how to represent those |  |
| numbers. |  |

## Materials/Resources Needed

List all items the teacher and students will need for the entire sequence of instruction (excluding common consumables).

## Suggested Tools and Representations

- 50 sticks or straws for each group of 2 students
- Student-made Rekenrek (pictured to the right): 10 red and 10 white pony beads, 1 cardboard strip, 2 elastics
- 1 egg carton per pair of students with 2 slots cut off to make a carton with 10 slots
- Hide Zero cards (called Place Value cards in later grades)
- Objects to put in the egg carton such as mandarin oranges, plastic eggs, or beans
- Single and double 10 -frames
- Linking cubes: ideally 10 of two different colors per student
- Number bond template


| Lesson <br> (add <br> as <br> neede <br> d) | Instructional Strategies-Describe the Instructional Strategies, <br> lesson by lesson, that would clearly provide students with <br> opportunities to engage in the grade-level rigor defined by the <br> Standard identified as the focus of review. | Student Activities-Describe the Student Activities, lesson by lesson, that would <br> clearly provide students with opportunities to engage in or master the grade-level <br> rigor defined by the standard identified as the focus of review. <br> Indicate alignment of Student Activities to the standard/component identified as <br> the focus of review and specific Standard(s) of Mathematical <br> Practice. |
| :---: | :--- | :--- |
| $\mathbf{1}$ | Daily review work: <br> $\bullet$ Count to 100 by 1s, 10s <br> $\bullet$ Write numbers 1-20 |  |
| The Student Debrief is intended to invite reflection and active |  |  |
| processing of the total lesson experience. Guide students in a |  |  |
| conversation to process the lesson and to debrief the Problem Set. |  |  |
| Look for misconceptions or misunderstandings that can be addressed |  |  |
| in the Debrief. |  |  |$\quad$| Lesson Objective: Count straws into piles of ten; count the piles as 10 ones. |
| :--- |
| Jungle themed word problem of the day: |
| George loves to share his bananas with the his best monkey friend. He counted |
| Joenands. |


|  | Have students bring their Problem Set to the meeting area and <br> discuss with a partner which things they circled and why. Suggested <br> sentence frames: "I circled because I counted 10 of them." "I didn't <br> circle because I counted of them." <br> Have them count the number of sets of 10 ones they counted. <br> Help students to remember that there were also 4 piles of 10 straws <br> and 4 bags with 10 things in them. <br> Have them discuss how the Problem Set is the same as and different <br> from their work with the bags and straws. Would you ever put apples <br> or baseballs in bags of 10? |
| :--- | :--- |



|  |  | SMP. 3 Construct viable arguments and critique the reasoning of others. Students explain their thinking about teen numbers as 10 ones and some ones and how to represent those numbers. |
| :---: | :---: | :---: |
| 4 | Daily review work: <br> - Count to 100 by $1 \mathrm{~s}, 10 \mathrm{~s}$ <br> - Write numbers 1-20 <br> Lesson: <br> Let's try something different. We won't use the number cards for this. <br> T: Partner A, put any number of objects you want in a circle around the edge of your plate. T: Partner B, count the objects and write the number on your personal white board. T: Now, Partner B gets to put any number of objects in a circle around the edge of the plate, and Partner A counts them and writes the number on her personal white board. <br> Have students use the plate to draw dots in a circular shape and count each other's dots. Have them circle 10 dots to prove that they counted correctly (as pictured below). <br> Student Debrief: <br> Students bring problem set and teacher reviews answers, questioning students to gauge level of understanding. | Lesson Objective: Show, count, and write to answer how many questions with up to 20 objects in circular configurations. <br> Students will have repeated practice in modeling circular configurations and counting how many. <br> Problem Set: <br> Students practice independently counting how many in a circular configuration. <br> SMP. 2 Reason abstractly and quantitatively. Students represent teen numerals with concrete objects separated as 10 ones and some ones. <br> SMP. 3 Construct viable arguments and critique the reasoning of others. |
| S.A. | Provide an opportunity for students to complete the Summative Assessment Items. These Summative Assessment Items are assessed independently and are separate from instruction and guided or independent practice. In the Student Activities column, describe the Summative Assessment Items that will allow students to demonstrate mastery of the rigor of the standard/components | Description of items: <br> 1. Students count the number of objects arranged in a circle then draw additional objects in order to match the given number. <br> 2. Concrete assessment - physical cubes are placed, student is asked a series of prompts and to articulate their thinking. <br> 3. Concrete assessment - physical cubes are placed, student is asked a series of prompts and to articulate their thinking. |


|  | identified as the focus of review, and the context in which the items will <br> be administered. | Context of administration: <br> The first item is a paper assessment. Teacher reads aloud prompt, then student <br> completes with pictorial representation skills. |
| :--- | :--- | :--- |
| ltems 2 and 3 are completed in the context of a performance assessment 1:1. |  |  |
| The teacher scribes in the T-chart what the student is doing and saying in |  |  |
| response to questioning. Student understanding will be determined through |  |  |
| repeat questioning and observation. |  |  |

Summative Assessment Items and Scoring:

## Item 1:

## Whisper count and draw in more shapes to match the number.



Step 1-Student shows little evidence of understanding how to make or count objects in arrays and circles.
Step 2 - Student shows evidence of beginning to understand counting arrays and circles but is unable to do so accurately and consistently.
Step 3-Student counts each arrangement correctly but cannot add more shapes to match the number of objects indicated
Step 4 - Student correctly counts each arrangement and adds the appropriate number of objects to match the new quantity

## Item 2:



## Item 3:

Materials: $(5) 17$ centimeter cubes, number bond (Lesson 7 template) with in a person il white board, eraser
T. (Set out 17 cubes.) How many cubes are there? ( Note the arrangement in which the student counts. If the sudent does not arange cubes into a stright line of array, do so fot the sudent.
If Separate 10 cubes into a group.
TI Write 17 as a number bond on your personal white board using 10 ones as one of the parts (Be sure to have students witte the numerals.)
T: (Write $17=\ldots+\ldots$ ) Make an addition sentence to match your number bond.
Topic
K.CC.
T: How are your number bond and your addition sentence the same?

| What did the student do? | What did the student say? |
| :--- | :--- |
|  |  |
|  |  |

K.NBT.


## Student shows

 understanding organized counting, teen numbers, number bonds, or addition sentences.Student shows a beginning understanding of counting into an array or line, representing teen numbers as number bonds or addition sentences, but answers inaccurately.

| Student correctly  <br> counts 17 cubes Student correctly: <br> into an array or Counts 17 cubes <br> into an array or  |  |
| :--- | :--- |
| line and writes the <br> number bond for 17 | line. |

## 1st Grade ELA Curriculum Sample



| Lesson <br> (add as neede <br> d) | Instructional Strategies-Describe the Instructional Strategies, lesson by lesson, that would clearly provide students with opportunities to engage in the grade-level rigor defined by the Standard identified as the focus of review. | Student Activities-Describe the Student Activities, lesson by lesson, that would clearly provide students with opportunities to engage in or master the grade-level rigor defined by the standard identified as the focus of review. <br> Indicate alignment of Student Activities to the standard/component identified as the focus of review and specific Standard(s) of Mathematical Practice. |
| :---: | :---: | :---: |
| 1 | Introduction to our new country: China <br> Review fact sheet, get passport stamp <br> Read: "Celebrating the Lunar New Year" <br> Create class K-W-L chart and post on bulletin board to add to later. | Illustrate China country fact sheet <br> Listen to read aloud "Celebrating the Lunar New Year" and respond to pre-planned questions <br> Complete K-W-L chart for Lunar New Year with combination of words and drawings |
| 2 | Introduce Text Features Anchor Chart <br> Access Prior Knowledge - discuss different text features using the text from yesterday, touch lightly on each feature <br> Say - today we are going to focus on the title and headings of the text. Point to the title and headings on the anchor chart. <br> Read "Lion Dance" article together (Informational) Ask - use a green highlighter to highlight all of the headings. Model 2, then let students finish on their own. <br> Begin Lion Dance side of Venn Diagram. Ask - which heading covered this information? | Students can identify the title and headings of an informational text. Students can refer to which heading they got information from. <br> Read "Lion Dance" article together (Informational) <br> Ask - use a green highlighter to highlight all of the headings. Model 2, then let students finish on their own. |
| 3 | Start by Visualizing the content: <br> Lion Dance silent cartoon, Observations? Questions? Add to <br> Venn Diagram <br> Watch video of lion dance competitions. <br> Does the Chinese Lion Dancer Look like a real dragon? How does the costume work? <br> Say - today we are going to focus on the images and captions of the text. Point to the images and captions on the anchor chart. <br> Read "Lunar New Year" selected pages together (Informational) <br> Stop and analyze each image and caption. Ask - what do we learn from this image? How does the image connect with the text? How does the caption help explain the image? | Students can identify the images and captions of an informational text. Students can refer to which image/caption they got information from. <br> Read "Lunar New Year" selected pages together (Informational). <br> Small group instruction: Students receive a new information text about a different topic. Read together. <br> Teacher questioning - What is one piece of information you learned from an image? Which image? What is a caption? What does this caption say? <br> Engage in turn and talks, and then discuss as a group. |


|  | Add to Lion Dance side of Venn Diagram. Ask - which image led us to know this? |  |
| :---: | :---: | :---: |
| 4 | Re-read "Lunar New Year". Review title, heading, images, captions. <br> Using what we have learned work together to create a 3 sentence informational writing about Lion Dances. <br> Brainstorm together - look at Lion Dance Venn diagram, teacher models writing, using appropriate mistakes for first drafts in 1st grade. <br> Table talk - Discuss 4 different facts with your table. Count them out with the lion figures. <br> Individual work and conferencing - pull students 1:1 to review their writing and ask them questions about comprehension. | Each student has a graphic organizer to plan their informational writing piece. <br> Students can plan their writing using a combination of drawings and words. <br> Students then write their 3-5 sentence informational writing piece and illustrate it. |
| 5 | Complete final Lion Dance Writing and create a Lion Dance Drawing and Painting <br> 1:1 conferencing with students to go through writing checklist and to finalize piece. | Go through writing checklist to make sure we are following conventions and addressing the prompt. <br> Students can revise their writing. Students create their final draft, and then work on their lion dance drawing and painting. <br> Students publish their work in the hall glass case and may choose to present to the whole class. |
| Over several days | Repeat general lesson sequence comparing and contrasting the dragon dance. <br> New text elements introduced: table of contents, glossary | Example activities: <br> Read "The Dancing Dragon", watch videos of the dragon dance. Complete venn diagram. <br> Using what we have learned, write 3 sentences about dragon dances. Review and edit together to make final draft. |
| 7 | Return to class K-W-L chart and complete. <br> Writing workshop - review prompt for compare/contrast, teacher models graphic organizer. | Complete personal K-W-L (L section). |
| 8 | As a class, review our venn diagram. <br> Writing workshop - review G.O. for compare/contrast, teacher models writing | Student completes graphic organizer. Begin working: Each student writes at least 2 ways that the dragon dance and lion dance are the same and different. |


| 9 | Create a visual representation of our learning for our school community. | Work as a class to create a giant dragon that we can proudly display. Colors, appearance? |
| :---: | :---: | :---: |
| S.A. | Provide an opportunity for students to complete the Summative Assessment Items. These Summative Assessment Items are assessed independently and are separate from instruction and guided or independent practice. In the Student Activities column, describe the Summative Assessment Items that will allow students to demonstrate mastery of the rigor of the standard/components identified as the focus of review, and the context in which the items will be administered. | Description of Items: <br> 1. This item asks students to determine the main idea of the text, and the text feature that helped them know. Specifically 1b pertains to the focus standard. <br> 2. This item asks students to respond to a question about a specific text detail and the text feature that helped them know. <br> 3. Item 3 is a writing prompt aligned with the writing focus standard. Students are referred to a text and pictures, then asked to respond to a question using those sources. <br> Context of Administration: <br> For Items 1-2, instruct students to listen to the pages read two times aloud. Then use the illustrations to help them answer the questions. For Item 3, the text may also be read aloud, along with the prompt. Students should answer independently in writing to all items. |

Summative Assessment Items and Scoring:

## Item 1 (Reading):

1a. What is this section of the text mostly about? (RI.1.2, RI.1.5)
Birds of Prey
1b. Which text feature helped you know this? (RI.1.5)
Choose one:
A. Illustrations
B. Title or heading
C. Captions

Item 2 (Reading):
What text feature tells the reader how the secretary bird hunts the snake? (RI.1.1, RI.1.5)
A. Picture
B. Heading
C. Caption

## Item 3 (Writing):

26. Think about the two passages and the pictures.

What did men wear in America long ago? Write a
few sentences. Describe what men wore.


## Informative/Explanatory Writing

The response has one or two complete sentences. It includes accurate information from the passages. The writer uses conventions of grammar and sentence structure correctly and has few or no mistakes in capitalization, punctuation, and spelling.

The response has one or two complete sentences, it includes accurate information from the passages. The writer makes a few mistakes in grammar and conventions, but they do not hinder meaning

The response has one or two relatively complete phrases or almost complete sentences. It includes some accurate information from the passages. The writer makes many mistakes in grammar and conventions, which hinder the overall meaning.
The response has no complete thoughts or sentences. It shows no understanding of the information in the passages. The writer rarely uses correct grammar or conventions, which hinders the overall meaning.

The response does not fit the writing prompt or is incomplete.

## 1st Grade Math Curriculum Sample



|  |  |  |
| :---: | :---: | :---: |
| Lesson (add as neede d) | Instructional Strategies-Describe the Instructional Strategies, lesson by lesson, that would clearly provide students with opportunities to engage in the grade-level rigor defined by the Standard identified as the focus of review. | Student Activities-Describe the Student Activities, lesson by lesson, that would clearly provide students with opportunities to engage in or master the grade-level rigor defined by the standard identified as the focus of review. Indicate alignment of Student Activities to the standard/component identified as the focus of review and specific Standard(s) of Mathematical Practice. |
| 1 | Introduce sense unit - what is mindfulness? Read Look. Listen. Taste. Touch and Smell. Tell students we will be using our senses as we learn math during this unit and for the rest of the year and our lives! We use our senses constantly, we just need to work on our *awareness*. <br> Whole Group Fluency Practice <br> Whole Group Word Problem Practice <br> Materials: (T) Bin, three different kinds of blocks/pattern blocks, 18 -inch length of string tied to form a loop (S) Three different kinds of pattern blocks (10 of each shape, e.g., trapezoid, triangle, and square blocks), personal white board | Lesson Objective: Solve word problems with three addends, two of which make ten. <br> Following shared modeling in small groups, assign partners, and hand out blocks. Use a sequence of stories adapted to the flavor to tell as students work with a partner to represent each problem on their personal white boards. Students should put their boards next to one another to make a larger board. Together, they write the expression, circle 10, and solve for the unknown. <br> Students complete a Zearn Digital Lesson then Exit Ticket to act as the lesson assessment. |



|  | Next, repeat the process by having students use math drawings to solve the following in this suggested sequence: $9+6,3+9$, and $7+9$. The 9 should be drawn with open circles. The other addend should be drawn with filled-in circles. Before students add dark circles to their math drawings, ask them, "How many does 9 need to make ten?" and "How many do you have when you take away 1 from [the other addend]?" to guide how they decompose the addend. Additionally, encourage students to place the 1 closer to the 9 as they write the number bond below the other addend, making it easier to make ten with 9. | 2. $\qquad$ $=4+9$ |
| :---: | :---: | :---: |
| 3 | Mindfulness activity: mindful eating, chips \& salsa - connect to exit ticket, we will have our snack after we are finished learning and complete our assessment. <br> Whole Group Fluency Practice Whole Group Word Problem Practice <br> Have students sit at their seats with the materials. T: (Project and read aloud.) Peter has 8 books, and Willie has 5 . How many books do they have altogether? T : What is the expression to solve this problem? $\mathrm{S}: 8+5 . \mathrm{T}$ : On your personal white board, use your blue linking cubes in 5-groups to show how many books Peter has. S: (Organize 8 blue linking cubes.) T: Use your yellow cubes to show how many books Willie has. Put them in a line of five next to your board. S: (Organize 5 yellow linking cubes.) T: What are the different ways we can solve $8+5$ ? S: Count on! à Make ten with 5 . à Make ten with 8 . T: (Call on students to demonstrate each of these strategies, saving making 10 with 8 for the end. As a student volunteer makes ten, use the ten-frame border to physically group the ten.) T: Let's use the last strategy to solve $8+5$. Everyone, make ten with 8. S: (Move 2 yellow cubes to the blue pile.) T: With your marker, draw a frame around your 10 cubes. S: (Frame 10 cubes.) T: We have 10 here. (Gesture to the 10.) What do we have left here? (Point to the other pile.) S: 3. T: Look at your new groups. What is our new number sentence? $\mathrm{S}: 10+3=13$. T: (Write $10+3$ $=13$ on the board.) Did we change the number of linking cubes we have? S: No. T: So, $8+5$ is the same as what addition expression? S: $10+3$. T: (Write $8+5=$ $10+3$.) T: What is $10+3$ ? S: 13. T: What is $8+5$ ? Say the number sentence. S: 8 $+5=13$. T: How many books do Peter and Willie have? S: 13 books. <br> Repeat the process with the following suggested sequence: $8+3,8+6,4+8,8$ $+7,8+8$. Be sure to have students make ten with 8 , reinforcing the concept of commutativity for efficient problem solving. Write both number sentences (8 $+6=14,10+4=14)$ and a number sentence equating the equivalent expressions $(8+6=10+4)$. | Lesson Objective: Make ten when one addend is 8. <br> Students will use hands-on materials to making ten with simple word problems when one addend is 8 . Students will engage in repeated guided practice led by the teacher in their small group lesson, gradually releasing responsibility. <br> Then, students will transition to a digital lesson to receive additional instruction and practice with scaffolding. <br> Students will complete the following exit ticket: <br> Draw, label, and circle to show how you made ten to help you solve. Write the number sentences you used to solve. <br> 1. Nick picks some peppers. He picks 5 green peppers and 8 red peppers. <br> How many peppers does he pick in all? <br> 8 and $\qquad$ make $\qquad$ -. <br> 10 and $\qquad$ make $\qquad$ <br> Nick picks $\qquad$ peppers. |

4 Mindfulness activity: Read Listening to My Body, we are going to be paying close attention to how we are feeling with our emotions, and how that shows up in the way our body feels. Sometimes math is hard and being aware of our feelings can help us know when to stop, take a deep breath, and show ourselves kindness.

