

To view this meeting, the livestream link is: <https://vimeo.com/event/729428>

To make a public comment, the call in number is (US) 1-612-808-0389

The PIN is 393 715 085#

Board of Education
November 15, 2022

Council Chambers
7:00 p.m.

As citizens of our community, we will conduct ourselves in accordance with Newtown's Core Character Attributes as displayed in our character tree. We will be responsible for our actions and show respect for each other. We will interact peacefully, productively, and politely. We will be trustworthy and honest and show compassion toward others. Newtown's continued success is contingent upon our ability to persevere, to follow through with our commitments, and to stay focused on the greater good.

A G E N D A

- | | |
|--------|--|
| Item 1 | PLEDGE OF ALLEGIANCE |
| Item 2 | CONSENT AGENDA <ul style="list-style-type: none">• Donation to Reed Intermediate School• NHS Band, Chorus and Orchestra Field Trip to Boston• Correspondence Report |
| Item 3 | **PUBLIC PARTICIPATION |
| Item 4 | REPORTS <ul style="list-style-type: none">• Chair Report• Superintendent's Report• Committee Reports• Student Representative Reports• Action on Financial Report and Transfers Month Ending October 31, 2022 |
| Item 5 | PRESENTATIONS <ul style="list-style-type: none">• Greenery 1 & 2 Curriculum• Fine Arts Update |
| Item 6 | OLD BUSINESS <ul style="list-style-type: none">• Second Read and Action on Policies:<ul style="list-style-type: none">○ 4-111 Student Teachers – to be rescinded○ 4-702 Drug Free Workplace – to be rescinded○ 4118.231 & 4218.231 Alcohol, Tobacco, and Drug-Free Workplace |
| Item 7 | NEW BUSINESS <ul style="list-style-type: none">• First Read of Policies:<ul style="list-style-type: none">○ 4111/4211 Recruitment and Selection○ 2151 Hiring School Administrators○ 4121 Substitute Teachers○ 4-501 Substitute Teachers – to be rescinded○ 4-501.1 Leave Provisions for Per Diem Substitutes – to be rescinded• Action on the Minutes of November 1, 2022 |
| Item 8 | **PUBLIC PARTICIPATION |
| Item 9 | ADJOURNMENT |

***The Board encourages the public to share thoughts and concerns at two points during Regular Meetings. During the first Public Participation, the Board welcomes commentary regarding items on the agenda. During the second Public Participation, commentary may also include issues for the Board to consider in the future. After being recognized, please state your name and address for the record. We request that speakers be respectful and limit comments to three minutes. The Board of Education does not discuss personnel items or student matters in public nor does it engage in dialogue during either public comment period. If you desire more information or responses to specific questions, please email the Board.*

Reed Intermediate School

3 Trades Lane, Newtown, CT 06470
Phone: (203) 270-4880 Fax: (203) 270-4899
ris.newtown.k12.ct.us

Dr. Matt Correia, Principal
Ms. Jenna Connors, Assistant Principal



To: Board of Education

From: Reed Intermediate School

Date: November 4, 2022

Please be advised that Reed Intermediate School received a trumpet, clarinet and percussion set donation from Cynthia Iaropoli on November 4, 2022. Donation valued at \$500.

Cynthia lives in Newtown and her address information is as follows:

Cynthia Iaropoli
34 Equestrian Ridge Road
Newtown, CT 06470

Please let me know if you need further information.
Thank you very much.

Mandi Poseno
Executive Secretary- RIS

Newtown High School Music Families:

We are excited to share that the NHS Music Department will be traveling to Boston this spring! While many of our students visited Disney, Lake Compounce, and Washington, DC last year as members of their own ensembles, we would like to take this trip as a unified music department! This letter and linked presentation are meant to provide you and your student with an overview of our trip, so you can make an informed decision on your participation.

Who: All current students enrolled in a Band, Orchestra, or Choir class

When: Thursday April 27 - Saturday April 29, 2023

Where: Boston, MA. Students will have the opportunity to participate in clinics with the students and staff of the world-renowned universities and conservatories in the Boston area, see the sites, take a duck boat tour, watch the Red Sox, see the London tour of Jesus Christ Superstar, and so much more! We will be staying outside of the city, in a northern suburb.

