# Nutley Public Schools

## Science,
## World Language,
## English as a Second Language (ESL)
## Program Review
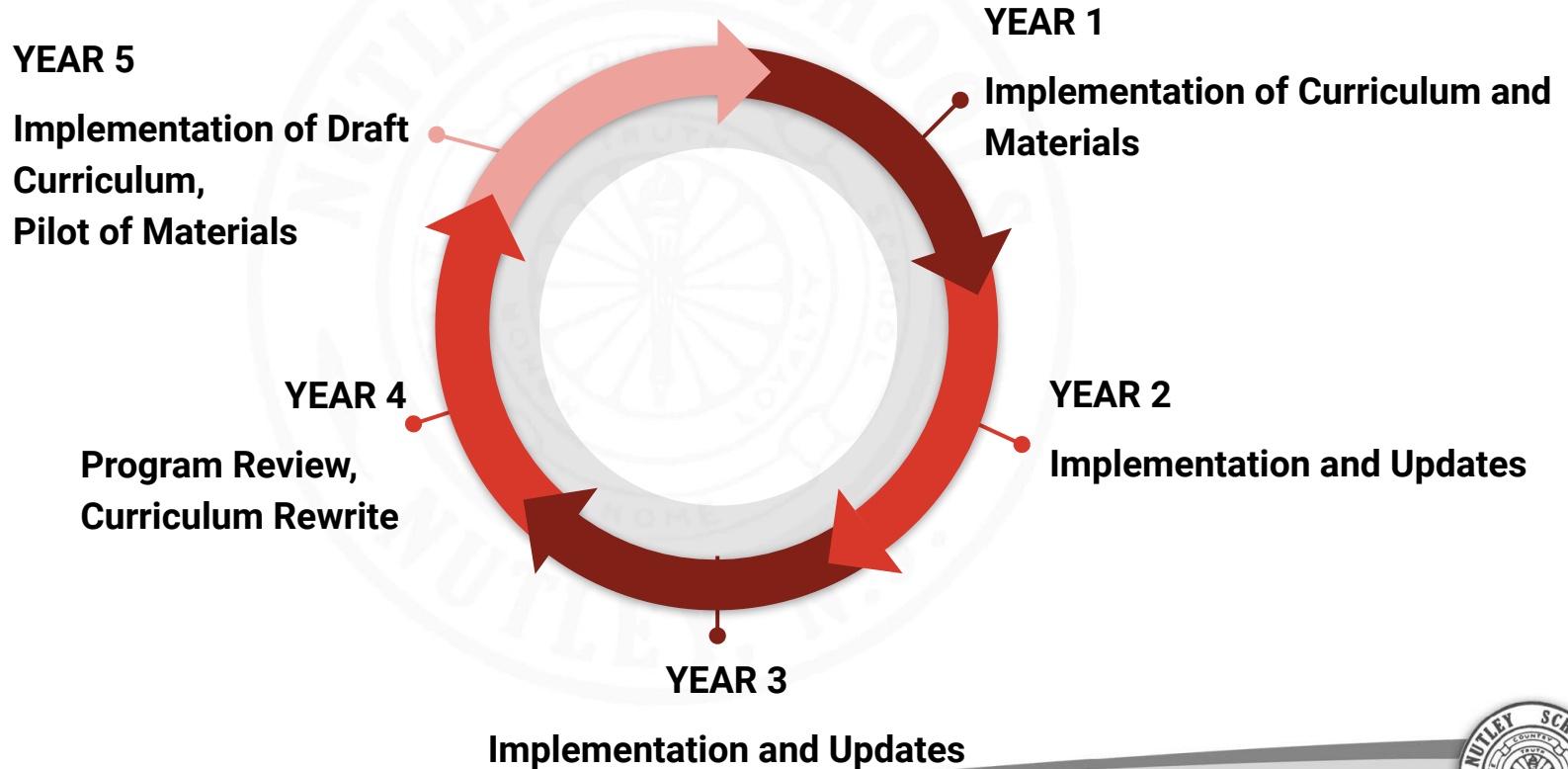## 2023-2024