Whole Group Fluency Practice Whole Group Word Problem Practice

Materials: (S) Personal white board, numeral cards or 5-group cards, one "+" card for each student, and one "=" card for each pair of students

Have students come to the meeting area with their personal white boards and sit in a semicircle. T: (Write $9+6=\ldots$ on the board.) Using an organized math drawing or a number bond, solve $9+6$. Think about the equal ten-plus fact, and write a true number sentence using two expressions. S: (Solve by drawing or using a number bond as the teacher circulates.) T: (Choose one student to share the use of counting on and another student to share the use of making ten.) When there is a 9 as an addend, what could you do to the other addend? S: Get the 1 out! Break apart 6 into 1 and 5 as parts. Repeat the process with 4 +8 .

Begin by asking students which number they should make ten with to solve more efficiently. T: (Write 7+6 = $\qquad$ on the board.) Turn and talk to your partner. How might you solve this problem using what you already know about the make ten strategy? T: Which number should we make ten with? Why? S: Make ten with 7 because it's only 3 away from 10. à 6 is 4 away from 10. à It's easier for me to get the missing part from 7 than 6 . T: With your partner, use a number bond to solve this problem. T: Look at your picture. What expression is $7+6$ the same as? S: $10+3$. T: Write that as a true number sentence. S: (Write $7+6=10+3$ or $10+3=7+6$.) T: What is $10+3$ ? S: 13 . T: So, what is $7+6$ ? Say the number sentence. $\mathrm{S}: 7+6=13$.

Repeat the process with $4+7,7+5$, and $7+7$

Lesson Objective: Solve problems with addends 7, 8, and 9. L10
Following the Small Group Lesson (see left), students will play "Simple Strategies" in partners.

Now, we are going to play Simple Strategies! (Assign partners. Instruct each pair to combine their numeral cards and make two piles: digits 1-6 and digits 7-9, placing the 9 card on top of the second pile.) Here's how you play: 1. Partner A picks a card from the first pile (digits 1-6). 2. Using the 9 card from the second pile and the card picked by Partner A, Partner B writes an addition expression (e.g., 6+9). 3. Partners use counting on and then use making ten to solve the expression. 4. After using the make ten strategy, Partner A writes down the equal $10+$ $\qquad$ fact. 5.
Partners place the equal sign card between the boards to make a true number sentence. 6 . Switch roles. Keep the 9 card up each time you begin a new expression.

As students play, the teacher circulates and moves students to replacing the 9 card with the 8 card and then the 7 card, as appropriate.

Finally, students will transition to the digital lesson for additional instruction and guided practices, then complete the following exit ticket:


|  |  | Solve. Use number bonds or 5 group drawings if needed. Write the equal $10+$ number sentence. <br> a. $9+5=$ <br> $10+$ $\qquad$ $\qquad$ <br> b. $8+4=$ $\qquad$ <br> $10+$ $\qquad$ $\qquad$ <br> c. $7+6=$ $\qquad$ <br> $10+$ $\qquad$ $\qquad$ |
| :---: | :---: | :---: |
| 5 | Mindfulness activity: box breathing to relax and regulate our brains <br> Whole Group Fluency Practice <br> Whole Group Word Problem Practice <br> Materials: (T) Student work samples: make ten strategies (Template) (S) Personal white board <br> Have students come to the meeting area and sit in a semicircle. T: (Project and read.) Louie made 7 puppets out of paper bags. Roberto made 6 puppets out of socks. How many puppets did the boys make? (Pause.) Turn and talk to your partner about how you would solve this problem. S: (Discuss as the teacher circulates and listens.) T: (Project the Student A sample.) How did Student A solve this problem? Explain to your partner what this student was thinking. S: She counted all the circles starting with 1. à Maybe she used counting on. Seeeven, 8, 9, 10, 11, 12, 13. T: (Project the Student B sample.) How did Student B solve this problem? Can you explain his thinking? Turn and talk to your partner. S: He drew his shapes in 5 -groups. When he made ten starting with 7 , he drew a frame around it, so you can see 10 and 3 . His strategy was to make ten from 7 by breaking 6 into 3 and 3. T: (Project the Student $C$ sample.) How did Student C solve this problem? How is it similar and different from Student B's work? Continue with additional work samples. | Lesson Objective: Share and critique peer solution strategies for put together with total unknown word problems. <br> Following the direct instruction and shared modeling, students will transition into partner work: <br> (Project and read aloud.) Louie glued on 5 pieces of brown yarn for his puppet's hair. He then glued on 8 pieces of red yarn for more hair. How many pieces of yarn did Louie use? (Pause.) Solve this problem by showing your work clearly on your personal white board. S: (Solve.) Have students swap personal white boards with their partners, and discuss the following: • Study what strategy your partner used. $\bullet$ Did you get the same answer? • Take turns to explain your partner's strategy. • Are your strategies similar? How? Are they different? How? - What did your partner do well? <br> - Which strategy is more efficient? If time allows, repeat the partner work following the suggested sequence: $9+7,8+6$, and 7 $+7$. <br> Then, kids will complete the digital lesson. |
| S.A. | Provide an opportunity for students to complete the Summative Assessment Items. These Summative Assessment Items are assessed independently and are separate from instruction and guided or independent practice. In the Student Activities column, <br> describe the Summative Assessment Items that will allow students to demonstrate mastery of the rigor of the standard/components | Description of items: <br> 1. Item 1 asks students to combine 2 known addends within 20. Utilizing strategies taught, students should be looking for 10 pairs and 5 groups. This item assesses pictorial and abstract understanding of the word problem and computation required. |


2. Item 2 asks students to solve for an unknown addend in the context of a word problem. Part a requires pictorial understanding of the concept, while part $b$ requires abstract expression of the number sentence in the form of a number bond.
3. Item 2 asks students to combine 2 known addends, and then 3 known addends within 20, including a tens pair. A fully correct explanation will represent the combination of $8+2=10$ and $8+2+4=14$ through drawing, number bond and number sentence.
4. Item 3

Context of administration:
All three assessment items would be administered paper and pencil, with the teacher reading aloud the question before providing time for the students to answer and write their response.

## Summative Assessment Items and Scoring:

## Item 1:

3. Hakop has 6 pennies in a bowl. 9 pennies are in his drawer. How many pennies does Hakop have in all? Explain how you know with a labeled math drawing and number sentence. Complete the statement.


| The student is unable to correctly determine the total number of pennies but produces work that serves as evidence that she is initiating understanding of how to use addition and subtraction within 20 to solve real-world problems. <br> For example, the student attempts to model the problem with a math drawing but is unable to use drawing to complete the problem. | The student is unable to correctly determine the total number of pennies but produces work that serves as evidence that she is developing understanding of how to use addition and subtraction within 20 to solve real-world problems. | The student provides the correct answer but provides insufficient and/ or incomplete work to support her answer. OR <br> The student shows sufficient evidence of understanding that, to solve the problem, she must add to find the total but makes a simple calculation error, leading to an answer other than 15 pennies. | The student provides the correct answer of 15 pennies and provides sufficient work, including a math drawing and number sentence, to support her answer. |
| :---: | :---: | :---: | :---: |
| (14 points) | (16 points) | (18 points) | (20 points) |

1. There were 5 boys at Jake's party. Some more came after basketball practice. Then, there were 9 . How many boys came to Jake's party after basketball practice?
a. Draw a picture to help you solve the problem.

b. Draw a complete number bond that goes with this story.


Item 2:

1. Pedro has 8 pennies. Anita has 4 pennies. Olga has 2 pennies.
a. Whose pennies together make ten?

Pedro Olga
b. How many pennies do Pedro, Anita, and diga have in all? Explain your thinking us
statement.


Item 3:

| inithating Understanding | deveiopinc understanding | WEARING understanding | full understanding |
| :---: | :---: | :---: | :---: |
| The student is unable to provide the correct answer to both problems but produces work that serves as evidence that she is initiating understanding of how to use addition and subtraction within 20 to solve rear-world problems. <br> For example, in part (b), the student attempts to model the problem with a math drawing but is unable to use drawing to complete the problem. | The student is unable <br> to provide the correct <br> answer to both problems <br> but produces work <br> that serves as evidence <br> that she is developing <br> to use addition and <br> subtraction within 20 <br> to solve real-world <br> problems. <br> For example, in part (a), the student is unable to identify Pedro and OIga as having 10 pennies <br> combined, and, in part (b), the student makes a calculation error, leading to an answer other than 14. | Thestudent provides the correct answer in part (a) and part (b) but provides insufficient and/ or incomplete work to support her answer in part (b). <br> OR <br> The student shows sufficient evidence of understanding that, to solve the problems, she must use addition but makes a simple calculation error, leading to a single incorrect answer. | The student provides the correct answer in part (a) and part (b) and including a math drawing and number sentence, to support her answer in part (b). |
| (14 points) | (16 points) | (18 points) | (20 points) |

## 2nd Grade ELA Curriculum Sample

| Grade Level | 2 Content Area | ELA |
| :---: | :---: | :---: |
| Alignment to Educational Program <br> Describe how the methods of instruction found in this sequence of lessons align to the Educational Program described in the charter contract and the Amendment Request. | In addition to the context provided in the Executive Summary section, this sample is excerpted from the F-level seminar "Tour de World" which addresses 2nd grade standards in language arts and social studies. This seminar extends for one semester and interweaves multiple reading, writing and social studies focus standards, as students grab their passports and "travel" the world learning of different cultures - from what foods they eat, to the jobs they keep, and everything in-between - through literature, informational text, and social studies explorations. |  |
| Standard Number and Description <br> The standard number and description (see instructions) of the standard being instructed and assessed to mastery in the curriculum sample. If more than one Standard is listed for a content area, one is clearly identified as the focus of review by having ( $M$ ) before the standard number. | (M) W.2.2 Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section. <br> (M) RI.2.1 Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text. <br> Description of standard from NMIS: <br> For W2.2, students write about a given topic. They begin with a topic sentence, including facts and supporting details to teach or inform others. They conclude their writing with a sentence that lets the reader know their writing is complete. <br> For RI2.1, students show their understanding of important details by asking and answering questions about the who, what, when, where, why, and how in a text that has been read and/or heard. Students who demonstrate understanding can ask questions about the text that demonstrate understanding of the text and can provide answers to questions about a text that demonstrate comprehension and understanding. |  |
| Materials/Resources Needed <br> List all items the teacher and students will need for the entire sequence of instruction (excluding common consumables). | Links to Ireland videos <br> Digital activities for student centers <br> Book bins of Ireland books <br> Graphic organizers for the writing process <br> Student writing notebooks <br> Explanatory writing anchor charts <br> Class map, passports |  |


| Lesson | Instructional Strategies-Describe the Instructional Strategies, <br> (add <br> as <br> neede <br> d) | lesson by lesson, that would clearly provide students with <br> opportunities to engage in the grade-level rigor defined by the <br> Standard identified as the focus of review. |
| :---: | :--- | :--- | | Student Activities-Describe the Student Activities, lesson by lesson, that would |
| :--- |
| clearly provide students with opportunities to engage in or master the grade-level |
| rigor defined by the standard identified as the focus of review. |
| Indicate alignment of Student Activities to the standard/component identified as |
| the focus of review and specific Standard(s) of Mathematical |
| Practice. |


| 1 | Daily Heggerty lesson <br> Daily Fundations lesson <br> -Introducing a new country study: Ireland. <br> https://www.youtube.com/watch?v=bQwdahZweOM <br>  <br>  <br>  <br> -Find Ireland on the classroom map and pin it. <br> -Look up Ireland on the computer and draw the map of Ireland. <br> -Add Ireland to the student passport. <br> Small group instruction: <br> I can...ask questions about a text and topic. <br> Teacher will introduce lesson objective and discuss how curious, <br> active readers ask questions in their heads before, during, and after <br> they read. Asking who, what, where, when, why, and how helps us to <br> better comprehend what we are reading. <br> $\mathbf{2}$ <br> Teacher will model with book about Ireland and ask students to voice <br> their questions as well. We will start a K-W-L chart that students will <br> complete on their own to help them prepare to choose a writing topic <br> later in the unit. <br> Present all about Ireland Slides and Watch Irish Dancing video: <br> https://www.youtube.com/watch?v=HgGAzBDE454 <br> Create class K-W-L chart. <br> Small group instruction: <br> I can...answer questions about a text. <br> point to key details in the text. <br> Teacher will introduce lesson objective and remind students about <br> the questions we asked yesterday. Tell them today we will answer <br> questions about what we are reading, in order to monitor how much <br> we are understanding the text we are reading. Answering who, what, <br> where, when, why, and how questions helps us to better comprehend <br> what we are reading. <br> passage on Irish foods and answer 3 questions. Teacher will |
| :---: | :--- |
| Teacher will model with book about Irish culture and pause to answer |  |
| pre-written questions. Students will then read a hort informational |  |$|$

Students engage in exploratory centers to learn more about Ireland:
Center 1: Informational reading activity - partner read, then discuss questions
Center 2: Poems - read and draw how the poem makes you feel
Center 3: Computer research - watch tabbed videos and view slideshow (see sample below)


Center 4: Teacher table (see small group lesson notes to the left) focused on asking questions as we read.

3 centers rotations:

1. Teacher table (see small group lesson notes to the left) focused on answering questions as we read.
2. Library: Book bin of Ireland books - informational and literature
3. Writing: Students brainstorm topics they are interested in for studying and writing an informational piece about an aspect of Irish culture or history. Topics may include: food, dancing, art, literature, history, geography.

| 3 | Small group instruction: <br> I can...answer questions about a text and cite the key detail. Teacher will introduce lesson objective and remind students about the questions we answered yesterday. Tell them today we will answer questions about what we are reading AND we will identify the evidence in the text that helps us to answer the question with confidence. In order to monitor how much we are understanding the text we are reading. When we pick out key details and use them to answer questions, we can feel very confident that we are learning from and understanding what we read. <br> Teacher will model with text, showing the difference between a key detail and a less important, less related detail. Students will then read a short informational passage on Irish folklore and answer 3 questions, citing detail by highlighting in the text. Teacher will conference with students. | 4 centers rotations: <br> 1. Teacher table <br> 2. Library: read book of choice silently, log your pages <br> 3. Writing: Pick 1 of 2 student writing samples. Answer the questions on the table tent in your writing notebook: 1. What are the strengths of the paper you read? 2 . Where could the writer have improved? <br> 4. Questioning: What questions might your writing answer for people? Write them down in your writing notebook. |
| :---: | :---: | :---: |
| 4 | Small group instruction: <br> I can...write a strong topic sentence. <br> Teacher will model, share 5 student examples for discussion, then students will begin writing a possible topic sentence. Then students will enter workshop mode and teacher will conference with students as they move through the writing process. | Research: <br> Students will research more about Ireland using an optional template, and will settle on their topic or top 3 to discuss with the teacher during conferencing. |
| 5 | Small group instruction: <br> I can...add details to my writing. <br> Teacher will present minilesson on adding details to writing. Then students will enter workshop mode and teacher will conference with students as they move through the writing process. | Students will research more about their topic using their choice of graphic organizer and will write their topic sentence and identify details for their writing. |
| Several days | Teacher will facilitate small group lessons in reading and writing skills over several days to build on students' connecting the reading skills and applying them to their own explanatory writing. | Research \& applying writing lessons through writer's workshop with teacher conferencing and support. Ultimately, students present their research project and writing piece to the class, while explaining their purpose for writing the piece. |
| S.A. | Provide an opportunity for students to complete the Summative Assessment Items. These Summative Assessment Items are assessed independently and are separate from instruction and guided or independent practice. In the Student Activities column, describe the Summative Assessment Items that will allow students to demonstrate mastery of the rigor of the standard/components identified as the focus of review, and the context in which the items will be administered. | Description of items: <br> 1. The first item asks students to use a diagram to answer a question. <br> 2. The second items asks students to reread a paragraph to find the answer to a question about what plants make. <br> 3. The third item is a writing response to a project about plants. Students needed to select a topic to write about, plan their writing, and work through drafts before publishing. |


|  |  | Context for administration: <br> The first two items would be administered through a paper and pencil <br> assessment along with several other items that assess other standards covered <br> during the formative period. The third item would be administered over the <br> course of a few days as an end of quarter performance assessment on W2.2. |
| :--- | :--- | :--- |

Summative Assessment Items and Scoring:

## Item 1:

Using the diagram on page 15 , what two things enter the plant through its roots? (RI.2.1, RI.2.5, RI.2.7)
A. sunlight and air
B. water and food
C. soil and food

## Item 2:

Read the second paragraph on page 14. What do plants make using sunlight and air? (RI.2.1)
A. Plants make water using sunlight and air.
B. Plants make seeds using sunlight and air.
C. Plants make food using sunlight and air.