Estimated Cost: \$829. This price includes: Quad occupancy rooms, overnight security at our hotel, deluxe motorcoach, 2 Breakfasts, 1 Lunch, 2 Dinners, 2 Nights at hotel, and the tour fees for our chaperones.

Payments can be made directly on our online portal - no physical checks necessary! Visit <https://spark.worldstrides.com/Tour> to register. Enter code **T63NEGF** to join our tour!

Please note that this price may fluctuate, depending on the number of students participating.

The payment schedule is:

Installment	Due Date	Quad Occupancy
Registration Fee	Nov 15, 2022	\$50.00 + \$102.00 FRP
2	Dec 1, 2022	\$222.00
3	Jan 2, 2023	\$222.00
4	Feb 1, 2023	\$222.00
5	Mar 1, 2023	FINAL BALANCE

We will be having fundraisers throughout the winter to get the price down. If your family is concerned about the cost, please contact your director.

What to do next: Check out [this presentation](#), complete the [commitment form](#), [register online](#), submit your deposit, be prepared for more communication regarding an in-person trip meeting, and get excited!

We are sure that many parents/guardians are interested in **chaperoning**. The number of chaperones allotted to each ensemble will be based on how many students from that ensemble join the trip. We will reach out to families once we know who is attending. Seniority and prior service will be considered.

Looking forward to a GREAT trip!
Ms. Hiscavich, Mrs. Matson, and Mr. Ovsiew

Music Department Trip 2023: Boston

Hiscavich, Matson, Ovsiew

Trip Overview

- 3 Day/2 Night trip to Boston, MA. April 27-29, 2023.
- Open to all Band, Orchestra, and Choir students.
- Ensemble Clinics with local Universities/Conservatories.
- Time to explore and enjoy the sights of Boston.

The goal of this trip is not only to receive feedback on our musical performances, but also for students across ensembles to bond, and create a more cohesive and unified music department.

Proposed Itinerary

Thursday 4/27

- Depart NHS 12:30PM via Coach Bus
- Arrive Boston 4:30PM
- Time to explore and Dinner.
- Check in hotel TBA

Friday 4/28

- Breakfast
- University Clinics in the morning
- Duck Tour 1pm
- Lunch at Prudential Center
- Red Sox Game 7pm

Saturday 4/29

- Pack hotel room
- Jesus Christ Superstar Performance at 2pm
- Depart for NHS following performance

Finances

- Projected Trip Cost: \$829
 - The number of participants affects our final cost
- Tour Cost Includes:
 - Quad-occupancy room
 - Breakfast at Hotel
 - 3 Dinners + 1 lunch
 - All tour activity fees
 - Overnight hotel security
 - Basic Trip Insurance
- Trip insurance or Full Refund Protection (FRP) will be \$102

Installment	Due Date	Quad Occupancy
Registration Fee	Nov 15, 2022	\$50.00 + \$102.00 FRP
2	Dec 1, 2022	\$222.00
3	Jan 2, 2023	\$222.00
4	Feb 1, 2023	\$222.00
5	Mar 1, 2023	FINAL BALANCE

What to do now?

- There is no longer a need to submit checks to your music teacher! Now you can directly pay online!
- Access our online portal [HERE](#)
- Our code is: T63NEGF
- Please register no later than 11/15
- Complete this [Commitment Form](#)
- Register online and submit \$50 non-refundable deposit
- Information regarding rooming, chaperones, and an in-person parent meeting will be shared as soon as we know more about who will be joining our trip

**NEWTOWN BOARD OF EDUCATION
MONTHLY FINANCIAL REPORT
OCTOBER 31, 2022**

SUMMARY

The fourth financial report for the year continues to provide year to date expenditures, encumbrances and information for anticipated obligations. However, it is still early in the year and we have not yet completed our account-by-account analysis. Therefore, the majority of our major objects have been projected as fully expensed in order to provide a more realistic view of our anticipated year-end balance.