**Janine Loconsolo**
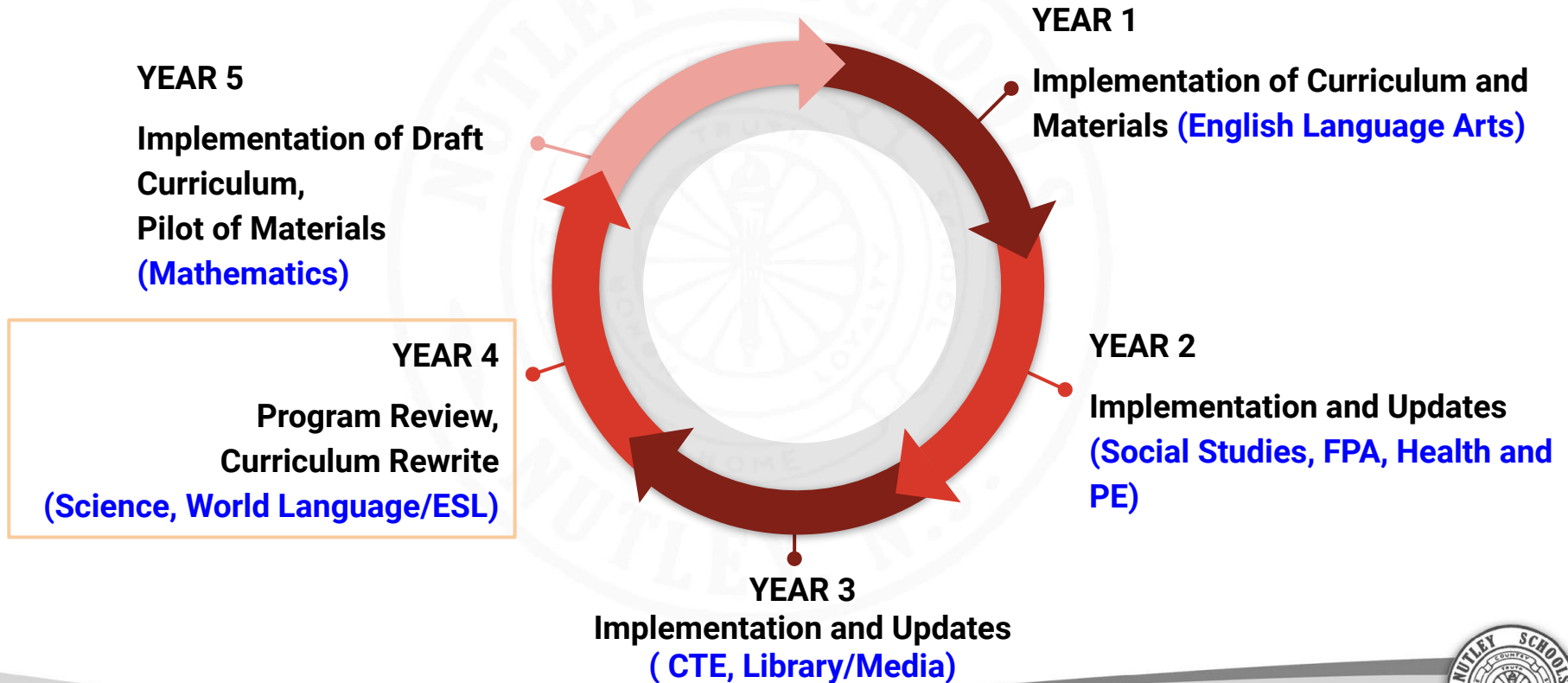*Director of Curriculum, Instruction, and Assessment*

**Jenna Rubino**
*Science Teacher*

# Curriculum Renewal Cycle



**YEAR 5**

**Implementation of Draft Curriculum,
Pilot of Materials**

**YEAR 1**

**Implementation of Curriculum and Materials**

**YEAR 4**

**Program Review,
Curriculum Rewrite**

**YEAR 2**

**Implementation and Updates**

**YEAR 3**

**Implementation and Updates**

# 2023-2024 Curriculum Cycle

**YEAR 1**

**Implementation of Curriculum and Materials (English Language Arts)**

**YEAR 2**

**Implementation and Updates (Social Studies, FPA, Health and PE)**

**YEAR 3**
**Implementation and Updates ( CTE, Library/Media)**

**YEAR 4**

**Program Review, Curriculum Rewrite (Science, World Language/ESL)**

**YEAR 5**

**Implementation of Draft Curriculum, Pilot of Materials (Mathematics)**

# Program Review Cycle



NJ Student Learning Standards Review

Student Performance Data Analysis

Research into Best Practices, Model Districts

Stakeholder Input
*Internal and External*

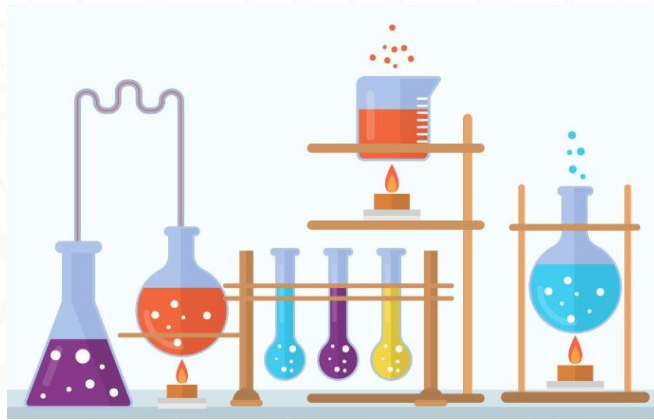Staffing and Infrastructure Considerations

# Process

➔ **Evaluate**
  ◆ Curriculum
  ◆ Instruction
  ◆ Assessment
  ◆ Resources
  ◆ Professional Development

➔ **Data Sources**
  ◆ Student performance data
  ◆ Survey data
  ◆ Anecdotal data

Science

# Guiding Questions
## Science Curriculum Review

1. Is our programming aligned appropriately, K-12, to the New Jersey Student Learning Standards - Science?
2. Does our program feature a consistent implementation of the NGSS 3-dimensional learning strategies in grades K-12?
3. Does our curriculum offer opportunities for standards-based common assessments?
4. Does our curriculum meet the needs of all of our learners efficiently?

# Data Collection
## Science Programming

Science in Nutley:

- Is standards-aligned
- Is hands-on
- Incorporates 3-dimensional learning
- Is integrated and spirals K-8 and is specialized 9-12
- Revolves around real-life phenomena
- Provides students with opportunities to ask questions, analyze data, develop and use models, and communicate information
- Incorporates reading non-fiction texts and writing evidence-based reports
- Pursues interdisciplinary connections
- Addresses the 2019 climate change standards

# Our Needs
## Science Curriculum Review

1. Provide teachers with unit alignment and pacing guides for Mystery Science, K-5, to ensure consistency across buildings.