Sample student writing, scoring: LC-3, VU-2 LFC-3 (see rubric below)

Document 1: WIDA Writing Rubric:

| Writing Rubric of the WIDA ${ }^{\text {TM }}$ Consortium* Grades 1-12 |  |  |  |
| :---: | :---: | :---: | :---: |
| Level | Linguistic Complexity | Vocabulary Usage | Language Forms and Conventions |
| 6 <br> Reaching ${ }^{*}$ | A variety of sentence lengths of varying linguistic complexity in a single tightly organized paragraph or in wellorganized extended text; tight cohesion and organization | Consistent use of just the right word in just the right place; precise Vocabulary Usage in general, specific or technical language. | Has reached comparability to that of English proficient peers functioning at the "proficient" level in state-wide assessment. |
| 5 <br> Bridging | A variety of sentence lengths of varying linguistic complexity in a single organized paragraph or in extended text; cohesion and organization | Usage of technical language related to the content area; evident facility with needed vocabulary; | Approaching comparability to that of English proficient peers; errors don't impede comprehensibility. |
| Expanding | A variety of sentence lengths of varying linguistic complexity; emerging cohesion used to provide detail and clarity. | Usage of specific and some technical language related to the content area; lack of needed vocabulary may be occasionally evident. | Generally comprehensible at all times, errors don't impede the overall meaning; such errors may reflect first language interference. |
| 3 Developing | Simple and expanded sentences that show emerging complexity used to provide detail. | Usage of general and some specific language related to the content area; lack of needed vocabulary may be evident. | Generally comprehensible when writing in sentences; comprehensibility may from time to time be impeded by errors when attempting to produce more complex text. |
| 2 Emerging | Phrases and short sentences; varying amount of text may be copied or adapted; some attempt at organization may be evidenced. | Usage of general language related to the content area; lack of vocabulary may be evident | Generally comprehensible when text is adapted from model or source text, or when original text is limited to simple text; comprehensibility may be often impeded by errors. |
| 1 <br> Entering | Single words, set phrases or chunks of simple language; varying amounts of text may be copied or adapted; adapted text contains original language. | Usage of highest frequency vocabulary from school setting and content areas. | Generally comprehensible when text is copied or adapted from model or source text; comprehensibility may be significantly impeded in original text. |

Adapted from ACCESS for ELLs® Training Toolkit and Test Administration Manuals, Series 103 (2007-08)

## 2nd Grade Math Curriculum Sample

| Grade Level | 2 Content Area ${ }^{2}$ Math |
| :---: | :---: |
| Alignment to Educational Program Describe how the methods of instruction found in this sequence of lessons align to the Educational Program described in the charter contract and the Amendment Request. | In addition to the context provided in the Executive Summary section, this sample is excerpted from the E-level seminar "Become a Botanist," which addresses second grade standards in math and science. This seminar extends for one semester and interweaves multiple math and science focus standards, mathematical practices, and other skills through the botany theme. Students take a common formative assessment each term and also complete a final flavor assessment (performance/project-based) constructed over months, which involves selecting, cultivating, observing, and tracking the growth of plastic bag and hydroponic plants, and writing about the process, culminating in a final learning reflection and presentation. |
| Standard Number and Description The standard number and description (see instructions) of the standard being instructed and assessed to mastery in the curriculum sample. If more than one Standard is listed for a content area, one is clearly identified as the focus of review by having $(\mathrm{M})$ before the standard number. | (M) 2.MDA.A. 4 Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit <br> 2.MDA.A. 2 Measure the length of an object twice, using length units of different lengths for the two measurements; describe how the two measurements relate to the size of the unit chosen. <br> 2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow. <br> SMP 5. Use appropriate tools strategically. <br> Description of focus standard: <br> With MDA.A.4, are measuring and comparing the lengths of at least 2 objects and expressing the difference using standard length units. Students fully express this standard by applying their knowledge to select an appropriate measurement tool (centimeter ruler vs. meter stick, connecting to MP 5. They should be able to express the difference between two objects orally and in writing, as well as select the correct difference from multiple choices. They should be able to explain "how many longer" in units.By engaging in repeated measurements (MDA.2) of a set of objects over time using standard and nonstandard units, comparing the measurements, and expressing the difference, students will attain sufficient practice to be able to compare different length units as well as make inferences and estimates about the size of objects in isolation and contrast. |
| Materials/Resources Needed <br> List all items the teacher and students will need for the entire sequence of instruction (excluding common consumables). | Centimeter cubes, centimeter rulers, paper clips (large and small), meter sticks, standard rulers, plastic bags, soil, beans, foam hydroponic base, plastic cups, clay beads, Plant Observation Journal, plant seeds/bulbs/cuttings for hydroponic cultivation, math notebooks, computers, class aquarium with fish |


| Lesson | Instructional Strategies-Describe the Instructional Strategies, | Student Activities-Describe the Student Activities, lesson by lesson, that would <br> learly provide students with opportunities to engage in or master the grade-level |
| :--- | :--- | :--- |
| lesson by lesson, that would clearly provide students with opportunities |  |  |
| to engage in the grade-level rigor defined by the Standard identified as |  |  |
| the focus of review. |  |  |$\quad$| rigor defined by the standard identified as the focus of review. |
| :--- |
| Indicate alignment of Student Activities to the standard/component identified as |
| the focus of review and specific Standard(s) of Mathematical |
| Practice. |


| 1 | In leveraging Zearn as our math instructional material, we ascribe to the concrete-pictorial-abstract method of building math understanding in students. During the concrete step, students use physical materials, like real life objects and models to explore a concept. This allows students to see and touch abstract concepts like measurement. Students can interact and make sense of different units and experience comparisons. During the pictorial step, students move to represent concrete objects with pictures and images. Ultimately, students move to the abstract step when they are using numbers, symbols and words to represent a solid understanding of the concept. <br> In this lesson, students are setting up an inquiry activity that accesses the concrete step of knowledge construction. Students are connecting learning to real life and engaging in discourse about their hypotheses. | Planting Bean Seed Activity: To prepare for later lesson practice on repeated measurement and comparison, students will plant bean seeds by adding soil to some bags and damp paper towels to other bags. They will label their bags which will be secured to the classroom window. Students will be oriented to the plant observation journal and the daily tasks they will complete once plants sprout including repeated measurement and comparison of different plants. |
| :---: | :---: | :---: |
| 2 | Teacher will model the mathematical practices listed below, then gradually release responsibility to students to measure various concrete objects around the classroom, playground, and school. Students will work together cooperatively in small groups to allow for discourse as they select the appropriate tool and measure objects with precision. | Students will measure various concrete objects using centimeter rulers and meter sticks, recording their measurements on a worksheet. <br> Leads into 2. MDA.A. 4 <br> MP5 Use appropriate tools strategically. |
| 3 | This lesson develops the inquiry activity begun in lesson 1 which connects to 2.LS2.1. | First the class will watch two short videos: <br> - What is aquaponics? <br> https://www.youtube.com/watch? $\mathrm{V}=\mathrm{PEal} 63 z v-2 \mathrm{M}$ <br> - Aquaponics School- <br> https://www.youtube.com/watch?.v=cqKoVIm3laU <br> Then we will construct a floating grow bed (Styrofoam, plastic cups, \& clay beads) together. Finally, in small groups and then as a class, students will discuss which vegetables/plants we will grow in the tank. Students will choose which plant they will grow, observe, and measure over time. <br> In connecting math and science instruction here, the lesson is providing a real life connection for students to attach development of MDA.A.4. |
| 4 | Students begin to develop estimation strategies by applying prior knowledge of length and using mental benchmarks. Repeated practice allows students to organically develop estimation skills. | Students practice measuring various items and learning mental benchmarks for measurement in the classroom, on the playground, and around the school. They are offered repeated practice in selecting an appropriate measurement tool, as well as by using mental benchmarks. Groups will record their measurements on a common worksheet. <br> Leads into 2. MDA.A. 4 <br> MP5 Use appropriate tools strategically. |


|  | Teacher will model estimation strategies, then gradually release responsibility to students to measure various concrete objects around the classroom, playground, and school. Students will work together cooperatively in small groups to allow for discourse as they estimate, select the appropriate tool and measure objects with precision. |  |
| :---: | :---: | :---: |
| 5 | This lesson develops the inquiry activity begun in lessons 1 and 3 which connects to 2.LS2.1. | Hydroponics activity: Putting grow bed together with vegetables Discussion - Compare and contrast growing plants in soil and water. Will it work? What are the differences? What do both need? Which is better? <br> In connecting math and science instruction here, the lesson is providing a real life connection for students to attach development of MDA.A.4. |
| 6 | Teacher will model the mathematical practices listed, then gradually release responsibility to students to measure various concrete objects around the classroom, playground, and school. Students will work together cooperatively in small groups to allow for discourse as they select the appropriate tool and measure objects with precision. | Students will have repeated practice in measuring and comparing lengths of pairs/sets of real life objects using centimeters and meters. Students will rotate to multiple stations around the classroom, measuring and comparing the lengths of different groups of objects. Student groups will then jigsaw to compare and discuss their answers, before coming to a class consensus. <br> MP5 Use appropriate tools strategically. <br> Small group and whole class discourse allows students to exercise MP3 Construct viable arguments and critique the reasoning of others. and MP8 Look for and express regularity in repeated reasoning. |
| 7 | This lesson develops the inquiry activity begun in lessons 1, 3, and 5 which connects to 2.LS2.1. | Root System - discussing the structure and function of roots. Watch video: https://www.youtube.com/watch?v=K0 tAHBdXec Students complete parts of a plant worksheet, asking them to label drawings and select images of plants and their roots. <br> Students will observe their plants for evidence of root development. <br> In connecting math and science instruction here, the lesson is providing a real life connection for students to attach development of MDA.A.4. |
| 8 | Teacher will model the mathematical practices, then gradually release responsibility to students to measure various concrete objects using two different measurement units. Students will choose objects and measure them twice to begin building their abstract understanding of the relationship between different units of measurement. | Students have repeated practice in measuring and comparing lengths using standard metric length units and non-standard length units, as well as relating measurement to unit size. Students will measure the same object repeatedly using different measurement units and tools. In small groups, they will be asked to articulate an abstract understanding of the relationship between different units. (i.e. this unit is larger than that unit, so the first measurement is fewer units than the second measurement). <br> Aligns with 2.MDA.A. 4 |


|  |  | Small group and whole class discourse allows students to exercise MP3 Construct viable arguments and critique the reasoning of others. MP8 Look for and express regularity in repeated reasoning. |
| :---: | :---: | :---: |
| Several days | As student learning progresses to more abstract understandings related to measurement, such as solving two-step word problems using pictorial and word representations, students will continue a daily routine of observing, measuring, and comparing their different plants' growth. This allows students repeated practice in the multiple mathematical practices listed above, as well as the extended thinking accessed during their 2.LS2.1 science investigation. | Students engage in daily observation, measurement, and notation in connection with their science inquiry. They are now engaging in repeated guided practice of 2.MDA.A. 4 among other skills and practices. This spiraling is essential to cement conceptual and practical understanding. |
| S.A. | Provide an opportunity for students to complete the Summative Assessment Items. These Summative Assessment Items are assessed independently and are separate from instruction and guided or independent practice. In the Student Activities column, describe the Summative Assessment Items that will allow students to demonstrate mastery of the rigor of the standard/components identified as the focus of review, and the context in which the items will be administered. | Description of items: <br> 1. This item requires students to use their ruler to measure a drawing of a pencil and crayon. They must then determine which is longer and by how much. This item assesses MDA. 1 and MDA. 4 . <br> 2. This item has 5 steps, part d of which specifically applies to MDA.4. The integration of standard and non-standard units, relating those units, and estimation will allow the teacher to determine the extent to which the student has a solid, abstract understanding of length measurement. <br> 3. This item asks students to measure the 3 sides of a triangle, identify the shortest side, add the length of two sides together, and calculate the difference between the 2 longest sides. Part c of the problem is directly connected to MDA.4. Students are using standard units and the centimeter ruler in this problem. <br> Each of the items requires students to select and use strategically the appropriate measuring tool MP 5 , as well as attend to precision MP 6. Students are also being called on to reason abstractly and quantitatively MP.2. <br> Context in which items will be administered: Through paper and pencil independent assessment at the culmination of the "Exploring Length" STEM unit. This traditional assessment will occur in conjunction with the project-based assessment connecting to comparing plant measurements and different growing conditions. |

Summative Assessment Items and Scoring:
Item 1:


| a. How long is the crayon? 9 centimeters |  |
| :---: | :---: |
| b. Howlang is the pencil? 11 centimeters |  |
| c. Which is longer? pencil | crayon |
| d. How much longer? 2 centimeters |  |
| $\widehat{110}_{11-9}^{10}$ | $\begin{array}{r} 10-9=1 \\ 1+1=2 \end{array}$ |

## Item 2:

4. Vanessa's Ribbons.

a. Measure the length of Ribbon $A$ with your centimeter ruler and your paper clip. Write the measurements on the lines below.

## 10 centimeters <br> 3 paper clips

b. Explain why the number of centimeters is larger than the number of paper clips. Use pictures or words.

Centimeters have shorter length units than paper clips, so more centimeters are needed to measure than paper clips.

| Problem | initiating UNDERSTANDING | developing UNDERSTANDING | NEARING UNDERSTANDINE | FULL UNDERSTANDIMg |
| :---: | :---: | :---: | :---: | :---: |
| $1 a, 1 b, 1 c$ <br> 2.MD. 1 <br> 2.MD. 4 | The student correctly completes 1 of the 4 parts of the problem. <br> (9 points) | The student correctly completes 2 of the 4 parts of the problem. <br> Note: If a student makes measurement errors in part (a) and part (b) but uses her measurements correctly in parts (c) and (d), she should be considered as Developing Understanding. <br> (10 points) | The student correctly completes 3 of the 4 parts of the problem. <br> Note: If a student makes a measurement error in part (a) or part (b) but uses her measurements correctly in parts (c) and (d), she should be considered as Nearing Understanding. <br> (11 points) | The student correctly completes all 4 parts of the problem. <br> (12 points) |

d. How much longer is Ribbon A than Ribbon B? Give your answer in centimeters.
c. Estimate the length of Ribbon B in paper clips.
$\qquad$ _ paper clips

$\qquad$ 5 cm

Ribbon $A$ is 5 cm longer than Ribbon B
e. Vanessa is using the ribbons to wrap a gift. If she tapes the ribbons together with no overlap, how many centimeters of ribbon does she have together with
altogether?