The adjustments that were made over the prior month have produced a projected year-end balance of \$411,346 with the majority of adjustments being made in other purchased services, primarily transportation and out-of-district tuition, to adjust for the excess cost grant.

During the month of October, the district spent approximately \$8.1M for operations. About \$4.1M was spent on salaries with the remaining balance of \$4.0M spent on all other objects (\$2.1M was expensed on the 2nd installment of employee medical costs to the Town). All expenditures appear to be within normal limits at this time.

This report also includes transfer requests totaling \$1,229,541

- \$1,136,141 for the realignment and reclassification of administrative and teacher positions,
- \$61,900 to cover costs in contracted services
- \$31,500 for a general transportation reallocation

MAJOR MOVERS

SALARY ACCOUNTS

The overall salary object currently displays a positive position; however, there are a few sub-accounts within this category that continue to experience pressure and will remain under close watch.

- **Teacher salary accounts** - currently displays a negative balance of -\$95,418, (last month this account displayed a balance of -\$212,408). This negative balance continues to be driven by the budgeted turnover number of -\$550,000. The rationale behind this above average number was partially due to the anticipation of having a potential surplus in our non-certified staff for turnover and unfilled positions. If our non-certified positions prove to be challenging to fill, the positive balance here can be used to offset the deficit in our certified salary accounts. Going forward, we will be evaluating and analyzing both the certified and non-certified accounts as a whole.
- **Non-certified accounts** – currently displays a large projected balance due to open positions in our technology department, custodial & secretarial unions and once again in our student support areas such as paraprofessionals and behavioral therapists. Over the next few months we will be providing a deeper analysis which will include projections for all of these accounts.

EMPLOYEE BENEFITS

The balance of this object has slipped slightly into the red due to an increase in actual costs for our 401(a)-pension plan. Employee participation increases when new employees replace our tenured employees; therefore, driving the cost upwards.

OTHER PURCHASED SERVICES

The overall position of this object is displaying a negative balance of -\$205,974. There have been multiple changes throughout this object as outlined below.

- **Contracted Services** - currently displays a negative balance of -\$126,431. The majority of this balance is due to the inclusion of an outside service that provides behavioral therapists for our students. These students require this service as outlined in their I.E.P. We are currently contracting anywhere from 5-7 therapists as the needs do vary. The two encumbrances that are currently active total \$180,000. However, we will be reallocating a portion of this cost towards our ARP IDEA grant fund. It is still early to provide an accurate projection; although, it appears we may have approximately \$140,000 to use towards this service. This reclass will most likely take place next month.
- **Transportation** - currently displays a positive balance of \$210,000. The in-district portion of these accounts have been thoroughly analyzed and adjusted accordingly. We are still in the process of analyzing our out-of-district accounts as well as a portion of the excess cost grant that is associated with these costs. Expect a change in this balance next month as the out-of-district costs will require adjustments.
- **Insurance – Property & Liability**
This account has slipped into a negative balance of -\$20,376 as our actual costs have come in a bit higher than our budget. This account is typically budgeted before the actual costs come in (which is usually in February) and even though we do work closely with our insurance rep to obtain an accurate budget number, we don't always land exactly on the mark. This policy is purchased through CIRMA who also happens to oversee our worker's comp costs, which on the flip side, came in below budget which will offset this deficit.
- **Communications**
This account has also slipped into a negative balance of -\$25,555 as we have been trying to reconcile our E-Rate discounts. More information will come in over the next few months and we will have a better read on where this account will fall.
- **Out-of-District Tuition**
This account now shows a more accurate balance for this time of year with a negative balance of -\$241,394. As you are aware, this area of the budget can be highly volatile as students can be unexpectedly outplaced into high cost educational facilities. As of now, we have fully encumbered all of our anticipated out-placed students.
On December 1st we will be submitting our first estimated cost for OOD tuition, to the State. This cost will give us a good idea of what to expect in our excess cost grant reimbursement. Also keep in mind that this grant is now expected to be reimbursed at 70% (this is 5% less than what we typically budget) which could potentially move this account into a deeper negative state.