2. Create and implement common assessments, K-5, to ensure that students are meeting targets at each grade level.
3. Adopt a curriculum resource to support students and teachers in Grade 6.
4. Provide internal professional development, K-12.
   - Best practices for Mystery Science instruction K-5
   - Alignment of grade level/content teachers 6-12
5. Continue to monitor data and adjust common assessments, 7-12.

# Programmatic Shifts
## Science Curriculum Review

1. New programming in Grade 6 → Piloted OpenSciEd this past spring.
2. Science courses in grades 7 and 8 will shift slightly to accommodate new standards taught in Grade 6.
3. Creation and implementation of common assessments K-6.
4. Ongoing review and revision of 7-12 common assessments to monitor content mastery and skill development.
5. Rewrite Geophysical Science curriculum to eliminate overlap with topics taught in grades 6-12.

# Program Description K-8

| Grade(s) | K-4 | 5 | 6 | 7-8 |
|---|---|---|---|---|
| | In grades K-8, the curriculum is integrated and spirals.  In grades K-5, science/social studies interdisciplinary, problem-based mini lessons have been created. | | | |
| Curriculum | Mystery Science curriculum is aligned with the New Jersey Next Generation Science Standards.  The curriculum documents includes the 3-dimensional learning standards assessed for each lesson. | Mystery Science curriculum is aligned with the New Jersey Next Generation Science Standards.  The curriculum documents includes the 3-dimensional learning standards assessed for each lesson. | Teacher adapted curriculum loosely based on the STC-Smithsonian curriculum that was used prior to 2019.  This year, 6th grade piloted the Weather and Climate Unit from OpenSciEd. | Teacher adapted curriculum loosely based on the STC-Smithsonian curriculum that was used prior to 2019. |
| Instruction | Students receive science on a rotational basis with social studies.  Some of the lower grades alternate weekly between subjects, while the older grades alternate daily between subjects. | Students receive departmentalized science instruction for one class period daily, for the full year. | Students receive departmentalized science instruction for one class period daily, for the full year. | Students receive departmentalized science instruction for one class period daily, for the full year. |