## Item 3:

## 4. Measure and label the length of each side of the triangle using your ruler.


a. Which side is the shortest? side A
b. What is the length of Sides $A$ and $B$ together? 10 centimeters
c. How much shorter is side $C$ than side $B$ ? $\qquad$ centimeters

| initiating UNDERSTANDING | DEVELOPING UNDERSTANDING | NEARING UNDERSTANDING | FULL UNDERSTANDIMg |
| :---: | :---: | :---: | :---: |
| The student correctly completes 1 of the 4 parts of the problem. | The student correctly completes 2 of the 4 parts of the problem. <br> Note: If a student makes measurement errors in part (a) and part (b) but uses her measurements correctly in parts (c) and (d), she should be considered as Developing Understanding. | The student correctly completes 3 of the 4 parts of the problem. <br> Note: If a student makes a measurement error in part (a) or part (b) but uses her measurements correctly in parts (c) and (d), she should be considered as Nearing Understanding. | The student correctly completes all 4 parts of the problem. |
| (9 points) | (10 points) | (11 points) | (12 points) |

## 3rd Grade ELA Curriculum Sample

| Grade Level | 3 | Content Area |
| :--- | :--- | :--- |
| Alignment to Educational Program <br> Describe how the methods of instruction found in this sequence of <br> lessons align to the Educational Program <br> described in the charter contract and the Amendment Request. | In addition to the context provided in the Executive Summary section, this sample is <br> excerpted from the G-level seminar "Exploring NM with Friends" which addresses 3rd grade <br> standards in language arts and social studies. This seminar extends for one semester and <br> interweaves multiple reading, writing and social studies focus standards, as students engage <br> in novel study and character analysis using the book "Stella Diaz Has Something to Say" and <br> learning about the how the lives and contributions of people of New Mexico influenced local <br> communities and regions - including historical and modern figures like Georgia O'Keeffe, <br> Pope' and more. |  |
| Standard Number and Description <br> The standard number and description (see instructions) of the <br> standard being instructed and assessed to mastery in the curriculum <br> sample. If more than one Standard is listed for a content area, one is <br> clearly identified as the focus of review <br> by having (M) before the standard number. | (M) RL.3.3: Describe characters in a story (e.g., their traits, motivations, or feelings) and <br> explain how their actions contribute to the sequence of events. <br> (M) W.3.3 Write narratives to develop real or imagined experiences or events using <br> effective technique, descriptive details, and clear event sequences |  |
| Description of standard from NMIS: |  |  |



| Lesson (add as neede d) | Instructional Strategies-Describe the Instructional Strategies, lesson by lesson, that would clearly provide students with opportunities to engage in the grade-level rigor defined by the Standard identified as the focus of review. | Student Activities-Describe the Student Activities, lesson by lesson, that would clearly provide students with opportunities to engage in or master the grade-level rigor defined by the standard identified as the focus of review. Indicate alignment of Student Activities to the standard/component identified as the focus of review and specific Standard(s) of Mathematical Practice. |
| :---: | :---: | :---: |
| 1 | Objective: I can...describe the characters in a story. <br> Teacher will (TW) use a reading workshop model to teach the RL standards during this unit. This will begin with a minilesson modeling the skill of describing the characters in a story. Teacher will model by reading a portion of short text describing a character, then mapping the character traits on an anchor chart. | After the mini lesson, students will break up into literature circles to read the assigned chapter of Stella. Each student will have a role: Captain, Notetaker, Discussion Facilitator, Summarizer. Students will complete a character graphic organizer at the completion of reading the chapter. <br> Students will come to kidney table for small group instruction on the daily learning objective and practice with a text at their reading level. <br> Exit ticket: Students will complete a half sheet, writing 2 character traits that stand out to them. |
| 2 | Objective: I can describe the characters in a story (their traits, motivations, feelings). (RL.3.3) | 2 rotations (half class) <br> 1. Literature circles (next chapter, 3 discussion questions) <br> 2. Personal reflection "Me as a Character": what are your character traits? Students fill out visual graphic organizer. |


|  | TW model the daily objective by introducing, defining, giving examples, then modeling how to think about character traits (inside and outside). Discuss how these can be discovered through dialogue and description, as well as narration. Think back to a recent read aloud with a main character the students know well, and brainstorm inside and outside character traits. |  |
| :---: | :---: | :---: |
| 3-10 | Objective: I can describe the characters in a story (their traits, motivations, feelings). (RL.3.3) <br> Over time, introduce many questions that help us to study the novel and explore the characters, including: <br> 1. Who wants what? What are the character's desires? <br> 2. How does the character struggle as a result of her/his desires? <br> 3. What are the personality traits of the character? <br> 4. How does the character view herself/himself? <br> 5. How do others view the character? <br> 6. What do you think about the character's choices? <br> 7. How does the character's personality traits affect her/his choices? <br> 8. What is important to the character? Why? <br> 9. What relationships and objects are important to the character? Why? <br> 10. What do you think about the relationships between characters? <br> 11. What is learned about the main characters through secondary characters? <br> 12. Why did the character act this way? <br> 13. Was it right or wrong for the character to act this way? Why? <br> 14. What did the character get from acting this way? <br> 15. How am I like or unlike the character? <br> 16. How does the character's desires and struggles reveal the author's message? <br> 17. How does the setting put the story in context? <br> 18. How does the setting impact the character and contribute to the mood of the story? (From Edutopia) <br> Create a large class chart on butcher paper tracking this info for our main characters. Explain to students that we are reading like writers, because we will create characters this interesting for the narrative text we will write next. | Example exit ticket: Students independently complete for 1 character in Stella |
| 11 | Introduce narrative writing with anchor chart. Ultimate writing goal: can craft narrative texts about real or imagined experiences or events. (W.3.3) | Students spend time reading book of their choice, teacher pulls students for 1:1 reading conferencing and discussion about their ideas for the narrative writing piece. |


|  | Begin modeling a brainstorm and completing the characters \& setting graphic organizer. Introduce anchor charts and question bank for great writing. |  |
| :---: | :---: | :---: |
| 12 | Create characters, setting <br> Reflect on everything we have learned about characters and how they interact with setting. Now it is your turn to create an amazing character! <br> Model creating a character for my narrative, using a blown up version of the character graphic organizer. | 3 exploratory centers: <br> 1. Character book set: choose and read a book in classroom library. <br> 2. Art center: paint your main character(s) for your upcoming story - see what emerges! <br> 3. Writing center: Fill out character GO from earlier lesson. |
| 13 | Follow the same routine for the next several lessons: <br> 1. Introduce objective, define key vocabulary, activate prior knowledge by thinking of an example from our common literature knowledge. <br> 2. Model objective with ongoing narrative writing piece/exemplar. <br> 3. Following minilesson, students transition to workshop. <br> Kickoff <br> - I can establish a situation. <br> - I can introduce the narrator and/or characters of my narrative. | During student workshop, students apply today's and previous objectives to their ongoing writing piece. The teacher circulates to provide feedback and targeted instruction, as well as conferencing with students to monitor their learning and progress on the writing piece. <br> At the end of the lesson students complete an exit ticket explaining the day's objective in their own words and providing an example of how they applied it. <br> Students will track their progress on a hanging chart and will have access to a wealth of writing resources and materials in the writing center. <br> The Writing . |
| 14 <br>  <br> 15 | Plot events <br> - I can organize events in an order that makes sense in my narrative. <br> - I can use transitional words and expressions to show passage of time in a narrative text. |  |
| 15 | Closure $\qquad$ | Writing Center |
| 16 | Dialogue <br> $-\quad$ I can use dialogue to show the actions, thoughts, and feelings <br> of my characters. |  |
| 17 | Adding description <br> - I can use descriptive words to show the actions, thoughts, and feelings of my characters. |  |


| S.A. | Provide an opportunity for students to complete the Summative <br> Assessment Items. These Summative Assessment Items are assessed <br> independently and are separate from instruction and guided or <br> independent practice. In the Student Activities column, <br> describe the Summative Assessment Items that will allow students to <br> demonstrate mastery of the rigor of the standard/components <br> identified as the focus of review, and the context in which the items will <br> be administered. |
| :---: | :--- |

## Description of Items:

1. Item 1 follows passages from the same text as item 2 . Item 1 asks students to choose the best word to describe the character, and then part $b$ asks them for the best evidence to support the choice of word in part a.
2. Item 2 asks students to infer the motivations and responses to different events in the story for the main character analyzed in item 1 as well.
3. Narrative writing sample with WIDA rubric for 1-12

## Context of administration:

The first two items would be administered through a paper and pencil assessment along with several other items that assess other standards covered during the formative period. The third item is the ultimate completion of the personal narrative and grading on the WIDA rubric, attached.

Summative Assessment Items and Scoring:

## Item 1 (Reading):

3. The following question has two parts. Answer Part A and then answer Part B. Part A: Which word best describes the fisherman in Scene $\mathbf{1 ?}$
A. Greedy
B. Unwise
C. Curious
D. Kind

Part B: What action from the story best supports the answer to Part A?
A. He goes fishing every day.
B. He releases the fish back into the water.
C. He tells his wife about the enchanted fish he caught.
D. He tells the fish that his wife wants a better house to live in.

## Item 2 (Reading):

## QUESTIONS FOR SCENE 2

## 5. The following question has two parts. Answer Part A and then answer Part B.

Part A: In paragraph 26 of Scene 2, why does the husband say that asking the fish for a castle "is not the right thing to do"?
A. He loves the little cottage the fish gave him.
B. He does not want a larger place to take care of.
C. He feels his wife is asking for too much from the fish.
D. He believes there are more important things to wish for.

## Part B: How does the husband think the fish will respond?

A. He thinks the fish will become angry with him.
B. He thinks the fish will ignore him when he calls it from the sea.
C. He thinks the fish will tell him he is being selfish with his wishes.
D. He thinks the fish will ask him for a favor in return.

## Item 3 (Narrative Writing):





## Materials/Resources Needed

 List all items the teacher and students will need for the entire sequence of instruction (excluding common consumables).Individual White Boards (may be made with white cardstock slid inside sheet protectors), Expo style markers, Erasers for white boards (socks work GREAT for this), Place Value Discs for 1s and 10s, Templates from various lessons, Station Materials, Computers, Mult. Task Cards for 2 s through $9 \mathrm{~s}^{*}$, Mult. Of 2 s through 9 s worksheets or minute tests ${ }^{*}$, Area task cards - using both grids and just length of sides to find area, also task cards for finding missing sides and finding area of composite figures, Deck of playing or number cards for multiplication war

| Lesson <br> (add <br> as <br> neede <br> d) | Instructional Strategies-Describe the Instructional Strategies, <br> lesson by lesson, that would clearly provide students with <br> opportunities to engage in the grade-level rigor defined by the <br> Standard identified as the focus of review. |
| :---: | :--- |
| $\mathbf{1}$ | Materials Needed: Blank paper, 15 square inch tiles, straight edge <br> object or ruler, personal white boards, erasers, wipe-off markers, <br> Zearn notes for Unit 3 (optional) |

- Fluency Skip counting by $3 \mathrm{~s}, 6 \mathrm{~s}, 7 \mathrm{~s}$, and 9 s .

Fluency with arrays and Finding common products activities.

- Application Problem together on whiteboards Finding the length of sides using cm tiles problem.
- Small group lessons / rotations in centers
- Meet with Teacher: Concept Development

Show students how to use square tiles, along with mult and div. facts to find missing sides of rectangles when given one side and the area. Begin problem set together. (see example below)

Student Activities-Describe the Student Activities, lesson by lesson, that would clearly provide students with opportunities to engage in or master the grade-level rigor defined by the standard identified as the focus of review.
Indicate alignment of Student Activities to the standard/component identified as the focus of review and specific Standard(s) of Mathematical Practice.

Lesson Objective: Form rectangles by tiling with unit squares to make arrays. Connected to standard:
3.MD.C. 5 Recognize area as an attribute of plane figures and understand concepts of area measurement
A. A square with side length 1 unit, called "a unit square," is said to have "one square unit" of area, and can be used to measure area.
B. A plane figure which can be covered without gaps or overlaps by $n$ unit squares is said to have an area of $n$ square units.

Following fluency and the daily word problem, students will attend small group rotations with the teacher. This will focus on the underlying standard and the LO listed above through a number of word problems with hands-on manipulatives. Each student will have their own white board to figure the problem. Then, the students will participate in the digital Zearn lesson to receive additional math instruction and guided practice using their notes.

At Seat: Zearn digital Lesson 5, notes and exit ticket (see below)
During the student debrief, teacher will facilitate a student led discussion about the strategies used and insights gleaned from today's math learning.

Exit ticket:

1. Darren has a total of 28 square centimeter tiles. He arranges them into 7 equal rows. Draw Darren's rectangle. Label the side lengths, and write a multiplication sentence to find the total area.

|  | Concrete: Understand the relationship between side lengths and area. <br> Draw or project the rectangle and side length shown on the right. <br> T: Use square inch tiles to show this rectangle as an array. What information do we know? <br> 2 in <br> S: There are 2 rows. $\rightarrow A$ side length is 2 inches. $\square$ <br> T: At your table, place tiles to make the known side. <br> S: (Make 1 column of 2 tiles.) <br> T: (Write below the diagram: Area $=12$ square inches.) How many total tiles will we use to make our rectangle? <br> S: 12 tiles. <br> T: How many twos are in 12? <br> S: 6 twos. <br> T: Use your tiles to make 6 sets of twos, and then skip-count to check your work. <br> S : (Make 6 groups of 2 tiles and skip-count.) 2, 4, 6, 8, 10, 12. <br> T : Push your twos together to make a rectangle. (Allow students time to complete. Add a question mark to the diagram as shown on the right.) What is the unknown side length? <br> S: Six. $\rightarrow$ Six tiles. $\rightarrow$ Six inches. <br> T: (Replace the question mark with 6 in on the diagram.) Tell your partner about the relationship between the side lengths <br> Area $=12 \mathrm{sa}$ in and the area. Write an equation to show your thinking. Be sure to include the units. <br> S: 2 inches $\times 6$ inches $=12$ square inches, so the area is the product of the side lengths. (Write 2 inches $\times 6$ inches $=12$ square inches.) <br> Repeat the process using a rectangle with a known side length of 5 inches and an |  |
| :---: | :---: | :---: |
| 2-3 | Materials Needed: (T) Meter stick, 12-inch ruler, pad of square sticky notes (S) grid paper (cm or inches), 1 set of square centimeter and square inch tiles per pair (from Lesson 2), personal white board, ruler, area model (Template), erasers, wipe-off markers, Zearn notes for Unit 3 (optional) <br> - Whole group mini lesson modeling interpreting area models to form rectangular arrays. <br> - Fluency <br> Skip counting for $6 \mathrm{~s}, 7 \mathrm{~s}, 8 \mathrm{~s}$, and 9s; Draw rectangles on grid paper with specific areas; find side lengths. <br> - Application Problem together on whiteboards 2 step problem comparing number of tiles needed and number of tiles purchased <br> - Small group lessons / rotations <br> - Meet with Teacher: Concept Development Using teacher directions, help students relate area to size of units; and relate area to multiplication facts when drawing rectangular arrays.. | Lesson Objective: Interpret area models to form rectangular arrays. Connected to standard: <br> 3.MD.C. 7 Relate area to the operations of multiplication and addition. <br> A. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths. <br> B. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning <br> Students will participate in whole group learning routines and then transition into centers rotations or to the small group table where they will receive concept development instruction (see left). <br> - At Seat: Zearn digital lesson 7, notes and exit ticket <br> - Hands On Activity: Multiplication array task cards - find products of rectangular arrays <br> During the student debrief, teacher will facilitate a student led discussion about the strategies used and insights gleaned from today's math learning. <br> Day 1 exit ticket: |


|  | Small group lesson will progress through multiple parts. Teacher will decide when to rotate and work with a new group. This lesson will take 2-3 days depending on level of student mastery. Teacher will show a problem and students will have corresponding templates. The teacher will ask a series of preplanned questions to guide students through the problem sets, gradually releasing responsibility. <br> Part 1: Estimate to draw the missing square units inside an array Part 2: Draw rows and columns to determine the area. <br> Student debrief: To find area, why is it not necessary to draw all of the unit squares in an incomplete array? <br> Part 3: Explore the relationship between units and area. <br> Part 4: Relate area to multiplication to draw rectangular arrays. <br> Part 5: Interpret area models to find area. <br> Student debrief questions: Compare the area model to the array. How are they the same and different? Draw two arrays to show the commutativity of $4 \times 6$ and $6 \times 4$. | 1. The tiled floor in Cayden's dining room has a rug on it as shown below. How many square tiles are on the floor, including the tiles under the rug? <br> Day 2 exit ticket: <br> 2. Label the side lengths of Rectangle $A$ on the grid below. Use a straight edge to draw a grid of equal size squares within Rectangle A . Find the total area of Rectangle A . <br> 2. Mark makes a rectangle with 36 square centimeter tiles. Gia makes a rectangle with 36 square inch tiles. Whose rectangle has a bigger area? Explain your answer. $\qquad$ $\qquad$ $\qquad$ $\qquad$ $\qquad$ |
| :---: | :---: | :---: |
| 4 | Materials Needed: Multiply by 6x pattern sheet, inch ruler, grid template, personal white boards, erasers, wipe-off markers, Zearn notes for Unit 3 (optional) <br> - Fluency Multiply by 6 pattern sheet, skip counting for 4 s , 7 s , 8 s , and 9 s . <br> - Application Problem together on whiteboards- Draw an rectangular array with an area of 21 square units. <br> - Small group lessons / rotations | Lesson Objective: Find the area of a rectangle through multiplication of the side lengths. <br> Connected to standard: <br> 3.MD.C. 7 Relate area to the operations of multiplication and addition.B. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning. |


|  | - Meet with Teacher: Concept Development Look at various examples (teacher lesson) to see that you can skip count, or multiply sides, to find the area of any rectangle. Use division/multiplication facts to find unknown sides. <br> - At Seat: Zearn lesson 8 - All You Need are Side Lengths, notes, and exit tickets. <br> - Hands On: Review lessons 5 \& 6 with Badges and Bookmarks within Zearn <br> Whole Group follow up: Student debrief go over problem sets; Exit Ticket | 1. Write a multiplication equation to find the area of the rectangle below. $\qquad$ $\qquad$ <br> 2. Write a multiplication equation and a division equation to find the unknown side length for the rectangle below. |
| :---: | :---: | :---: |
| S.A. | Provide an opportunity for students to complete the Summative Assessment Items. These Summative Assessment Items are assessed independently and are separate from instruction and guided or independent practice. In the Student Activities column, describe the Summative Assessment Items that will allow students to demonstrate mastery of the rigor of the standard/components identified as the focus of review, and the context in which the items will be administered. | Description of Items: <br> 1. This item has students draw a model of a rectangle to represent and solve for the length of one of the sides when given the other side and the area. A correct answer should show a number sentence, written explanation, and a drawing. <br> 2. Item 2 asks students to complete the drawing of an are grid, relate the grid to skip counting, and then complete a multiplication expression to model the problem. <br> 3. The final item has students relate the full area of a rectangle to the unit squares drawn in half of the rectangle. The students need to use the unit squares to find the full area. <br> Each of the items requires students to SMP 4: Model with mathematics. <br> Context in which items will be administered: Through paper and pencil independent assessment at the culmination of the STEM unit. This traditional assessment will occur in conjunction with the project-based assessment assessing science and math standards as connected to the flavor. |

Summative Assessment Items and Scoring:
2. The area of a rectangle is 72 square units. One side has a length of 9 units. What is the other side length? Draw a picture to represent the problem and show your work.

| $?$ | $72 \div 9=8$ <br> If one side length is 9 units, the other side length is 8 units because $8 \times 9=72$. | 3.MD.7b | The student is unable to correctly determine the value of the unknown side length but produces work that serves as evidence that she is initiating understanding of solving problems involving area. <br> For example, the student draws a picture that accurately models the problem but is unable to use her picture to solve the problem. <br> (9 points) | The student is unable to correctly determine the value of the unknown side length but produces work that serves as evidence that she is developing understanding of solving problems involving area. <br> For example, the student mistakenly multiplies the given numbers, leading to an answer of 648 units. | The student provides the correct answer but provides insufficient and/ or incomplete work to support her answer. OR <br> The student shows sufficient evidence of understanding how to find the value of the unknown side length but makes a simple error, other than 8 units. | The student provides the correct answer of 8 units and provides sufficient work, including drawing a picture to model the problem, to support her answer. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |
|  |  |  |  | (11 points) | ( 33 points) | (15 points) |

## Item 2:

## 3. Jax started to draw a grid inside the rectangle to find its area.

a. Use a straight edge to complete the drawing of the grid.
b. Write a skip-count sequence you could use to find the area.
$8,16,24,32,40,48$


$$
48 \text { squnits }
$$

c. Write a multiplication equation that you could use to find the area, and then solve.