ALL OTHER OBJECTS

Our account-by-account analysis will continue in the upcoming months and will provide more of an in-depth look at each account as more data becomes available. We will keep the board apprised of any issues or concerns as they arise.

Food Service Update

The Newtown High School has recently re-opened the Nighthawk Express where students can purchase A la carte items as well as reimbursable meals. The space is located within the NHS dining area and has been closed, due to the pandemic, since March of 2020. We had our “grand re-opening” in early November and it was a big hit! The opening of this space has also eased some of the survery congestion in the main café and we will continue to add more items to this space in order to expand our student’s choice.

Chartwells will also begin serving our seniors at the Senior Center beginning November 15. Last year we had a partnership with the community center and we are very excited to continue this program under the oversight of Chartwells. Hot lunches will be served to the seniors 2-3 days per week for a minimum cost.

Our meal counts have increased over the prior totaling 63,619 meals served in the month of October. This number includes 3,221 breakfast meals and 60,398 lunches, averaging 3,180 total meals per day. Last month we averaged 2,919 meals per day.

Chartwells is eager to continue to grow this program and will be providing students with some fun and educational activities during their lunch time such as the “Mood Boost” program and “Student’s Choice”. We are hoping to implement “Mood Boost” at each school beginning in November/December. I will provide the Board with more information on these activities as soon as they become available.

Revenue Received

For the month of October, the Board received \$3,056.63 in regular tuition.

Emergency Repairs

There were no emergency repairs over \$5,000 for the month of October

Tanja Vadas
Director of Business
November 11, 2022

**NEWTOWN BOARD OF EDUCATION
2022-23 BUDGET SUMMARY REPORT
FOR THE MONTH ENDING OCTOBER 31, 2022**

OBJECT CODE	EXPENSE CATEGORY	EXPENDED 2021 - 2022	2022 - 2023 APPROVED BUDGET	YTD TRANSFERS 2022 - 2023	CURRENT BUDGET	YTD EXPENDITURE	ENCUMBER	BALANCE	ANTICIPATED OBLIGATIONS	PROJECTED BALANCE	% EXP
GENERAL FUND BUDGET											
100	SALARIES	\$ 51,681,024	\$ 53,701,233	\$ -	\$ 53,701,233	\$ 11,326,458	\$ 40,208,058	\$ 2,166,717	\$ 1,660,350	\$ 506,367	99.06%
200	EMPLOYEE BENEFITS	\$ 11,744,808	\$ 11,955,016	\$ -	\$ 11,955,016	\$ 5,741,946	\$ 4,522,797	\$ 1,690,273	\$ 1,694,321	\$ (4,047)	100.03%
300	PROFESSIONAL SERVICES	\$ 543,087	\$ 687,141	\$ -	\$ 687,141	\$ 143,591	\$ 25,565	\$ 517,986	\$ 517,986	\$ -	100.00%
400	PURCHASED PROPERTY SERV.	\$ 2,093,569	\$ 1,814,663	\$ -	\$ 1,814,663	\$ 558,055	\$ 538,808	\$ 717,800	\$ 717,800	\$ -	100.00%
500	OTHER PURCHASED SERVICES	\$ 9,327,010	\$ 10,095,326	\$ -	\$ 10,095,326	\$ 3,381,355	\$ 6,721,044	\$ (7,074)	\$ 198,901	\$ (205,974)	102.04%
600	SUPPLIES	\$ 3,474,903	\$ 3,365,464	\$ -	\$ 3,365,464	\$ 993,489	\$ 266,323	\$ 2,105,652	\$ 2,090,652	\$ 15,000	99.55%
700	PROPERTY	\$ 536,285	\$ 339,710	\$ -	\$ 339,710	\$ 39,526	\$ 38,040	\$ 262,144	\$ 262,144	\$ -	100.00%
800	MISCELLANEOUS	\$ 59,271	\$ 76,086	\$ -	\$ 76,086	\$ 55,546	\$ 3,874	\$ 16,666	\$ 16,666	\$ -	100.00%
910	SPECIAL ED CONTINGENCY	\$ -	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ -	\$ 100,000	\$ -	\$ 100,000	0.00%
TOTAL GENERAL FUND BUDGET		\$ 79,459,957	\$ 82,134,639	\$ -	\$ 82,134,639	\$ 22,239,965	\$ 52,324,509	\$ 7,570,164	\$ 7,158,819	\$ 411,346	99.50%
900	TRANSFER NON-LAPSING (unaudited)	\$ 237,879									
GRAND TOTAL		\$ 79,697,836	\$ 82,134,639	\$ -	\$ 82,134,639	\$ 22,239,965	\$ 52,324,509	\$ 7,570,164	\$ 7,158,819	\$ 411,346	99.50%