# Program Description K-8

|  | K-4 | 5 | 6 | 7-8 |
|---|---|---|---|---|
| Assessment | Some teachers utilize the Mystery Science assessments, but there are not any common assessments currently configured. | Students take the NJSLA Science assessment for the first time. Some teachers utilize the Mystery Science assessments, but no common assessments. | There are not any common assessments currently configured. | Students take the NJSLA Science assessment in Grade 8. Common assessments were implemented this year. |
| Resources | Mystery Science | Mystery Science | BrainPOP, Gizmos, Quizizz | iXL, BrainPOP, Gizmos, Quizizz |

# Program Description 9-12

| Requirement #1<br>Lab/Life-Science- Biology | Requirement #2<br>Lab/Inquiry Based | Requirement #3<br>Additional Lab/Inquiry-Based |
|---|---|---|
| No options.<br><br>All students must take Biology. | Must be one of the following:<br><br>Environmental Science<br><br>OR<br><br>Chemistry<br><br>OR<br><br>Physics | Any** from Column #2 OR…<br>- Microbiology<br>- Marine Science<br>- Forensic Science<br>- AP Courses* (Biology, Environmental, Chemistry, Physics)<br>- Rutgers Health Science Careers Program courses*<br>  - Human Physiology Honors<br>  - Leadership and Dynamics of Healthcare in Society Honors<br>  - Medical Math/Terminology Honors<br>  - Nutrition Honors<br>  - Emergency Care Honors |

\* Denotes a course where students can earn college credits.
\*\* There are very specific prerequisites for courses that are strictly followed.  See the most commonly used pathways on the next slide.

Nutley Public Schools
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# Program Description 9-12

**9th Grade**

Biology/
Biology Honors

Fulfills requirement #1

→

**10th Grade**

Chemistry/
Chemistry Honors

Fulfills requirement #2

→

**11th Grade**

Physics, Human Physiology, Rutgers Programming, Forensics, Marine, Microbiology, AP Courses

Fulfills requirement #3

→

**12th Grade (Not Required to take Science)**

Rutgers Programming, AP Courses, etc.  Human Physiology, Rutgers Programming, Forensics, Marine, Microbiology, AP Courses

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**9th Grade**

Geophysical Science

Fulfills requirement #3

→

**10th Grade**

Environmental Science

Fulfills requirement #2

→

**11th Grade**

Biology

Fulfills requirement #1

→

**12th Grade (Not Required to take Science)**

Forensics, Marine, Microbiology

# Data Collection

## K-12

| Curriculum | Instruction | Assessment |
|---|---|---|
| K-12 <br><br>● Teachers feel that the curriculum allows students to practice some Science & Engineering Practices and Crosscutting Concepts better than others. <br><br>9-12 <br><br>● Teachers and students reported having an uneven understanding of all science topics; Earth Science, Life Science, Physical Science, with students reporting they know the most about Life Science. <br>● There are not many electives available for lower level students who are interested in science. | K-5 <br>● Teachers reported positively that Mystery Science provides appropriate worksheets, hands-on materials, and supplemental materials. They also reported that Mystery Science provides students an opportunity to read and write and analyze data. <br><br>6-12 <br>● Teachers responded that they utilize real-life phenomena to support instruction. (90%) <br><br>9-12 <br>● The Rutgers Health Science Careers program incorporates 5 courses. We were unable to run Emergency Care during the 2023-2024 school year due to the lack of staff availability. | K-5 <br>● Teachers feel that Mystery Science assessments provide an accurate description of their students' comprehension. <br>● Teachers are neutral about implementing common assessments to drive instruction. <br><br>6-12 <br><br>● Teachers had concerns regarding students' ability to answer stimulus-based questions and questions with non-traditional answer options. <br><br>7-12 <br><br>● Teachers are looking at data and modifying common assessments that were administered to students this year. |

# Data Collection

## K-12

| Resources/Technology | Professional Development |
|---|---|
| K-5: <br><br> • Teachers reported that they do not supplement Mystery Science with outside resources.  However, they also reported that they would benefit from iXL as a resource. <br><br> 6-12 <br><br> • Teachers report using Gizmos and Quizizz a few times a month. | *Data regarding professional development was collected anecdotally.* <br><br> 5-6 <br><br> • Teachers have responded positively to the monthly articulation meetings and have requested some additional vertical articulation time. <br><br> 7-12 <br><br> • Teachers have also responded positively to biannual or annual common planning days with their grade level or content peers. |

# Recommendations

## Science Program K-5

**Curriculum**

- Modify grade 5 curriculum to add Knowing Science as a resource. Consider bringing this resource to Grade 4.
- Streamline the order of the units taught so that there is consistency across schools and common assessments could be implemented with fidelity.