8 units $\times 6$ units $=48$ squnits

| 3a <br> 3.MD.7a | The student is unable to accurately complete the drawing of the grid but produces work that serves as evidence she is initiating understanding of tiling a rectangle in order to find its area. | The student is unable to accurately complete the drawing of the grid but produces work that serves as evidence she is developing understanding of tiling a rectangle in order to find its area. <br> For example, the student does not use a straightedge to complete the drawing of the grid, resulting in an error in her drawing. | The student shows sufficient evidence of understanding how to complete the drawing of the grid but makes a simple mistake. | The student accurately completes the drawing of the grid. |
| :---: | :---: | :---: | :---: | :---: |


| 3b 3.MD.7a | The student is unable to correctly determine the area of the rectangle but produces work that serves as evidence she is initiating understanding of finding the area of a rectangle with wholenumber side lengths by tiling it. <br> For example, the student only counts the squares provided in the original drawing, leading to an answer of 9 square units. | The student is unable to correctly determine the area of the rectangle but produces work that serves as evidence she is developing understanding of finding the area of a rectangle with whole-number side -engths by tiling it. <br> For example, the student skip counts by 8 s but makes multiple errors, leading to an answer other than 48 square units. | The student provides the correct answer but provides insufficient and/ or incomplete work to support her answer. OR <br> The student shows sufficient evidence of understanding how to use skip counting to find the area but makes a simple error, leading to an incorrect answer. | The student accurately uses her drawing in part (a) to build a skip counting sequence that determines the area of the rectangle. <br> For example, the student provides the sequence 6 , $12,18,24,30,36,42,48$, leading to a total area of 48 square units. |
| :---: | :---: | :---: | :---: | :---: |


| 3c 3.MD.7a | The student is unable to correctly determine the area of the rectangle serves as evidence she is initiating understanding of finding the area of a rectangle with wholenumber side lengths by multiplying the side lengths. <br> For example, the student labels the side lengths of the rectangle as 6 and 8 but is unable to use the side lengths to complete the problem. | The student is unable to correctly determine the area of the rectangle but produces work that serves as evidence she is developing understanding of finding the area of a rectangle with whole-number side lengths by multiplying the side lengths. | The student provides the correct answer but provides insufficient and/ or incomplete work to support her answer. OR <br> The student shows sufficient evidence of understanding how to use multiplication to find the area but makes a simple error, leading to an incorrect answer. | The student accurately uses her drawing in part (a) to create an equation of the rectangle. <br> For example, the student creates the equation 8 area of 48 square units. |
| :---: | :---: | :---: | :---: | :---: |

## Item 3:

4. Half of the rectangle below has been tiled with unit squares.

4 units

$4 \quad 4 \times 4=16$
units Area $=16$ squnits
a. How many more unit squares are needed to fill in the rest of the rectangle?

If there are 16 sq units in one half, there will be 16 sq units in the other half too. You need 16 more unit squares to fill it in.
b. What is the total area of the large rectangle? Explain how you found the area.

16 squnits +16 sq units $=32$ sq units 1 added the 2 halves together to find the total area.

|  | The student is unable to correctly determine the number of unit squares needed to finish tiling the rectangle area but reasoning that serves as evidence she is initiating understanding of solving problems involving area. <br> For example, the student attempts to tile the untitled portion of the large rectangle but is unable to use her drawing to complete the problem. | The student is unable to correctly determin the number of unit squares needed to finish tiling the rectangle area but produces work and/or reasoning that serves as evidence she is developing understanding of solving problems involving area. | The student provides the correct answer but provides insufficient and/ or incomplete work and or reasoning to support her answer. <br> OR <br> The student shows sufficient evidence of understanding how to tile the untitled portion of the rectangle with unit squares but makes a simple error, leading to an answer other than 16 unit squares. | The student provides the correct answer of 16 unit squares and provides sufficient work and/or reasoning to support her answer. |
| :---: | :---: | :---: | :---: | :---: |
|  |  | (10 points) | s) | points |


| 4b <br> 3.MD.7d | The student is unable to correctly determine the total area but produces work and/or reasoning that serves as evidence she is initiating understanding of solving problems involving area. problems involving area. <br> For example, the student mistakenly finds the area of only the tiled portion of the rectangle, leading units. | The student is unable to correctly determine the total area but produces work and/or reasoning that serves as evidence she is developing understanding of solving problems involving area. | The student provides the correct answer but provides insufficient and/ or incomplete reasoning to support her answer. OR <br> The student shows sufficient evidence of understanding how to tile the untitled portion of the rectangle with unit squares but makes a simple error, leading to an answer other than 32 an answer other than 32 unit squares. | The student provides the correct answer of 32 square units and provides sufficient reasoning to support her answer. |
| :---: | :---: | :---: | :---: | :---: |

## 4th Grade ELA Curriculum Sample



| Lesson <br> (add as neede d) | Instructional Strategies-Describe the Instructional Strategies, lesson by lesson, that would clearly provide students with opportunities to engage in the grade-level rigor defined by the Standard identified as the focus of review. | Student Activities - Describe the Student Activities, lesson by lesson, that would clearly provide students with opportunities to engage in or master the grade-level rigor defined by the standard identified as the focus of review. Indicate alignment of Student Activities to the standard/component identified as the focus of review and specific Standard(s) of Mathematical Practice. |
| :---: | :---: | :---: |
| 1 | Introduce big ideas and big questions for unit: <br> What makes a poem a poem? <br> What inspires writers to write poetry? <br> Poetry has characteristics that are unique and distinct from prose. <br> Writers draw inspiration from many places, including the work of other writers and their own lives. <br> This unit establishes routines for students to practice summarizing and annotating text, and learn strategies for close reading and analysis that will support their ability to read complex text throughout the year. <br> In this lesson, students begin reading the novel Love That Dog by Sharon Creech, a novel written in verse. They follow the main character, Jack, on his journey as he learns about poetry and eventually finds inspiration as writer. This is done through close reading cycles during which students summarize sections of the novel, analyze Jack's character and what he learns about poetry, and analyze the same poems that Jack read (by famous poets) in order to determine characteristics of poetry. | This lesson begins the first cycle, starting with a character analysis of Jack and what he learns about poetry. Students begin by analyzing what Jack says about the poems he reads (this aligns to Common Core standards RL.4.1 and RL.4.3). Next, students closely read, annotate, and analyze the famous poem that Jack has read, in order to build their own background knowledge about the characteristics of poetry (This aligns to Common Core standard RL.4.5). Then students revisit the novel and analyze Jack's writing to infer what he has learned about poetry (circling back to RL.4.1 and RL.4.3). This cycle of character and poem analysis is repeated throughout the unit. <br> - Discovering the Topic: What Makes a Poem a Poem <br> - Establishing Reading Routines: Beginning Love That Dog by Sharon Creech and Reading "The Red Wheelbarrow" by William Carlos Williams <br> - Poetry Task 1: Experimenting with Writing our Own Poems for Frontloading <br> - Practicing Reading Closely: Love That Dog by Sharon Creech and "Stopping by Woods on a Snowy Evening" by Robert Frost <br> - Using Evidence in Text-Based Discussions: Analyzing the Main Character Jack in Love That Dog <br> Beginning in this lesson and throughout the unit, students are asked to summarize sections of Love that Dog. Summarizing this text will likely be relatively easy for students; however, this routine is important for building summarization skills. Starting in this lesson, students help co-construct the What Makes a Poem a Poem? anchor chart to build their understanding of the characteristics of poetry. They begin this anchor chart after closely reading the poem "The Red Wheelbarrow" by William Carlos Williams. Students draw on features of this poem to begin to address the guiding question "What makes a poem a poem?" and record their learning on this anchor chart. Students will add to this chart throughout the unit. |


| 2 | The close reading process in this lesson and subsequent lessons is meant to be discussion-based. Teacher may choose to invite students to work independently or in pairs or small groups when thinking about different questions. But TW should guide the whole class in a discussion of each section of the text using preplanned notes and prompts to guide students through the text and answers to the text dependent questions. <br> Read small chunks of text slowly to get an idea of what it is mostly about (gist) Write the gist of a section in the margin or on a sticky note. Reread each passage one sentence at a time. Underline or mark with sticky notes things that you do understand or know. Circle or mark with sticky notes words that you do not know. Talk with your partners about all of your good ideas. Answer questions about the text using evidence from the text | This lesson continues the cycle of character analysis and close reading. Students continue their character analysis of Jack using the Jack's Reflections notes in their reader's notebooks. <br> They closely read and analyze "Stopping by Woods on a Snowy Evening" by Robert Frost, to continue to build their background knowledge of the characteristics of poetry. Then they revisit the novel to analyze Jack's writing and to infer what he has learned about poetry. This toggling from character analysis to poetry analysis helps to foster both engagement and comprehension. Students gain a deeper understanding of Jack's character while also building their own background knowledge about poetry. |
| :---: | :---: | :---: |
| 3 | Following today's section, engage in a text-Based Discussion: How Is Jack's Attitude toward Poetry Changing? <br> Draw students' attention to the Discussion Norms anchor chart. Briefly give positive feedback on a few norms you have seen students following well in their small group discussions, and review expectations for discussions. <br> Distribute a set of Textual Evidence sentence strips to each group of students. Point out the Directions for Text-Based Discussion written on the board: <br> 1. Read each sentence strip aloud with your group. <br> 2. Sequence the strips based on the order of events in the novel (reference the novel as needed). <br> 3. Think about the question posed by the teacher. <br> 4. Reread the strips to find the evidence that best supports a response to the question. <br> 5. Take turns sharing your response to the question with your group. Point out the evidence strip(s) that support your answer. <br> Call on a few groups to share their sequences. Confirm the sequence of events (based on the complete and uncut set of Textual Evidence strips), and which event each quote is referring to. <br> Tell students that you are going to ask them to discuss a question in small groups. They will use the evidence from their sentence strips to support their response to the question. To model this for students, | - Shared Writing: Organizing Information to Summarize the First Half of Love That Dog <br> - Shared Writing: Drafting an Informative Paragraph That Summarizes the First Half of Love That Dog <br> - Reading Closely: Inferring What Inspires Jack to Write Poetry in Love That Dog <br> - Reading, Writing, and Emotion <br> - Preparing to Discuss a Literary Text: Gathering Evidence: What Is Jack's Biggest Inspiration? <br> - Literary Discussion: Evidence-Based Discussion of Love That Dog |


|  | pose the following question: "How did Jack feel about poetry at the very beginning of the book?" <br> Give students text dependent questions aligned with each chunk of the text. Guide students through, checking for understanding consistently and allowing for student led discussion. |  |
| :---: | :---: | :---: |
| 4-6 | Students read pages1 of Love That Dog to summarize sections of the text, then reread to explain what Jack says and writes about two poems ("Street Music" by Arnold Adoff and "The Apple" by S.C. Rigg) to make inferences about what Jack has learned about poetry. Although both "Street Music" and "The Apple" are studied in this lesson, the analysis of these poems is brief and designed to build background knowledge before analyzing what Jack has learned about poetry on pages 31-41 in the novel. <br> One lesson introduces students to "concrete poems": poems are structured to form a shape that is related to the content of the poem. Students will likely enjoy this playful approach to organizing language. Consider finding additional concrete poems to share with students. | Each day, students engage in discussion or independent reading and reflection on text dependent questions aligned to 4.1 and other related standards. Students also review 1-2 poems per day from the complex text set. <br> Allow students to experiment with organizing language to look like the shape related to the content (concrete poems) <br> Repeat over several days with different poems and types of poems. Allow students ample time to reflect and try out different poetry forms with their own content with "Poetry Workshop", play music, pass out tea and hot cocoa like at a coffee shop. |
| Several days | Use writer's workshop model to chunk instruction related to writing a book summary, modeling the following skills: <br> - I can introduce a topic clearly. <br> - I can group supporting facts together about a topic in an informative/explanatory text. <br> - I can use text, formatting, illustrations, and multimedia to support my topic. <br> - I can develop the topic with facts, definitions, details, and quotations. <br> - I can use linking words and phrases to connect ideas within categories of information (e.g., another, for example, also, because). <br> - I can use precise, content-specific language/vocabulary to inform or explain about a topic. <br> - I can construct a concluding statement or section of an informative/explanatory text. <br> Teacher models by helping students identify a topic they can write an informative/explanatory piece about within the general topic of a book summary. | Students work to increase writing stamina and begin planning/crafting their book summaries. <br> Facilitate the use of graphic organizers during the research process in order to help students organize the information that will be presented. Ensure that students gather facts, definitions, concrete details, quotations, or any other additional information and examples related to the topic to include in their writing. The teacher guides students' writing so it is organized to introduce and explain the identified topic clearly and provides sufficient information in support of this explanation. <br> Students are encouraged to use precise language to describe the topic under study. In addition, students need to be use the domain-specific vocabulary related to their topic and use it appropriately in their writing. Throughout the text, students also use linking words and phrases to connect ideas within a category of information. <br> To provide closure to their informative/explanatory pieces, students write conclusions in the form of statements or paragraphs that connect to the information or explanation presented. Throughout their writing, students may include formatting (e.g. headings, sections, etc.), use illustrations, and/or use multimedia to help the reader's understanding of the topic. |


|  | The teacher involves students in both group and individual work in <br> order to assist students with gathering information and ideas related <br> to their topic. | Students move through the writing process and ultimately publish their essays <br> in the I/J Literary Review. |
| :--- | :--- | :--- |
| S.A. | Provide an opportunity for students to complete the Summative <br> Assessment Items. These Summative Assessment Items are assessed <br> independently and are separate from instruction and guided or <br> independent practice. In the Student Activities column, <br> describe the Summative Assessment Items that will allow students to <br> demonstrate mastery of the rigor of the standard/components <br> identified as the focus of review, and the context in which the items will <br> be administered. | Description of items: <br> 1. Item 1 asks students to infer from text evidence, referring to the novel. <br> 2. Item 2 asks for students to select the correct answer based on <br> evidence from the text. |
| 3. This constructed response item is a summary of the first half of the <br> novel, which will assess the ability of students to clearly give <br> information and explain the plot of the text. Students use key details <br> and examples to explain what the text is saying and to make <br> inferences. |  |  |

Summative Assessment Items and Scoring:

## Item 1 (Reading):

2. What does Jack think "the wheelbarrow poet" was doing? (RL.4.1)
A. Typing up his poems.
B. Reading Robert Frost's poems.
C. Making pictures with words.

## Item 2 (Reading):

3. According to Jack, why do people think Robert Frost's writing is poetry? (RL.4.1)
A. Robert Frost writes about snowy woods and a pasture.
B. Robert Frost's teacher typed up his words to make them look like a poem.
C. Robert Frost's poem is like the wheelbarrow poem.

## Item 3 (Writing):

## End of Unit 1 Assessment:

Extended Response: Love That Dog, Pages 1-41: What Has Jack Learned about Poetry? (Sample Student Response; For Teacher Reference)

Jack, the main character in the novel Love that Dog, has learned a lot about poetry since he started the year with Miss Stretchberry. He began the year thinking that poetry was only written by girls and told his teacher he couldn't write poetry because his brain was empty. Then he read his first poem," The Red Wheelbarrow" with his class and he learned that poems were written with shore lines. Then he learned about rhyming and repetition when he read poems like "Stopping by Woods on a Snowy Evening" and "The Tiger". But he didn't really start to like poetry until he read poems like "Dog", "Street Music" and "The Apple". After reading these poems he learned that poems create vivid pictures in readers' head using imagery. Finally, Jack felt like he had learned enough about poetry to share his own poem with the class, and he let his teacher put up his poem "My Yellow Dog" with his name on it. 5.

## Directions:

After reading the first half of Love That Dog, write a paragraph in which you explain what Jack has
learned about poetry. Provide at least three details from pages $1-41$ of the novel to support your discussion.