OBJECT CODE	EXPENSE CATEGORY	2022 - 2023		YTD TRANSFERS		CURRENT BUDGET	YTD EXPENDITURE	ENCUMBER	BALANCE	ANTICIPATED OBLIGATIONS	PROJECTED BALANCE	% EXP
		EXPENDED 2021 - 2022	APPROVED BUDGET	2022 - 2023	2022 - 2023							
100	SALARIES											
	Administrative Salaries	\$ 4,245,732	\$ 4,312,038	\$ -	\$ 4,312,038	\$ -	\$ 1,279,196	\$ 2,916,573	\$ 116,270	\$ -	\$ 116,270	97.30%
	Teachers & Specialists Salaries	\$ 32,745,539	\$ 33,817,522	\$ -	\$ 33,817,522	\$ -	\$ 6,613,027	\$ 27,450,873	\$ (246,378)	\$ (150,960)	\$ (95,418)	100.28%
	Early Retirement	\$ 81,000	\$ 81,000	\$ -	\$ 81,000	\$ -	\$ 89,000	\$ -	\$ (8,000)	\$ -	\$ (8,000)	109.88%
	Continuing Ed./Summer School	\$ 96,279	\$ 97,846	\$ -	\$ 97,846	\$ -	\$ 63,335	\$ 35,177	\$ (667)	\$ -	\$ (667)	100.68%
	Homebound & Tutors Salaries	\$ 104,026	\$ 189,413	\$ -	\$ 189,413	\$ -	\$ 19,085	\$ 83,348	\$ 86,979	\$ 115,310	\$ (28,330)	114.96%
	Certified Substitutes	\$ 677,354	\$ 742,610	\$ -	\$ 742,610	\$ -	\$ 112,460	\$ 378,360	\$ 251,790	\$ 305,085	\$ (53,295)	107.18%
	Coaching/Activities	\$ 659,048	\$ 737,184	\$ -	\$ 737,184	\$ -	\$ -	\$ 4,000	\$ 733,184	\$ 733,184	\$ -	100.00%
	Staff & Program Development	\$ 188,833	\$ 155,128	\$ -	\$ 155,128	\$ -	\$ 29,505	\$ 6,716	\$ 118,906	\$ 118,906	\$ -	100.00%
	CERTIFIED SALARIES	\$ 38,797,811	\$ 40,132,741	\$ -	\$ 40,132,741	\$ -	\$ 8,205,609	\$ 30,875,047	\$ 1,052,085	\$ 1,121,525	\$ (69,440)	100.17%
	Supervisors & Technology Salaries	\$ 1,010,203	\$ 1,103,470	\$ -	\$ 1,103,470	\$ -	\$ 293,638	\$ 648,382	\$ 161,449	\$ 147,066	\$ 14,383	98.70%
	Clerical & Secretarial Salaries	\$ 2,305,020	\$ 2,361,178	\$ -	\$ 2,361,178	\$ -	\$ 595,005	\$ 1,700,060	\$ 66,114	\$ 36,338	\$ 29,776	98.74%
	Educational Assistants	\$ 2,751,027	\$ 2,965,151	\$ -	\$ 2,965,151	\$ -	\$ 524,429	\$ 2,336,305	\$ 104,417	\$ 22,993	\$ 81,424	97.25%
	Nurses & Medical Advisors	\$ 939,312	\$ 902,273	\$ -	\$ 902,273	\$ -	\$ 173,305	\$ 686,576	\$ 42,391	\$ 36,310	\$ 6,081	99.33%
	Custodial & Maint. Salaries	\$ 3,218,689	\$ 3,395,484	\$ -	\$ 3,395,484	\$ -	\$ 954,694	\$ 2,269,770	\$ 171,020	\$ 56,934	\$ 114,087	96.64%
	Non-Certified Adj. & Bus Drivers Salaries	\$ -	\$ 155,981	\$ -	\$ 155,981	\$ -	\$ -	\$ -	\$ 155,981	\$ -	\$ 155,981	0.00%
	Career/Job Salaries	\$ 122,065	\$ 171,116	\$ -	\$ 171,116	\$ -	\$ 42,375	\$ 153,194	\$ (24,454)	\$ (20,291)	\$ (4,163)	102.43%