**Instruction**

- Modify K-4 instruction to make Mystery Science more rigorous by incorporating mini-lessons before and after the Mystery Science lesson.
- Modify Grade 5 instruction to incorporate Knowing Science where appropriate.
- Continue incorporating interdisciplinary science and social studies problem-based mini-lessons.

**Assessment**

- Implement common assessments using Mystery Science assessments as a starting point.
- Utilize assessment data to make changes to the report card language.

**Resources**

- Continue to implement Mystery Science.
- Explore piloting Knowing Science as a supplemental curriculum to Mystery Science in Grade 5 and potentially Grade 4.

**Professional Development**

- Internal professional development on the best ways to implement and supplement Mystery Science appropriately with 3-dimensional learning strategies.
- Knowing Science professional development for Grade 5 science teachers.

# Recommendations

## Science Program 6-8

*Curriculum*

- Rewrite grade 6 curriculum to align with the OpenSciEd units.
- Make adjustments to the units taught in grades 7 and 8 with the shift in grade 6.

*Instruction*

- Modify instruction to align with any curriculum changes.

*Assessment*

- Continue to implement common assessments on Performance Matters in grades 7-8.
- Incorporate stimulus-based and non-traditional answer choice questions throughout the school year.
- Create common assessments for grade 6.

*Resources*

- Continue to buy resources, such as hands-on materials, to supplement the teacher-adapted curriculum in grades 7-8.
- Explore purchasing hands-on materials for OpenSciEd in grade 6.

*Professional Development*

- Continue internal professional development for grades 7 and 8.
- External professional development for the implementation of OpenSciEd in grade 6.

# Recommendations
## Science Program 9-12

*Curriculum*

- Modify Geophysical Science curriculum so that there is less overlap with topics students have learned prior.
- Consider incorporating a Nutrition elective course at NHS geared towards lower level learners.

*Instruction*

- Intentionally incorporate 3-dimensional learning into daily instruction via Do Nows, homework assignments, labs, etc.

*Assessment*

- Continue to implement common assessments on Performance Matters in grades 9-12.
- Incorporate stimulus-based and non-traditional answer choice questions throughout the school year.

*Resources*

- Hire one additional dual-certified special education/science staff member to accommodate the growing Rutgers Health Science careers, as well as, the special education program. Explore hiring another staff member with a physical science certificate to support Chemistry courses and the Geophysical Science course.

*Professional Development*

- Internal professional development on incorporating 3-dimensional learning strategies into lesson plans.

# World Language

# Program Description

## K-12 World Language Curriculum & Instruction

| Grade(s) | K-1 | 2-6 | 7-12 |
|---|---|---|---|
| | In grades 2-6 students are offered instruction in Spanish, 7-12 Italian, Latin and Spanish are offered. | | |
| **Curriculum** | Currently, interdisciplinary resources are in development, relating to concepts that are being taught in General Education and reinforced in Spanish. | Teacher created materials in alignment with the curriculum incorporating some resources from curriculum that was developed prior to 2013. | Teacher created materials in alignment with the curriculum incorporating some resources from curriculum that was developed prior to 2013. |
| **Instruction** | N/A | Students receive departmentalized science instruction for one class period weekly, for the during the year. 6th grade students currently receive instruction 2 a week. | Students receive World Language instruction daily during the school year. |

# Program Description

## Grade 2-12 World Language  Curriculum, Instruction & Assessment

| | 2-6 | 7-8 | 9-12 |
|---|---|---|---|
| **Assessment** | Students take the common assessments created in WL but they need to revised  and placed in Performance Matters | Integrated Performance Assessments (IPAs) are in place but should be reviewed  and revised and placed in Performance Matters | Students take the IPAs assessments. Students can participate in the Seal of Biliteracy AP World Language Assessment |
| **Resources** | iXL, BrainPOP, Gizmos, Quizizz, Conjuguemos, Rockalingua, | BrainPOP, Gizmos, Quizizz, Conjuguemos | iXL, BrainPOP, Gizmos, Quizizz, Conjuguemos Scandite Muros,Scholastic Que Tal, Ahora, El Sol,Aeneid.co |

# Data Collection

## World Languages Program

**Findings:**

- Teachers have strong content knowledge regarding language acquisition and research based methods.

- Teachers' lessons generally follow a gradual release approach with a typical lesson structure of:
    - Warm-up/Do Now
    - Reviewing Homework
    - Teacher Instruction ( "I do" and "We do") The "We do" involves student participation.
    - Guided or Independent Practice- Individually, in Pairs, or in Small Groups ("You do")

- Students participate during the lessons, but in some cases need prompting in lower grades to use the target language when responding and engaging in discussion.