1. To help you answer the question "What has Jack learned about poetry?" refer to the following resources

- Notes from your reader's notebook
- What Makes a Poem a Poem? anchor char
- Pages 1-41 of Love That Dog
- Quality Paragraphs anchor chart

2. Use the Topic Expansion graphic organizer to organize your ideas before writing your paragraph.
3. On a piece of lined paper, write your paragraph. Be sure to include the following

- A topic sentence that states the main idea
- At least three details that tell more about the main idea (including references to specific characteristics of poetry)
- A concluding sentence that explains why the topic matters ("So what?")
- Language appropriate to the audience, with few conventional errors

4. Once you have written your paragraph, check your work against the plan on your graphic organizer to be sure you included evidence from the text.

| critean | ccls | Scope |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Eump niminimet |  | Emurn atibicime: |
|  | ${ }_{R}^{W}{ }_{\text {L }} / 2$ | that follows logically from the lask and purpose -demonstrate insightul the text(s) | ws from the task and perpose <br> -demonstrate grads-appropriate $\qquad$ the tex( 3 ) |  |  | -demonst fate a lack of comprehension of the text(s) or task |
|  | $\begin{aligned} & w_{2} \\ & x_{1},-9 \end{aligned}$ | ooncrele detals, quat ations other information quol ations, or from the taxt(s) - vustain the use of vaned. relevant evidence |  | -part ally dovelop the fopic of the textual evidence, some of which may be irrelevant <br> -ute relevant evidence inconsistenty |  | $\begin{aligned} & \text {-provide ne ovidence or provide } \\ & \text { evidence that is completely } \\ & \text { irelevart } \end{aligned}$ |
| ON, AND STYLE: the extent to which the essay logicall concepts, and inforideas, using formal style and precise language | $\begin{aligned} & w_{L 2}^{L 3} \\ & L 6 \end{aligned}$ | - exhibit doar, purposelu ogarizaion <br> -skiltaly link idess ising grasoatcropriate worts and phrases -use grase-sppropnase language and domain-speoffc vocabulary -prowide a concluding stazement and inlomation presented | -exhibit dear organizetion <br> -link ideas using grabeappropriate words and phrases -use grado-appropriate precise language and domain-apectic vocabulary $\qquad$ that follows from the iopic and information presented | - ovibit some atiomot a <br> -inconsistently lirk ideas using words and phrases words and phrases -incsnelatently use appropnare vocabulary vand <br> -provide a concluding statemart that follows gereraliy from the lopic and information presented |  | -anibit ne evidence of <br> -exhiot no use of inking words and phrases <br> -une langunge that is predominanly inccher ent or copied directly from the text(s) <br> -do not provide a concluding ctatemen1 |
|  | $\begin{aligned} & w_{12} \\ & L_{2} \end{aligned}$ | -demonstrale grade accropriale commend of corvent ons, with few errors | -demonatrate gabe-appropriate command of conventions, with occasional srrors that do not hinder comprehension |  |  | $\begin{aligned} & \text {-ase minimal, making } \\ & \text { assessme rit of convoris ons } \\ & \text { unreliable } \end{aligned}$ |

Standards based rubric

## 4th Grade Math Curriculum Sample



| Lesson <br> (add <br> as neede <br> d) | Instructional Strategies-Describe the Instructional Strategies, lesson by lesson, that would clearly provide students with opportunities to engage in the grade-level rigor defined by the Standard identified as the focus of review. | Student Activities-Describe the Student Activities, lesson by lesson, that would clearly provide students with opportunities to engage in or master the grade-level rigor defined by the standard identified as the focus of review. <br> Indicate alignment of Student Activities to the standard/component identified as the focus of review and specific Standard(s) of Mathematical Practice. |
| :---: | :---: | :---: |
| 1 | Daily fluency practice <br> Daily word problem <br> Small group lesson: <br> 1. Model the problem-review the questions: "Can you draw something? What can you draw? What conclusions can you make from your drawing?" Teacher then circulates to purposefully monitor student work. <br> 2. Calculate to solve and write a statement. Give everyone time to finish their work, then to share work and think with a peer. Finally set a timer and have students write their equations and statements of the answer. <br> 3. Assess the solution. Ask the students to spend time assessing the solutions presented by their peers and comparing the solutions to their own work. Finally, reveal the solution and the learning, correcting any misconceptions <br> Example problem from problem set with student solution and explanation below. <br> Problem 2 <br> The width of David's rectangular tent is 5 feet. The length is twice the width. David's rectangular air mattress measures 3 feet by 6 leet. If David puts the air mattress in the tent, how many square feet of floor space will be available for the rest of his things? <br> The new complexity here is that students are finding an area within an area and determining the difference between the two. Have students draw and label the larger area first and then draw and label the area of the air mattress inside as shown above. Elicit from students how the remaining area can be found using subtraction. | Learning Objective: Demonstrate understanding of area and perimeter formulas by solving multi-step real-world problems. L. 3 <br> Following daily fluency practice and the daily word problem, students will work independently in a small group setting with support from the teacher. The problem set has 4 problems that are progressively more difficult and will ask students to develop their understanding of the concept of area and perimeter formulas. Some of the problems will be adapted to match the Spy Kids flavor. <br> Throughout the small group lesson, students will work in pairs and independently with peer and teacher support, then they will work independently on a digital lesson for additional instruction and scaffolding. Finally, students will complete their aligned exit ticket, below: <br> Solve the following problem. Use pictures, numbers, or words to show your work. <br> 1. A rectangular poster is 3 times as long as it is wide. A rectangular banner is 5 times as long as it is wide. Both the banner and the poster have perimeters of 24 inches. What are the lengths and widths of the poster and the banner? |



|  | Small group lesson: <br> Review the process for approaching and solving word problems from the last few lessons. Then jump into our problem set. Ask students to model questions, then ask their peers to critique their responses. One example problem is below. This unit is all about students building on their knowledge from the previous math units and combining their knowledge of concepts to determine which operations they need to use to solve a given multi-step word problem. There are multiple ways to get to the correct answer. <br> Over the summer, Kate earned $\$ 180$ each week for 7 weeks. Of that money, she spent $\$ 375$ on a new computer and $\$ 137$ on new clothes. How much money did she have left? <br> she had \$748 left. <br> This multi-step problem requires students to apply their knowledge of multiplication of a multi-digit number by a single-digit number. While most students may apply the multiplication algorithm, they should be encouraged to use whichever strategy they are most comfortable with to complete the multiplication. The sum of \$375 and \$137 may be found before subtracting it from Kate's total salary, or the two amounts may be subtracted separately. <br> Work through several problems with each group of students. | Students will approach several problems, figuring by themselves and with partnership and teacher support. Students should be encouraged to articulate their thinking through drawing and writing. Students will engage in the digital lesson, and then complete their exit ticket: <br> 1. Jennifer has 256 beads. Stella has 3 times as many beads as Jennifer. Tiah has 104 more beads than Stella. How many beads does Tiah have? |
| :---: | :---: | :---: |
| 4 | Daily fluency practice <br> Daily word problem <br> Small group lesson: <br> Teacher will guide students through multiple problems in small groups to help them answer the question - are we solving for an unknown number of groups or an unknown size of group? Students will model their learning on a white board so that the teacher can review as she circulates. <br> Students will reinforce their learning through choice centers that practice different skills sets and levels of challenge. | Learning Objective: Interpret division word problems as either number of groups unknown or group size unknown. <br> Students will complete several division word problems where they are solving for an unknown. Students will then switch white boards with their partner and review/critique their work. Finally, the teacher will review the correct response and facilitate a student led discussion about the insights they gained from that particular problem. Kids will then complete their digital lesson and exit ticket: <br> 1 Dr. Casey has 1,868 milliliters of Medicine $T$. She poured equal amounts of the medicine into 4 containers. <br> How many milliliters of medicine are in each container? |
| NOTE | The lessons above will be unpacked over several days each, building over with increasing cognitive demand and less scaffolding to ensure their | r weeks to the formative assessment. Students will have repeated practice astery of the focus standard. |



## Description of items:

1. This is a 3 -step word problem involving 2 multiplication operations and 1 addition operation. Students must determine the number of seats in one theater, compare multiplicatively, then add the two quantities together.
2. This problem has two parts. Part 1 asks students to reason with the area and perimeter formulas, including using estimation to determine reasonableness. Part 2 asks students to reason with multiplicative comparison.
3. Item 3 asks students to solve for a total number through multiplication, then unknown number of groups.

Context of administration:
Through paper and pencil independent assessment at the culmination of the unit. This traditional assessment will occur in conjunction with the project-based assessment connected to solving the spy mystery of transferrins information over a distance in a concealed way.

## Summative Assessment Items and Scoring:

Item 1:
3. A movie theater has two rooms. Room $A$ has 9 rows of 18 seats in each row. Room B has three times as many seats as Room A. How many seats are there in both rooms? Solve using a model or equation. Show your work and write your answer as a statement.


## Item 2:

## Solve using a model or equation. Show your work, and write your answer as a

## statement

## 5. A new grocery store is opening next week.

a. The store's rectangular floor is 42 meters long and 39 meters wide. How many square meters of flooring do they need? Use estimation to assess the reasonableness of your answer.

| 40 | 2 |
| :---: | :---: |
| 9 | 360 |
| 30 | 18 |
| 1,200 | 60 |


| 42 |
| ---: |
| $\times 39$ |
| 18 |
| 360 |
| 60 |
| 1,200 |
| 1,638 |

They need 1,638 square meters of flooring. My answer is reasonable because it is close to my estimate of

$$
\begin{aligned}
& 42 \times 39 \approx 40 \times 40 \\
& 40 \times 40=1,600
\end{aligned}
$$

b. The store ordered small posters and large posters to promote their opening. 12 times as many small posters were ordered as large posters. If there were 48 large posters, how many more small posters were ordered than large posters?
large 48 12 $\times 48$
small


| Problem | initiating UNDERSTANDING | developing UNDERSTANDING | NEARING UNDERSTANDING | FULL UNDERSTANDING |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5a <br> 4.0A.3 <br> 4.MD. 3 | The student is unable to correctly determine the amount of flooring needed but produces work that serves as evidence she is initiating understanding of how to apply the area formula for rectangles in real world problems. <br> For example, the student draws an area model to represent the floor but is unable to use her model to complete the problem. <br> (9 points) | The student is unable to correctly determine the amount of flooring needed but produces work that serves as evidence she is developing understanding of how to apply the area formula for rectangles in real world problems. <br> For example, the student understands she needs to multiply 42 and 39 but makes multiple arithmetic errors when calculating the product, leading to an answer other than 1,638 square meters. <br> (11 points) | The student provides the correct answer but provides insufficient and/or incomplete work to support her answer. OR <br> The student shows sufficient evidence of understanding how to apply the area formula for rectangles to determine the amount of flooring needed but makes a simple calculation error, leading to an answer other than 1,638 square meters. <br> (13 points) | The student provides the correct answer of 1,638 square meters and provides sufficient work, including using estimation to assess the reasonableness of her answer, to support her answer. <br> (15 points) | 5b <br> 4.0A. 2 <br> 4.0A. 3 | The student is unable to correctly determine how many more small posters were ordered than large posters but produces work that serves as evidence that she is initiating understanding of how to solve multistep word problems posed with whole numbers, including those involving multiplicative comparison. <br> For example, the student draws an accurate model of the situation but is unable to use her model to solve the problem. | The student is unable to correctly determine how many more small posters were ordered than large posters but produces work that serves as evidence that she is developing understanding of how to solve multi-step word problems posed with whole numbers, including those involving multiplicative comparison. <br> For example, the student simply finds the number of small posters, leading to an answer of 576 posters. | The student provides the correct answer but provides insufficient and/or incomplete work to support her answer. OR <br> The student shows sufficient evidence of understanding how to use multiplication and subtraction to solve the problem but makes a simple calculation error, leading to an answer other than 528 more small posters. | The student provides the correct answer of 528 more small posters and provides sufficient work to support her answer. |

## Item 3:

## Solve using a model or equation. Show your work, and write your answer as a

## statement.

6. A store wants its employees to start wearing uniforms to work.
a. The store plans to purchase the uniforms and hand out 5 uniforms to every employee, one for each day of the week. Uniforms come in packs f 8 , and the store plans to purchase 56 packs of uniforms. How many employees can the store give uniforms to?

b. Will the store have any uniforms left over? Explain your answe

Yes, the store will have 3 uniforms left over
448 cannot be divided evenly into groups of 5 .

| Problem | initating understanding | DFEELOPRMG <br> UNDEESTANOING | $\begin{gathered} \text { NEARING } \\ \text { UNDERSTANDING } \end{gathered}$ | full understanomg |
| :---: | :---: | :---: | :---: | :---: |
| $\text { 4.0A. } 3$ | The student is unable to correctly determine the who can receive uniforms but produces work that serves as evidence that she is initiating to solve multi-step word problems posed with whole numbers. <br> For example, the student simply finds the total number of uniforms purchased, leading to an answer of 448. | The student is unable to correctly determine the number of employees but produces work that serves as evidence that she is developing understanding of how to solve multi-step word problems posed with For example the student understands she needs to multiply 56 and 8 , then divide by 5, but makes multiple arithmetic errors when calculating the product and/or quotient, leading 89 employees. <br> OR $\qquad$ misinterprets the to think the answer is 90 employees. | The student provides the correct answer but and/or incomplete work to support her answer OR <br> The student shows sufficient evidence of use multiplication and division to solve the problem but makes a simple calculation error, leading to an answer other than 89 employees. | The student provides the correct answer of 89 sufficient work to support her answer. |


| 4.OA. | The student is unable to correctly identify whether or not there will be uniforms left over that serves as evidence that she is initiating understanding of how to interpret remainders larger problem. | The student is unable to correctly identify whether or not there will but provides reasoning that serves as evidence that she is developing understanding of how to interpret remainders within the context of a larger problem. <br> For example, the student identifies there is a remainder to their division problem but is to the context of the problem. | The student correctly identifies whether or not there will be uniforms eft over based onswer in part (a) but provides insufficient and or incomplete reasoning to support her answer. | The student correctly identifies whether or not there will be uniforms answer in part (a) and provides sufficient reasoning to support her answer. |
| :---: | :---: | :---: | :---: | :---: |
|  | (1 point) |  | 15 po | (7 points) |

## 5th Grade ELA Curriculum Sample

| Grade Level | 5 Content Area ${ }^{\text {a }}$ ELA |
| :---: | :---: |
| Alignment to Educational Program Describe how the methods of instruction found in this sequence of lessons align to the Educational Program described in the charter contract and the Amendment Request. | In addition to the context provided in the Executive Summary section, this sample is excerpted from the L-level seminar "Shark Tank" which addresses 5th grade standards in language arts and social studies, specifically economics. This seminar extends for one semester and interweaves multiple reading, writing and social studies focus standards, as students engage in novel study focusing on point of view, using the book "Rio Grande Stories". Students will learn about innovations and inventions, and ultimately pitch a new product to a panel of sharks, applying their knowledge of informative/explanatory text and speaker's POV. |
| Standard Number and Description The standard number and description (see instructions) of the standard being instructed and assessed to mastery in the curriculum sample. If more than one Standard is listed for a content area, one is clearly identified as the focus of review by having (M) before the standard number. | (M) RL.5.6 Describe how a narrator's or speaker's point of view influences how events are described. <br> (M) W.5.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly. <br> Description of standards from NMIS: <br> For RL 5.6, students who demonstrate understanding can recount the point of view that a story is told from and determine how point of view influences how events are explained in a story. <br> For W5.2, writers use previous knowledge and information from primary and secondary sources in their pieces to increase the reader's knowledge of a given topic. It is imperative for the teacher to make the distinction between informative/explanatory writing and opinion writing. It is important for the teacher to emphasize that Informative/explanatory writing is not meant to convince people of a belief or influence people's behaviors. Fifth graders write informative/explanatory pieces to investigate a topic and clearly communicate ideas and information about the topic. |
| Materials/Resources Needed <br> List all items the teacher and students will need for the entire sequence of instruction (excluding common consumables). | 1. Novel Study: Wonder <br> 2. Reading resources: Readworks, Newsela, Reading passages, Theme based chapter books <br> 3. Economics Unit: Integrates ELA and social studies standards <br> 4. Innovation and Invention Units <br> 5. YouTube/ Ted Ed/ Prezi presentations |


| Lesson <br> (add <br> as <br> neede <br> d) | Instructional Strategies-Describe the Instructional Strategies, <br> lesson by lesson, that would clearly provide students with <br> opportunities to engage in the grade-level rigor defined by the <br> Standard identified as the focus of review. | Student Activities-Describe the Student Activities, lesson by lesson, that would <br> clearly provide students with opportunities to engage in or master the grade-level <br> rigor defined by the standard identified as the focus of review. <br> Indicate alignment of Student Activities to the standard/component identified as <br> the focus of review and specific Standard(s) of Mathematical <br> Practice. |
| :---: | :--- | :--- |
|  | Minilesson: Different points of view: <br> First person: the main character is telling the story, using words such <br> as I, we, and me <br> Second person: the author is telling the story directly to the reader, <br> uses words such as you and your | Point of View Scavenger Hunt <br> Help students become adept at correctly identifying point of view with a <br> classroom. |