	Special Education Svcs Salaries	\$ 1,348,349	\$ 1,456,181	\$ -	\$ 1,456,181	\$ -	\$ 286,879	\$ 1,073,574	\$ 95,728	\$ -	\$ 95,728	93.43%
	Security Salaries & Attendance	\$ 684,773	\$ 679,888	\$ -	\$ 679,888	\$ -	\$ 135,903	\$ 457,666	\$ 86,319	\$ 4,526	\$ 81,793	87.97%
	Extra Work - Non-Cert.	\$ 119,364	\$ 109,770	\$ -	\$ 109,770	\$ -	\$ 43,525	\$ 7,483	\$ 58,762	\$ 58,045	\$ 717	99.35%
	Custodial & Maint. Overtime	\$ 356,554	\$ 236,000	\$ -	\$ 236,000	\$ -	\$ 68,547	\$ -	\$ 167,453	\$ 167,453	\$ -	100.00%
	Civic Activities/Park & Rec.	\$ 27,857	\$ 32,000	\$ -	\$ 32,000	\$ -	\$ 2,548	\$ -	\$ 29,452	\$ 29,452	\$ -	100.00%
	NON-CERTIFIED SALARIES	\$ 12,883,213	\$ 13,568,492	\$ -	\$ 13,568,492	\$ -	\$ 3,120,849	\$ 9,333,011	\$ 1,114,632	\$ 538,825	\$ 575,807	95.76%
	SUBTOTAL SALARIES	\$ 51,681,024	\$ 53,701,233	\$ -	\$ 53,701,233	\$ -	\$ 11,326,458	\$ 40,208,058	\$ 2,166,717	\$ 1,660,350	\$ 506,367	99.06%
200	EMPLOYEE BENEFITS											
	Medical & Dental Expenses	\$ 8,538,506	\$ 8,790,863	\$ -	\$ 8,790,863	\$ -	\$ 4,431,923	\$ 4,321,189	\$ 37,751	\$ 30,626	\$ 7,125	99.92%
	Life Insurance	\$ 88,568	\$ 87,000	\$ -	\$ 87,000	\$ -	\$ 29,366	\$ -	\$ 57,634	\$ 57,634	\$ -	100.00%
	FICA & Medicare	\$ 1,624,911	\$ 1,706,549	\$ -	\$ 1,706,549	\$ -	\$ 373,488	\$ -	\$ 1,333,061	\$ 1,333,061	\$ -	100.00%
	Pensions	\$ 954,029	\$ 852,347	\$ -	\$ 852,347	\$ -	\$ 683,645	\$ 500	\$ 168,202	\$ 192,000	\$ (23,798)	102.79%
	Unemployment & Employee Assist.	\$ 102,469	\$ 81,600	\$ -	\$ 81,600	\$ -	\$ 600	\$ -	\$ 81,000	\$ 81,000	\$ -	100.00%
	Workers Compensation	\$ 436,325	\$ 436,657	\$ -	\$ 436,657	\$ -	\$ 222,923	\$ 201,108	\$ 12,626	\$ -	\$ 12,626	97.11%
	SUBTOTAL EMPLOYEE BENEFITS	\$ 11,744,808	\$ 11,955,016	\$ -	\$ 11,955,016	\$ -	\$ 5,741,946	\$ 4,522,797	\$ 1,690,273	\$ 1,694,321	\$ (4,047)	100.03%
300	PROFESSIONAL SERVICES											
	Professional Services	\$ 404,089	\$ 493,643	\$ -	\$ 493,643	\$ -	\$ 112,174	\$ 8,400	\$ 373,069	\$ 373,069	\$ -	100.00%
	Professional Educational Serv.	\$ 138,998	\$ 193,498	\$ -	\$ 193,498	\$ -	\$ 31,417	\$ 17,165	\$ 144,916	\$ 144,916	\$ -	100.00%
	SUBTOTAL PROFESSIONAL SERV.	\$ 543,087	\$ 687,141	\$ -	\$ 687,141	\$ -	\$ 143,591	\$ 25,565	\$ 517,986	\$ 517,986	\$ -	100.00%