- Teachers utilize technology during instruction. (Ex: Google Slides,Quizlet, Instructional Games)

- Teachers are receptive to learning ways to make their lessons more engaging and interesting.

- Teachers would benefit from additional professional learning in how to collect and use data daily to inform instruction and provide intervention

# Program Description
## World Language  Program 7-12
### *Students who take WL in 8th Grade

| Grade 7 | Grade 8 | Grade 9 | Grade 10 | Grade 11 | Grade 12 |
|---------|---------|---------|----------|----------|----------|
| Italian Beginner | Italian Emerging | Italian  III Honors | Italian IV Honors | Italian IV Honors | AP Italian /Adv Lang Lit and Film |
| Latin Beginner | Latin Emerging | Latin II | Latin III Honors | Latin IV Honors | AP Latin |
| Spanish Beginner | Spanish Emerging | Spanish II | Spanish III Honors | Spanish IV | Spanish AP/ Adv Lang Lit and Film |
| Spanish Heritage Beginner | Spanish Heritage Emerging | Spanish III Honors* | Spanish IV Honors | Spanish AP | Advanced Language Literature and Film |
| Spanish Heritage Beginner | Spanish Heritage Emerging | Spanish Heritage I | Spanish Heritage II Honors | AP Spanish/ Spanish IV | AP Spanish/ Advanced Language Literature |
| Basic Spanish Comm | Fundamental Spanish Comm | Basic Spanish - Upon completing this course, students have met the world language requirement. | | | |

# Program Description
## World Language  Program 7-12
### *Students who  do not take WL in 8th Grade

| Grade 9 | Grade 10 | Grade 11 | Grade 12 |
|---|---|---|---|
| Italian  I | Italian II | Italian III Honors | Italian IV Honors |
| Latin I | Latin II | Latin III Honors | Latin IV Honors |
| Spanish I | Spanish II | Spanish III Honors | Spanish IV Honors |
| Spanish II Honors | Spanish III Honors | Spanish IV Honors | Spanish AP |
| Spanish Heritage I | Spanish Heritage II Honors | AP Spanish/ Spanish IV | AP Spanish/ Advanced Language Literature |
| Basic Spanish - Upon completing this course, students have met the world language requirement. | | | |

# AP World Language Performance Data 2021-2023

| | 2021 | | 2022 | | 2023 | |
|---|---|---|---|---|---|---|
| | # students taking exam | % receiving score of 3 or above | # students taking exam | % receiving score of 3 or above | # students taking exam | % receiving score of 3 or above |
| **Italian** | | 50.00% | | 50.00% | | 57.14% |
| **Latin** | | 14.29% | | 33.00% | | 25.00% |
| **Spanish** | | 58.14% | | 30.43% | | 68.75% |

# Recommendations

## World Languages Program K-12

### *Curriculum*

- Review and revise/update WL curriculum documents K-12

### *Instruction*

- Emphasize instructional performance tasks as a record of learning and progress in Performance Matters
- Explore offering additional courses such as American Sign Language (ASL), French, or Mandarin online

### *Assessment*

- Utilize Performance Matters for assessment creation and analysis 7-12
- Establish common grading practices in Realtime for secondary World Language courses

### *Resources*

- Explore available resources for middle and secondary WL courses 7-12.

### *Professional Development*

- Designing Language Based Tasks and Rubrics in Performance Matters
- Continued Teacher Participation in AP and Seal of Biliteracy Data Analysis