|  | Third person: The author it telling the story, but is not part of the story. Uses words like he, she, and they <br> - Omniscient (all knowing) <br> - Objective (describes actions and dialogue, not thoughts and feelings) <br> - Limited (follows only one character) <br> Teacher will present direct instruction, give examples from books and stories we have read this year, then ask students to add to the examples. | Give students a sheet of paper and a pencil. Instruct them to work on their own or in partners, searching for at least one example (and listing its title and author) of a book for each point of view type. <br> Class will come back together at the end to share the books they identified as having different points of view. |
| :---: | :---: | :---: |
|  | Minilesson: Revisiting pronoun perspective <br> This hands-on activity will help students gain a more concrete understanding of the three main points of view. Divide a whiteboard into three sections: 1st person, 2nd person, and 3rd person. <br> Select one student to perform an everyday activity, such as making a sandwich. The student will narrate each step using first-person pronouns as they complete it. For example, "I am putting two slices of bread on a plate." <br> Write the student's sentence in the 1st person column. Then, choose other students to restate the same sentence in 2nd and 3rd person, writing their sentences in the appropriate column. Repeat the process for all steps of making a sandwich. | After the whole class activity, students will move into literature circles to begin reading Wonder, and reflecting on the perspectives and points of view in the book, beginning with Auggie Pullman. <br> Students will annotate their text using sticky notes and be prepared to share during whole class debrief. |
|  | Minilesson: Comparing Points of View <br> Use a scene from Harry Potter - analyze Harry's POV vs. Voldemort. How would each character describe the event we just watched? <br> Record student answers on a chart. | In literature circles, students will continue to read Wonder, noticing ways in which the point of view impacts how events are being described. They will choose and write 1 example of this using text evidence as an exit ticket. |
|  | Minilesson: Reading a Range of Texts <br> Give students experience in reading visual and multimedia texts, including pitches.... watch examples from Shark Tank and discuss the main points of view represented on the screen. <br> What is the entrepreneur's point of view? What is the sharks? How do the different sharks have different points of view? Why are the results different for the same entrepreneur? | In literature circles, students will continue to read Wonder, noticing ways in which the point of view impacts how events are being described. They will choose one event from the book for which different characters expressed different points of view. <br> They will write about this event and the varying treatments by different characters in their writing notebook. |
|  | Minilesson: Introduce 5 paragraph informative/explanatory essay. Teacher will model reading and annotating a mentor text whole class. | Noticings... Read mentor texts and listen to mentor texts speeches/pitches. Write down what you notice. |
|  | Minilesson: Model graphic organizer, begin writing sample pitch | Students will begin naming questions or problem does your invention or |


|  |  | innovation solve |
| :---: | :---: | :---: |
| Several days | Teacher delivers minilesson including modeling of a skill or aspect to the writing process. Then students will go into self-directed workshop mode, with the teacher conferencing with several different students per day to provide feedback and support as they write their pitches. <br> Skills: <br> write an informative piece about a topic <br> - write ideas and information about a topic clearly <br> - organize facts and details <br> - add informative text features, if necessary (e.g., headings), illustrations, or multimedia <br> - use multiple formats to develop the topic such as facts, definitions, concrete details, quotations, or other ways that may be related to the topic <br> - connect ideas to other categories of information using words, phrases, or clauses <br> - use vocabulary that is specific to the topic <br> - give a concluding (ending) statement that summarizes the information/explanation of a topic. <br> We will also be close reading mentor texts and annotating to glean insights from great writing. | Students will determine their work of the day and focus on writing stamina and reading stamina as they research, write, read, revise, etc. Students will track their progress on a large tracker, moving their name as they enter or return to different phases in the process, so that the teacher knows where they are at a glance. <br> Ultimately students will complete their pitches, as well as other business plan documents for the flavor assessment. <br> Students will present their pitches to a panel of sharks who will buy into the different inventions/innovations! |
| S.A. | Provide an opportunity for students to complete the Summative Assessment Items. These Summative Assessment Items are assessed independently and are separate from instruction and guided or independent practice. In the Student Activities column, describe the Summative Assessment Items that will allow students to demonstrate mastery of the rigor of the standard/components identified as the focus of review, and the context in which the items will be administered. | Description of Items: <br> 1. The first item asks students to refer to a paragraph from Hatchet and relate the quote to the best choice of quotes from a second text about a character's urgency. This relates to how the narrator's point of view influences how events are described. <br> 2. The second item also asks students to choose the best explanation of the narrator's point of view toward another character. <br> 3. The final item is a constructed response question that connects both standards. The prompt has to do with narrator's point of view and crafting an explanatory character analysis. The WIDA rubric is included, along with an exemplar response. <br> Context of Administration: <br> The first two items will be administered via a Google Form. The third item will be given on a different day as a paper and pencil writing assessment. |

Summative Assessment Items and Scoring:

## Item 1

## Read paragraph 11 of Hatchet in the box.

## He had to eat. He was weak with it again, down with the hunger, and he had to eat.

Which quotation from Wild Man Island shows that Andy feels a similar urgency
to take action?
A. "As if it might help, I folded my arms across my life jacket." (paragraph 3)
B. "Get up, my mind screamed at my body, Do something or you're dead," (paragraph 6)
C. "I staggered off the beach and through some grass, but driftwood logs jumbled at the back of the beach stopped me." (paragraph 7)
D. "The thicket of bright green might as well have been a wall." (paragraph 8)

Correct answer: B

## Item 2:

2. When the narrator of Text 1 states that Town Mouse "rather turned up his long nose at this country fare," what does it show about his point of view toward Town Mouse?
A. He feels sorry for Town Mouse, who is confused about what he will be eating because he has never seen the types of foods Country Mouse is serving
B. He admires Town Mouse for his fine taste and polite manners in handling a difficult situation caused by Country Mouse's preference for simple food.
C. He feels that Town Mouse is interested in the food Country Mouse is serving and is eagerly sniffing it in anticipation.
D. He thinks Town Mouse looks down on others and is unappreciative of Country Mouse's kindness in sharing his food

## Correct answer: D

## Item 3:

Assessment Prompt: Write a short literary analysis essay that responds to the following question: "How does the narrator's point of view in 'In the Middle of the Storm influence how the events in the story are described?"

## Directions:

1) Reread "In the Middle of the Storm" and take analysis notes using the graphic organizer provided.
2) 

Write a literary analysis that meets the following criteria:

- An introduction that introduces the name and author of the story, identifies the story's point of view, names the narrator, gives a brief summary of the story, and includes a focus sentence that answers the prompt.
- A body that supports the focus sentence with quotes and evidence from the text, and includes transitional words and phrases.
- A conclusion that restates your focus sentence and sums up your analysis.


## Note: This is an exemplary model of a literary analysis essay.

The story "In the Middle of the Storm" by Reyna Eisenstark is about a girl named Rosa who lives in New York City and is celebrating her tenth birthday during Hurricane Sandy. The story is told in the first person point of view from Rosa's perspective. She is a girl who gets worried easily and likes peace and quiet. The idea having a hurricane on her birthday makes her both excited and nervous. This point of view influences her description of the hurricane.
For example, on the morning of Rosa's birthday she describes how being out of school for the hurricane makes her "birthday feel a little more special." Although she is excited about being out of school, she is also nervous about the storm. She describes not being able to eat her breakfast because she "had too many butterflies" in her stomach. Later, when the storm hits, she gets even more anxious and this influences how she describes the tree falling outside her apartment: "The crack made me think that the sky had actually torn in half!" And how she describes her sister chasing after their cat in the hallway of their apartment building: "Once I called out, 'Janie!'" But the fear in my own voice frightened me so much that I stopped immediately."
The narrator's point of view in "In the Middle of the Storm" really influences how the events of the story are described. Because Rosa is nervous and worried, her description of events such as the coming storm, the tree falling, and her sister leaving the apartment makes them feel big and scary. In the end, though, Rosa faces her fears and has a birthday she will never forget.

| Wriniog Rubi |  |  |  |
| :---: | :---: | :---: | :---: |
| Lovel | Linguistic Complexity | Vocabulery Usage | nguage Farms and Convention |
| Roacting | A variety of sentence lengths of varying linguistic complexity in a single tightly organized paragraph or in well- organized extended text; tight cohesion and organization |  |  |
| Bdidging | variety of sentence lengins of varying linguistic omplexity in a single extended text; cohesion and organization | Usage of technical language related to the content area; vocabulary; |  |
| Exponding |  | Usage of specific and some the content area; lack of needed vocabulary may b occasionally eviden |  |
| $\begin{aligned} & 3 \\ & \text { Developing } \end{aligned}$ |  | Usage of general and some specific language related needed vocabulary may be evident. | $\begin{aligned} & \text { Generally comprehensible when } \\ & \text { writing in sentences; } \\ & \text { comprehensibility may from time } \\ & \text { to time be impeded by errors } \\ & \text { when attempting to produce more } \\ & \text { complex text. } \end{aligned}$ |
| 2 <br> tmenging | sentences; varying amount fext may be copied or dapted; some aftempt evidenced. | Usage of general language related to the content area; evident | Generally comprehensible when text is adapted from model or source text, or when original text is limited to simple text; comprehensibility may be often impeded by errors. |
| 1 | Single words, set phrases or chunks of simple language; varying amounts of text may be copied or adapted; adapted text contains original language. | Usage of highest frequency vocabulary from school setting and content areas. | Generally comprehensible when text is copied or adapted from model or source text; comprehensibility may be significantly impeded in original text. |

## 5th Grade Math Curriculum Sample

| Grade Level | 5 Content Area ${ }^{\text {a }}$ ( ${ }^{\text {ath }}$ |
| :---: | :---: |
| Alignment to Educational Program Describe how the methods of instruction found in this sequence of lessons align to the Educational Program described in the charter contract and the Amendment Request. | In addition to the context provided in the Executive Summary section, this sample is excerpted from the K/L-level seminar "Rainforest Adventure" which addresses 4th grade standards in science and mathematics. This seminar extends for one quarter. The skills learned over the course of the quarter include fractions and decimals, and some measurement, while the science standards are rooted in matter and energy (see 5th grade science sample). Ultimately students will apply their knowledge of math and science concepts to create a unique ecosystem diorama and presentation to their class. |
| Standard Number and Description The standard number and description (see instructions) of the standard being instructed and assessed to mastery in the curriculum sample. If more than one Standard is listed for a content area, one is clearly identified as the focus of review <br> by having (M) before the standard number. | (M) 5.NF.B. 3 Interpret a fraction as division of the numerator by the denominator ( $a / b=a \div b$ ). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. <br> SMP 2: Reason abstractly and quantitatively. <br> Description of standard: <br> Fifth grade students should connect fractions with division, understanding that $5 \div 3=5 / 3$. Students should explain this by working with their understanding of division as equal sharing. Students should also create story contexts to represent problems involving division of whole numbers. This standard calls for students to extend their work of partitioning a number line from third and fourth grade. Students need ample experience to: explore the concept that a fraction is a way to represent the division of two quantities; interpret a fraction as division of the numerator by the denominator; interpret the remainder as a fractional part of the problem; solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers. |
| Materials/Resources Needed List all items the teacher and students will need for the entire sequence of instruction (excluding common consumables). | Area models <br> Tape diagrams <br> Number lines <br> Measuring tools <br> Math Vocabulary Word Wall |


| Lesson <br> (add <br> as <br> neede <br> d) | Instructional Strategies-Describe the Instructional Strategies, <br> lesson by lesson, that would clearly provide students with <br> opportunities to engage in the grade-level rigor defined by the <br> Standard identified as the focus of review. | Student Activities-Describe the Student Activities, lesson by lesson, that would <br> clearly provide students with opportunities to engage in or master the grade-level <br> rigor defined by the standard identified as the focus of review. <br> Indicate alignment of Student Activities to the standard/component identified as <br> the focus of review and specific Standard(s) of Mathematical <br> Practice. |
| :---: | :--- | :--- |
| $\mathbf{1 - 2}$ | Daily fluency practice <br> Daily word problem practice <br> Small group lesson: | Lesson Objective: Interpret a fraction as division. <br> Students will engage in repeated practice over two days through a variety of <br> structures in the classroom - whole class, small group, independent, partnered, <br> in centers, and digitally. Students will utilize manipulatives, drawings, and <br> number sentences, as well as words to explain their thinking while solving <br> multiple problem sets aligned with the focus standard. |


| Note: Use something concrete like crackers to help model this lesson. Materials: (S) Personal white board, 15 square pieces of paper per pair of students (and crackers :) | Exit ticket day 1: <br> Draw a picture that shows the division expression. Then, write an equation and solve. |
| :---: | :---: |
| Work in small groups with students to model fractions using cracker manipulatives, for example: | 2. $3 \div 9$ |
| Problem $1 \quad 2$ |  |
| $2 \div 2$ |  |
| $1 \div 2$ | b. $4 \div 3$ |
| $1 \div 3$ |  |
| $2 \div 3$ | 2. Fill in the blanks to make true number sentences. |
| T; Imagine we have 2 crackers. Use two pieces of your paper to represent the crackers. Share the crackers equally between 2 people. |  |
| S: (Distribute 1 cracker per person.) | b. $\frac{7}{4}=$ |
| T: How many crackers did each person get? |  |
| 5 S 1 cracker. |  |
| T: Say a division sentence that tells what you just did with the crackers. <br> S: $2 \div 2=1$. |  |
| T: I'll record that with a drawing. (Draw the $2 \div 2=1$ image on the board.) |  |
| T: Now, imagine that there is only 1 cracker to share between 2 people. Use your paper and scissors to show how you would share the cracker. |  |
| S : (Cut the paper into halves.) | On day 2, students will continue to practice through teacher guided small group instruction, with the support of manipulatives and their white boards to figure problems. Students will follow the teacher's model, will work on problems with a partner, and will work independently to provide them with ample practice engaging with a concept to lead to their successful mastery. |
| Teacher will continue to provide students with new concrete scenarios to analyze and solve for a response. Teacher will utilize pre-planned questions with math vocabulary in order to construct new student knowledge. | Students will complete digital lessons each day and then complete the |
|  | respective exit tickets, allowing the teacher to gauge mastery of the lesson objective and formulate targeted student groupings for the next lesson. |
| Debrief: | This lesson's exit ticket accesses math vocabulary and is building upon months |
| True or false? Dividing by 2 is the same as multiplying by ' (. (If needed, revisit the fact that $3 \div 2=)(=3 \times '$ (.) • Think about how we solved $3 \div 2$. What number is the whole, and what number is the divisor? How is the division sentence different from $2 \div 3$ ? | of previous learnings in math. |
|  | Exit ticket day 2: |


|  | A baker poured 4 kilograms of oats equally into 3 bags. What is the weight of each bag of oats? <br> T: In our story, which operation is needed to find the weight of each bag of oats? <br> S: Division. <br> T: Turn and discuss with your partner how you know, as well as what the division expression would be. <br> S: When you share equally, it means taking what you have and dividing it into equal groups. $\rightarrow$ The total is 4 kilograms of oats being divided into 3 bags, so the division expression is 4 divided by 3 . $\rightarrow$ The whole is 4 , and the divisor is 3 . <br> T: Say the division expression. <br> S: $4 \div 3$. <br> T: (Write $4 \div 3$, and draw 4 squares on the board.) Let's represent the kilograms with squares like we did yesterday. Squares are easier to cut into equat shares than circles. <br> T: Turn and talk about how you'll share the 4 kilograms of oats equally in 3 bags. Draw a picture to show your thinking. <br> S: Every bag will get a whole kilogram of oats, and then we will split the last kilogram equally into 3 thirds to share. So, each bag gets a whole kilogram and one-third of another one. $\rightarrow$ I can cut all 4 kilograms into thirds and then split them into the 3 bags. Each bag will get 4 thirds of a kilogram. $\rightarrow$ I know the answer is 4 over 3 , or 4 thirds, because that is just another way to write 4 divided by 3. <br> T: As we saw yesterday, there are two ways of dividing the oats. Let me record your approaches. (Draw the approaches on the board and restate.) Let's say the division sentence with the quotient. | 1. A baker made 9 cupcakes, each a different type. Four people want to share them equally. <br> How many cupcakes will each person get? Fill in the chart to show how to solve the problem. |
| :---: | :---: | :---: |
| 3 | Daily fluency practice <br> Daily word problem practice <br> Small group lesson: <br> Teacher will pull small groups based on mastery of previous objectives. Teacher will lead students through the example problems connected with today's lesson objective. Work through several problems, adjusting pacing to respond to student mastery. Example problem below: | Lesson Objective: Use tape diagrams to model fractions as division <br> Students will practice using tape diagrams to model fractions through small group instruction, their digital lesson, and the exit ticket below. Tape diagrams are used in all grade levels so this is a concept that should be accessible to most students. <br> Students are being asked to use MP. 2 again in this lesson as they reason abstractly and quantitatively, varying their representations of the relationships between numbers and quantities in problems. <br> Exit ticket: <br> 1. Matthew and his 3 siblings are weeding a flower bed with an area of 9 square yards. <br> If they share the job equally, how many square yards of the flower bed will each child need to weed? Use a tape diagram to show your thinking. |


|  | Eight tons of gravel is equally divided between 4 dump trucks. How much gravel is in one dump truck? <br> T: Say a division sentence to solve the problem. <br> S: $8 \div 4=2$. <br> T: Model this problem with a tape diagram. (Pause as students work.) <br> T : We know that 4 units are equal to 8 tons. (Write 4 units $=8$.) We want to find what 1 unit is equal to. <br> $\mathrm{T}: \quad$ (Write 1 unit $=8 \div 4$.) <br> T : How many tons of gravel are in one dump truck? <br> S: 2. <br> Each dump truck held 2 tons of gravel. <br> T: Use your quotient to answer the question. <br> S: Each dump truck held 2 tons of gravel. <br> Debrief questions: <br> How was our learning today built on what we learned yesterday? <br> (Students may point out that the models used today were more abstract than the concrete materials used previously. Students may also point out that it was easier to see the fractions as division when presented as equations than before.) |  |
| :---: | :---: | :---: |
| 4 | Daily fluency practice <br> Daily word problem practice <br> Small group lesson: <br> Follow the following protocol for the problem set with small groups. | Lesson Objective: Solve word problems involving the division of whole numbers with answers in the form of fractions or whole numbers. <br> Students will work collaboratively to model and solve a problem set with teacher support and questioning. Students should be encouraged to take their time with these questions, truly unpacking and comprehending what is being asked for, before they jump into trying to solve. <br> Students will also receive instruction digitally through a Zearn lesson, while completing student notes and finally an exit ticket, shown below: |


|  | 1. Model the problem. <br> Have two pairs of students who can successfully model the problem work at the board while the others work independently or in pairs at their seats. Review the following questions before beginning the first problem: <br> - Can you draw something? <br> - What can you draw? <br> -What conclusions can you make from your drawing? <br> As students work, circulate, Reiterate the questions above. After two minutes, have the two pairs of students share only their labeled diagrams. For about one minute. have the demonstrating students receive and respond to feedback and questions. from their peers. <br> 2. Calculate to solve and write a statement. <br> Give everyone two minutes to finish their work on that question, sharing their work and thinking with a peer. All students should write their equations and statements of the answers. <br> 3. Assess the solution for reasonableness. <br> Give students one to two minutes to assess and explain the reasonableness of their solutions. <br> Teacher will work through several problems with students, varying who is modeling the problem for the class. An example problem is below: <br> A total of 2 yards of fabric is used to make 5 identical pillows. How much fabric is used for each pillow? 5. $\frac{2}{5}$ <br> This problem requires understanding of the whole and divisor. The whole of 2 is divided by 5 , which results in a quotient of 2 fifths. Circulate, looking for different visuals (tape diagram and the region models from Lessons 2-3) to facilitate a discussion as to how these different models support the solution of $\frac{2}{5}$. | A grasshopper covered a distance of 5 yards in 9 equal hops. How many yards did the grasshopper travel on each hop? <br> a. Draw a picture to support your work. <br> b. How many yards did the grasshopper travel after hopping twice? |
| :---: | :---: | :---: |
| S.A. | Provide an opportunity for students to complete the Summative Assessment Items. These Summative Assessment Items are assessed independently and are separate from instruction and guided or independent practice. In the Student Activities column, describe the Summative Assessment Items that will allow students to demonstrate mastery of the rigor of the standard/components | Description of Items: <br> 1. Item 1 asks students to write a division expression and draw a model of the problem, which involves dividing yards of ribbon equally. Students are prompted to related multiplication and division as opposites as it involves fractions in part 3 and explain that in words. |