OBJECT CODE	EXPENSE CATEGORY	2022 - 2023		YTD TRANSFERS 2022 - 2023	CURRENT BUDGET	YTD EXPENDITURE	ENCUMBER	BALANCE	ANTICIPATED OBLIGATIONS	PROJECTED BALANCE	% EXP
		EXPENDED 2021 - 2022	APPROVED BUDGET								
400	PURCHASED PROPERTY SERV.										
	Buildings & Grounds Contracted Svc.	\$ 672,697	\$ 683,600	\$ -	\$ 683,600	\$ 289,469	\$ 309,147	\$ 84,984	\$ 84,984	\$ -	100.00%
	Utility Services - Water & Sewer	\$ 160,597	\$ 144,770	\$ -	\$ 144,770	\$ 27,146	\$ -	\$ 117,624	\$ 117,624	\$ -	100.00%
	Building, Site & Emergency Repairs	\$ 710,231	\$ 450,000	\$ -	\$ 450,000	\$ 109,037	\$ 45,604	\$ 295,359	\$ 295,359	\$ -	100.00%
	Equipment Repairs	\$ 289,596	\$ 269,051	\$ -	\$ 269,051	\$ 82,225	\$ 37,525	\$ 149,301	\$ 149,301	\$ -	100.00%
	Rentals - Building & Equipment	\$ 260,448	\$ 267,242	\$ -	\$ 267,242	\$ 50,177	\$ 146,532	\$ 70,532	\$ 70,532	\$ -	100.00%
	Building & Site Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	100.00%
	SUBTOTAL PUR. PROPERTY SERV.	\$ 2,093,569	\$ 1,814,663	\$ -	\$ 1,814,663	\$ 558,055	\$ 538,808	\$ 717,800	\$ 717,800	\$ -	100.00%
500	OTHER PURCHASED SERVICES										
	Contracted Services	\$ 1,019,495	\$ 886,545	\$ -	\$ 886,545	\$ 442,686	\$ 328,535	\$ 115,323	\$ 241,755	\$ (126,431)	114.26%
	Transportation Services	\$ 4,229,179	\$ 4,919,428	\$ -	\$ 4,919,428	\$ 1,009,529	\$ 2,759,411	\$ 1,150,488	\$ 940,488	\$ 210,000	95.73%
	Insurance - Property & Liability	\$ 425,660	\$ 422,766	\$ -	\$ 422,766	\$ 231,847	\$ 208,795	\$ (17,876)	\$ 2,500	\$ (20,376)	104.82%
	Communications	\$ 189,488	\$ 152,524	\$ -	\$ 152,524	\$ 57,402	\$ 88,279	\$ 6,843	\$ 32,398	\$ (25,555)	116.75%
	Printing Services	\$ 19,859	\$ 24,789	\$ -	\$ 24,789	\$ 2,722	\$ 2,556	\$ 19,511	\$ 21,814	\$ (2,303)	109.29%
	Tuition - Out of District	\$ 3,252,787	\$ 3,450,187	\$ -	\$ 3,450,187	\$ 1,547,932	\$ 3,291,171	\$ (1,388,915)	\$ (1,147,521)	\$ (241,394)	107.00%
	Student Travel & Staff Mileage	\$ 190,540	\$ 239,087	\$ -	\$ 239,087	\$ 89,237	\$ 42,297	\$ 107,553	\$ 107,467	\$ 86	99.96%