# Recommendations

## World Language Program Timeline K-12

| | Year 0 | Year 1 | Year 2 | Year 3 | Year 4 |
|---|---|---|---|---|---|
| | 2023-24 | 2024-25 | 2025-26 | 2026-27 | 2027-28 |
| **Actions**<br><br>This timeline is a working document and subject to continuous revisions. | K-12 World Language Program Review<br><br>NJSLA, AP, Seal of Biliteracy Data Analysis & Assessment Review (November)<br><br>External Consultants WL Pending Board Approval (K-6 WL) (June)<br><br>Review of Survey Data with Teachers K-12- In House PD<br><br>Review and Revise current curriculum<br><br>Scope and Sequence Revisions K-12<br><br>Assessment Revisions and Development<br><br>Explore WL in K/1<br><br>Explore Dual Enrollment Opportunities for ASL, French and Mandarin | K-12 World Language Curriculum (Draft-form)<br><br>Assessment Development K-12<br><br>PD: Designing IPAs in PM Lessons (7-12) (In-District)<br><br>PD: Continue Teacher Participation in NJSLA Data Analysis/AP/Seal of Biliteracy Grades K-12 (In-District)<br><br>Revise Common Grading Practices (Grades K-12)<br><br>Pilot WL in K/1<br><br>Pilot Dual Enrollment Opportunities for ASL, French and Mandarin | K-12 World Language Curriculum (Implementation)<br><br>Assessment Revisions K-12<br><br>PD: NJSLA Data Analysis/AP/Seal of Biliteracy Grades K-12 (In-District)<br><br>Solidify Common Grading Practices (6-12)<br><br>Implement WL in K/1<br><br>Implement Dual Opportunities for ASL, French and Mandarin | Minor Assessment Revisions K-12<br><br>PD: NJSLA Data Analysis/AP/Seal of Biliteracy Grades K-12 (In-District)<br><br>Implement Dual Opportunities for ASL, French and Mandarin<br><br>Implement WL in K/1<br><br>Implement Dual Opportunities for ASL, French and Mandarin | Minor Assessment Revisions K-12<br><br>PD: NJSLA Data Analysis/AP/Seal of Biliteracy Grades K-12 (In-District)<br><br>Implement Dual Opportunities for ASL, French and Mandarin<br><br>Implement WL in K/1<br><br>Implement Dual Opportunities for ASL, French and Mandarin |

# English as a Second Language

# Program Description
## ESL K-12  Curriculum & Instruction

| Grade(s) | K-1 | 3-6 | 7-12 |
|---|---|---|---|
| | In grades K-6, students receive ESL as in/out class support, 7-12 ESL students receive services  in lieu of English Language Arts Classes | | |
| **Curriculum** | The K-1 curriculum document needs to be written/updated. | The ESL curriculum is aligned with the WIDA 2020 Standards but should also reflect the NJSLA ELA Standards as well as other content areas. | The ESL curriculum is aligned with the WIDA 2020 Standards but should also reflect the NJSLA ELA Standards as well as other content areas. |
| **Instruction** | Students receive a period of ESL or **2 periods of ESL per week** based on their level of English proficiency, years and country. Some students also receive intervention services as well. | Students receive a period of ESL or **2 periods of ESL per week**  based on their level of English proficiency, years and country. Some students also receive intervention services as well. | Students receive **a period of ESL or 2 periods of ESL** based on their level of English proficiency, years and country. Some students also receive intervention services as well. |
| **Assessment** | All ESL students are required annually  to take the WIDA ACCESS 2.0 each spring | | |
| **Assessment** | Some teachers utilize iXL to progress monitor, reading levels are assessed using Literably, common assessments should be revised. | Some teachers utilize iXL to progress monitor, reading levels are assessed using Literably, common assessments should be developed. | Some teachers utilize iXL to progress monitor, reading levels are assessed using Literably , common assessments need to be revised. |

# Multilingual Growth Overtime



Total ML count vs. Year
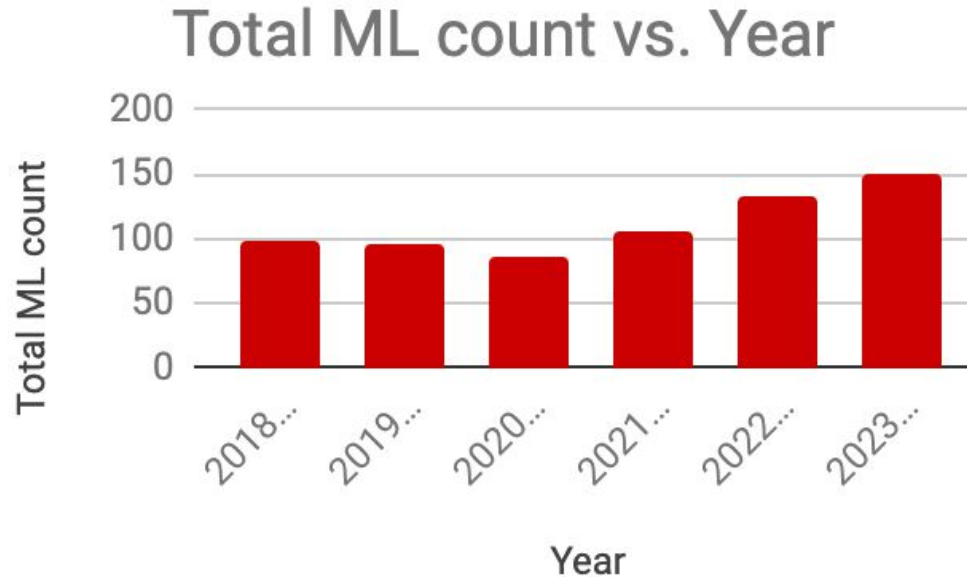
# Multilingual Students 2020 vs 2024