## Item 2:

6. Jill collected honey from 9 different beehives
a. She collected a total of 19 gallons of honey. If Jill distributes all of the honey equally between 9 jars, how much honey will be in each jar? Express your answer as a mixed number.
$19 \div 9=\frac{19}{9}=2 \frac{1}{9}$
There will be $2 \frac{1}{9}$ gallons of honey in each jar.

| Problem | imitiating undenstandonc | DEVELOPING UNDERSTANDING | NEABINC UNDERSTANDING | full understanding |
| :---: | :---: | :---: | :---: | :---: |
| Ga <br> 5.NF. 3 | The student is unable to correctly determine the amount of honey in work that serves as evidence that she is initiating understanding of solving word problems involving division of whole numbers load to answers in the form of fractions. <br> For example, the student draws a representation of 9 jars and uses tally marks to distribute 19 gallons across the 9 jars, leading to an unequal each jar. <br> (7 points) | The student is unable to correctly determine the amount of honey in each that serves as evidence that she is developing understanding of solving word problems involving division of whole numbers leading to answers in the form of fractions. <br> For example, the student misinterprets the problem to be the product of 19 and 9 leading to an answer of 171 gallons. <br> (8 points) | The student is unable to provide the correct answer but shows sulficient work to support her answer OR <br> The student shows sufficient evidence of understanding that, to solve the problem, she must divide the total gallons by the number of jars but makes a simple calculation error, leading to an answer $2 \frac{1}{2}$ gallons. <br> (9 points) | The student provides the correct answer of $2 \frac{1}{7}$ gellons and shows sufficient work to support her answer. <br> (10 points) |

## Item 3:

A group of 8 girls went apple picking. The girls picked a total of 25 pounds of apples. They each get to take home the same amount of apples. Identify how many pounds of apples will each girl get and write as a mixed number.

## Draw a representation to show your thinking.

Explain how your drawing represents a fraction as division of the numerator by the denominator

| 3 points | 2 points |  | 1 point |
| :---: | :---: | :---: | :---: |
| Answer/Solution is correct and | Answer/solution is correct and | Answer/solution is incorrect and | Answer/Sodution is incorrect and |
| - Justification is clear and mathematically accurate. <br> Representation is mathematically accurate. <br> Strategy is appropriate and valid. | - Justification is incomplete, slightly <br> flawed, or task-unique. <br> - incorrect answer is the result of imprecision though the Justification is accurate. <br> - Representation is relevant but mathematically fawed. <br> a Strategy is valid but inefficient. inappropriate, or task-unique. |  | - Justification is mathematically <br> incorrect, missing, or irrelevant. <br> Q Representation is mathematically incorrect, missing, or irrelevant. <br> Strategy is mathematically incorrect, missing, or irrelevant. |
|  |  |  |  |

## 5th Grade Science Curriculum Sample

| Grade Level | 5 Content Area | a ${ }^{\text {Science }}$ |
| :---: | :---: | :---: |
| Alignment to Educational Program Describe how the methods of instruction found in this sequence of lessons align to the Educational Program described in the charter contract and the Amendment Request. | In addition to the context provided in the Executive Summary section, this sample is excerpted from the L-level seminar "Rainforest Adventure" which addresses 5th grade standards in science and mathematics. This seminar extends for one quarter. The skills learned over the course of the quarter include fractions and decimals, and some measurement (see 5th grade mathematics sample), while the science standards are rooted in matter and energy. Ultimately students apply their knowledge of math and science concepts to create a unique ecosystem diorama and presentation to their class. |  |
| Standard Number and Description The standard number and description (see instructions) of the standard being instructed and assessed to mastery in the curriculum sample. If more than one Standard is listed for a content area, one is clearly identified as the focus of review by having (M) before the standard number. | (M) 5-LS2-1. Develop a model to describe the movement decomposers, and the environment. <br> Disciplinary Core Ideas from NGSS \& NMIS: <br> Disciplinary Core Ideas <br> LS2.A: Interdependent Relationships in Ecosystems <br> - The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plants parts and animals) and therefore operate as "decomposers." Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem. | of matter among plants, animals, <br> LS2.B: Cycles of Matter and Energy Transfer in Ecosystems <br> - Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases, and water, from the environment, and release waste matter (gas, liquid, or solid) back into the environment. |
| Materials/Resources Needed <br> List all items the teacher and students will need for the entire sequence of instruction (excluding common consumables). | Core Knowledge Science Book - Energy and Matter in Ecos Ecosystems Vocabulary and Word Wall - Ecosystems Unit Matter and Energy transfer in Ecosystems - Matter \& Ener Transcript \| Study.com <br> The Cycle of Matter and Energy in the Ecosystem - The Cyc Education Curriculum <br> Energy in Ecosystems - Producers Consumers and Decomp EcosystemRestoration- <br> https://www.seattleschools.org/wp-content/uploads/sps/d ER\%20Ch\%201 L1-3\%20Packet.pdf <br> An ecosystem is a community of interacting organisms and https://www.generationgenius.com/ecosystems-for-kids/ Matter and Energy in Ecosystems - http://landing.carolina. | systems <br> Vocabulary <br> rgy Transfer in Ecosystems: Lesson for Kids - Video \& Lesson <br> cle of Matter and Energy In Healthy Ecosystems \| EL <br> posers <br> district/File/District/Departments/Science/COVID-19/5/5th <br> their environment - <br> com/Global/FileLib/bbs-content/bbs3d-mee-sampler.pdf |

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Readworks-Food Chains Reading and Response - Food Chains
Ecology, Reading Passages
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| Lesson <br> (add as need ed) | Instructional Strategies-Describe the Instructional Strategies, lesson by lesson, that would clearly provide students with opportunities to engage in the grade-level rigor defined by the Standard identified as the focus of review. | Student Activities-Describe the Student Activities, lesson by lesson, that would clearly provide students with opportunities to engage in or master the grade-level rigor defined by the standard identified as the focus of review. Indicate alignment of Student Activities to the standard/component identified as the focus of review and specific Standard(s) of Mathematical Practice. |
| :---: | :---: | :---: |
| 1 | Introduce essential questions for matter \& energy standards we will be studying for the rest of this quarter: <br> What provoking questions will foster engagement, inquiry, and learning? <br> - Where do organisms get the energy they need for living? <br> - Where do different organisms get their energy? <br> - What is an ecosystem, and what are some different types of ecosystems? <br> - What are food chains and food webs? <br> - What happens when ecosystems are disrupted? | After introducing topic and leading class in discussion about the flavor, create K-W-L chart on Google Slides, review ecosystems and Food Chains Google Slides then add to W and L section. |
| 2 | Today's question: Where do living things get what they need to move, grow, and reproduce? <br> After they have a chance to identify some living and nonliving things, in their groups have them identify how they knew something was living, and what the living things are doing in order to survive. Encourage them to use evidence to support their ideas as you circulate. For example, I notice the mosquito moving. This will help it survive by escaping the frog. I notice the duck leading its babies and keeping them close, which will help its babies survive (reproduction). After students have discussed in their groups, have them share out as a whole class. Ask students, What patterns can we see about what all living things need or do? Record these patterns on chart paper. | Students should use the Living vs. Nonliving sheet (to create a chart about living and nonliving things. Students should include once-living (dead) things in the living category. Next, have student groups use the Pond Posters to identify living and nonliving things on Student Page 2. <br> They can also include items not explicitly shown on the poster, such as the sun, rocks, or air. <br> Show What Do Animals Eat (1:10) from PBS. <br> Prepare bean sprouter to set up observation of growth and death/decomposition of plant. |
| 3-4 | Today's question: What does each part of the plant do? | In this lesson, students will examine the bean sprouts, and use visual |


|  | Set up an experiment similar to PBS's The Color-Changing Celery Experiment (4:12min) from Sci Show Kids. <br> Have your students find the tubes that the water moves through. They can easily separate the stem tubes (called xylem) and look at them with the hand lens. Plants that have this tubing system are called "vascular plants." Not all plants have this system. This type of system is a helpful adaptation for taller plants that don't grow very close to the ground, because it helps them get water to their leaves.Show students a picture of a whole celery plant (from pixabay.com), with roots intact- this will help students understand that while the stem can draw up water for a time after cut, ultimately, the roots are what get water from the soil and keep the plant alive in the soil. <br> Read the definitions for the words structure, function and adaptation. Watch the following Plant Structures (2:51) from PBS with your students. | media resources to explore uses and adaptations of plants. Students figure out that different parts of a plant each have their own structure and function, which allows plants to get the air, water, and light they need to live and grow. <br> Read pages 10-13 of the book Photosynthesis: Changing Sunlight into Food. The rest of this book will be read in the next lesson (see Read-Aloud guide on Teacher Page 13 for detailed reading instructions). At this point, keep the vocabulary focus on light, water, and air- not carbon dioxide and oxygen (this will be discussed in the next lesson). Be sure to point out all of the parts of the plant with students (you can also do this with their bean plants, though flowers and seeds will most likely not be evident). |
| :---: | :---: | :---: |
| 5 | Students use paper models of food chains and ecosystems. Students figure out that energy flows in one direction through a food chain, from the sun to consumers. Our food has energy in it that we use to move and grow. There are different roles in an ecosystem, and living things rearrange the matter they take in and make it into their own form of matter. <br> By figuring these things out, students will be able to think more deeply about how matter cycles in an ecosystem. | Food Chain Predator/Prey Relationship <br> In this lesson, students develop their thinking about the predator/prey relationships between living things. In the activity, Eat or Be Eaten, students play a card game in which they make food chains with predators and prey, and producers and consumers. The students who make the longest food chains win the game. <br> Food Web Project- Create a food web based on a chosen ecosystem, with at least 3 food chains that interlock. Determine what fraction of the population is represented by each animal in this ecosystem. Next, convert all the fractions to decimals. Students will apply math and science concepts. Once the project is complete each student will present their food web to the class. |


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| :---: | :---: | :---: |
| 6 | How do decomposers assist with the cycling of matter? <br> Read the book $A$ Log's Life to the class. See Teacher Page 20 for a Read-Aloud Guide. After reading, ask students to share if they have ever seen a dead tree rotting. Can they now explain what was happening to the tree? Students may not have experience with a dead tree, but they may have seen a dead bird, squirrel, or possum. Can they explain what is happening to that organism based on what they've read in the book? Ask students these questions again after watching the videos below. <br> After you are finished reading the book, ask the students: Were bacteria, fungus or waste mentioned in this book? Were they part of the decomposition? What happened to the tree? Is it still alive? What happened to the matter or mass of the tree? Where did the matter go? What kinds of evidence can you use to backup your claim about what happened to the matter? Allow students to Think, Pair, Share. <br> You can also finish reading Pass the Energy, Please (see Read-Aloud Guide on Teacher Page 21). <br> Watch the following videos that show how decomposers help: <br> PBS NOVA Decomposers (3:04) from PBS | Worm Farm- create a worm farm and watch these decomposers in action! <br> Making a Worm Farm and learning about decomposers <br> Students analyze the data from their decomposition experiment, read texts, and watch videos about decomposers. Students figure out that decomposers break down dead organisms and use the energy and matter from those organisms to live, move, and grow. Decomposers help cycle nutrients and other matter back into the soil and air. <br> Exploring different decomposition of logs, leaves, etc, will help students understand the underlying structures and rules through generative discussion. |


|  | After this video, ask students, "What are some examples of decomposers? How do decomposers help new plants grow? Did we learn what the fuzzy white stuff in our experiment is?" (Decomposer examples include fungi, bacteria, and earthworms. They enrich the soil by returning nutrients to it. The fuzzy white stuff is fungi, or mold.) <br> Ask students, "What happens to the fall leaves by the next spring? Allow students to Turn and Talk. |  |
| :---: | :---: | :---: |
| S.A. | Provide an opportunity for students to complete the Summative Assessment Items. These Summative Assessment Items are assessed independently and are separate from instruction and guided or independent practice. In the Student Activities column, describe the Summative Assessment Items that will allow students to demonstrate mastery of the rigor of the standard/components identified as the focus of review, and the context in which the items will be administered. | Description of items: <br> 1. Item 1 has two parts, students must complete a food chain using 4 given options and then describe how matter and energy move from nonliving things in this ecosystem to the final organism in the chain. <br> 2. Item 2 asks students to read a paragraph then select the best explanation of the the function of plants' roots. <br> 3. The final item has students craft a constructed response as to what occurred to the flowers in a story, utilizing their scientific learnings around interdependent relationships in ecosystems. <br> Context of administration: <br> All items will be administered at the conclusion of the quarter with a Google Form assessment. |

Summative Assessment Items and Scoring:

## Item 1:

3. Another way to model organisms in an ecosystem is a food chain.

a. Create a food chain by placing each organism letter ( $A, B, C$, or $D$ ) in its own box below. 2 POINTS (1 point of $2-3$ boxes are correct, 2 points if all four boxes are correct).

b. Describe how matter and energy move from the nonliving things in this ecosystem to the organism in box 4.3 POINTS
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2 POINT ANSWER:
2 2POINT ANSWER:
make their own food so they can live and grow. Consumers like birds or insects eat producers or other
consumers, so the energy and matter are passed on to them so they can live and grow.
To eorn two points, students should describe how energy from nonliving components of this food chain are
used first by producers (trees in this ecosystem) in order to live and grow. They should then describe how
used mst by producers crees in ths ecosstem) in order one ve and grow. They shoud chen deschbe how
same reason-to live and grow.
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## 1 POINT ANSWER

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Option 1: Air and sun are nonliving, and plants take these things in.
Option 2: Matter and energy gets passed on from producers to consumers, then to other consumers, when
consumers eat. consumers eat.
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Item 2:

## Cut Flowers in a Vase

Phineas remembered at the last minute that it was his sister Candace's birthday. He noticed a bunch of daisy flowers on his way home from school and decided to pick a few to give to her. When he gave her the flowers, she put them in a vase with fresh water, then placed the vase near a sunny window. She put some of her mom's Flower Food powder into the water so the plant would get nutrients. Two weeks later, the daisies began to lose their petals and die. Phineas was confused. The daisies were given everything they needed to survive. On his way home from school, he noticed that the daisies in the ground were still alive and well.

1. What is the main function of the roots of daisy plants? 1 POINT
a. The roots allow the plant to get carbon dioxide.
b. The roots allow the plant to get light.
c. The roots allow the plant to get water and nutrients.
d. The roots allow the plant to get soil.

If students chose $D$, they may have the misconception that plants eat soil.

## Item 3:

2. Explain to Phineas what happened to the flowers, using the idea of a plant as a system. You may use the model below to help you describe how the plant system gets what it needs to survive. 3 POINTS

## 3 POINT ANSWER:

The plant is made of different parts (roots, stems, leaves) that work together to help the plant survive. Because the roots give the water and nutrients to the plant, when they were removed from the plant system, the plant could not function the same. The water goes into the roots, then up the stem, and into the leaves.

To earn three points, students should state the three parts of the plant system and how each of these parts interact. They should state how changing the system by cutting the roots off affects the plant's overall functioning as a system.

## 2 POINT ANSWER:

The roots give water the stems and then the leaves.

## 1 POINT ANSWER:

Plants need water. Roots get the water for plants.