| School | 2020 | 2024 | Staff | % Increase Over time |
|--------|------|------|-------|----------------------|
| NHS | 24 | 41 | 1 full time | 71% |
| JHWMS | 6 | 15 | .5 teacher | 60% |
| Washington | 30 | 33 | 1.5 full time | 10% |
| Lincoln | 18 | 31 | 1.5 full time | 41.90% |
| Radcliffe | 14 | 17 | .5 teacher | 17.60% |
| Yantacaw | 4 | 11 | .5 teacher | 63.60% |
| Spring Garden | 0 | 7 | .5 teacher | 500+% |
| **TOTAL** | **96** | **151** | **6** | **60.60%** |

# Student Performance
## ESL Program K-12

**Exit Criteria on WIDA ACCESS 2.0 Tests**

A student can be eligible for exit with an ACCESS for ELLs composite proficiency level of 4.5 or higher.

Typical students progression/growth from year to year is .7



| Level 1 Entering | Level 2 Beginning | Level 3 Developing | Level 4 Expanding | Level 5 Bridging | Level 6 Reaching |
|---|---|---|---|---|---|

ACCESS for ELLs®: TIER A

ACCESS for ELLs®: TIER B

ACCESS for ELLs®: TIER C

**TIER A** is most appropriate for English language learners who:

- have arrived in the U.S. or entered school in the U.S. within this academic school year without previous instruction in English, OR

- currently receive literacy instruction ONLY in their native language, OR

- have recently tested at the lowest level of English language proficiency.

**TIER B** is most appropriate for English language learners who:

- have social language proficiency and some, but not extensive, academic language proficiency in English, OR

- have acquired some literacy in English, though have not yet reached grade level literacy.

**TIER C** is most appropriate for English language learners who:

- are approaching grade level in literacy and academic language proficiency in the core content areas, OR

- will likely meet the state's exit criteria for support services by the end of the academic year.

# WIDA ACCESS 2.0 Data Analysis

| Academic Year | # of students who took test | # of students scored 4.5 & above | % of students scored 4.5 & above |
|---|---|---|---|
| 2021 | 94 | 27 | 29% |
| 2022 | 100 | 18 | 18% |
| 2023 | 133 | 19 | 14.3% |

Factors to consider age, years in program, socioeconomic status, academic level in native language.

From 2021- 2023 there was a 41% increase in Multilingual Students.

# Data Collection

## ESL Program

- Teachers have strong content knowledge regarding language acquisition and research based methods.
- Teachers' lessons generally follow a gradual release model with a typical lesson structure of:
    - Warm-up/ Do Now
    - Review Homework
    - Teacher Instruction ( "I do" and "We do") The "We do" involves student participation.
    - Guided or Independent Practice- Individually, in Pairs, or in Small Groups ("You do")
- Teachers utilize technology during instruction. (Ex: Schoology, Google,Projected Visuals and Quizlet)
- Teachers express interest in aligning their instruction with General Education
- Teachers need guidance in how to collect use data daily to inform instruction using all the language domains.

# Recommendations

## ESL Program K-12

*Curriculum*

- Review and Revise/Update ESL Curriculum Documents K-12

*Instruction*

- Infuse WIDA ELD Standards into all content areas instruction- with the goal of increasing student achievement in content areas and their English language development
- Creating a uniform approach to progress monitor in all contents and ESL

*Assessment*

- Review and Revise K-12 ESL Common Assessments (Performance Matters)
- Explore Common Grading Policy for Multilingual Students

*Resources*

- Explore Available ELA Resources to Correlate to WIDA ELD Standards

*Professional Development*

- Professional Development on designing assessments that measure English Proficiency Domains
- Continued Teacher Participation in ACCESS Data Analysis

# Next Steps

- Board Presentation- July 2024
- Curriculum Writing- Summer 2024
- Approval of Draft Curricula- August 2024
- Implementation of Draft Curriculum- Fall 2024

# Nutley Public Schools

## Program Review

### July 2024