	SUBTOTAL OTHER PURCHASED SERV.	\$ 9,327,010	\$ 10,095,326	\$ -	\$ 10,095,326	\$ 3,381,355	\$ 6,721,044	\$ (7,074)	\$ 198,901	\$ (205,974)	102.04%
600	SUPPLIES										
	Instructional & Library Supplies	\$ 799,649	\$ 854,242	\$ -	\$ 854,242	\$ 356,951	\$ 153,316	\$ 343,975	\$ 343,975	\$ -	100.00%
	Software, Medical & Office Supplies	\$ 217,455	\$ 194,940	\$ -	\$ 194,940	\$ 81,399	\$ 42,705	\$ 70,836	\$ 70,836	\$ -	100.00%
	Plant Supplies	\$ 423,279	\$ 366,100	\$ -	\$ 366,100	\$ 137,709	\$ 49,978	\$ 178,413	\$ 178,413	\$ -	100.00%
	Electric	\$ 995,294	\$ 1,022,812	\$ -	\$ 1,022,812	\$ 222,397	\$ -	\$ 800,415	\$ 800,415	\$ -	100.00%
	Propane & Natural Gas	\$ 415,377	\$ 424,980	\$ -	\$ 424,980	\$ 54,857	\$ -	\$ 370,123	\$ 370,123	\$ -	100.00%
	Fuel Oil	\$ 88,194	\$ 63,000	\$ -	\$ 63,000	\$ 4,982	\$ -	\$ 58,018	\$ 58,018	\$ -	100.00%
	Fuel for Vehicles & Equip.	\$ 191,173	\$ 216,258	\$ -	\$ 216,258	\$ 35,824	\$ -	\$ 180,434	\$ 165,434	\$ 15,000	93.06%
	Textbooks	\$ 344,482	\$ 223,132	\$ -	\$ 223,132	\$ 99,370	\$ 20,324	\$ 103,438	\$ 103,438	\$ -	100.00%
	SUBTOTAL SUPPLIES	\$ 3,474,903	\$ 3,365,464	\$ -	\$ 3,365,464	\$ 993,489	\$ 266,323	\$ 2,105,652	\$ 2,090,652	\$ 15,000	99.55%
700	PROPERTY										
	Technology Equipment	\$ 278,825	\$ 156,024	\$ -	\$ 156,024	\$ 26,209	\$ 12,061	\$ 117,753	\$ 117,753	\$ -	100.00%
	Other Equipment	\$ 257,460	\$ 183,686	\$ -	\$ 183,686	\$ 13,317	\$ 25,979	\$ 144,391	\$ 144,391	\$ -	100.00%
	SUBTOTAL PROPERTY	\$ 536,285	\$ 339,710	\$ -	\$ 339,710	\$ 39,526	\$ 38,040	\$ 262,144	\$ 262,144	\$ -	100.00%
800	MISCELLANEOUS										
	Memberships	\$ 59,271	\$ 76,086	\$ -	\$ 76,086	\$ 55,546	\$ 3,874	\$ 16,666	\$ 16,666	\$ -	100.00%
	SUBTOTAL MISCELLANEOUS	\$ 59,271	\$ 76,086	\$ -	\$ 76,086	\$ 55,546	\$ 3,874	\$ 16,666	\$ 16,666	\$ -	100.00%

OBJECT CODE	EXPENSE CATEGORY	2022 - 2023		YTD		CURRENT BUDGET	YTD EXPENDITURE	ENCUMBER	BALANCE	ANTICIPATED OBLIGATIONS	PROJECTED BALANCE	% EXP
		APPROVED BUDGET	EXPENDED 2021 - 2022	2022 - 2023	2022 - 2023							
910	SPECIAL ED CONTINGENCY	\$ 100,000	\$ -	\$ -	\$ -	\$ 100,000	\$ -	\$ -	\$ 100,000	\$ -	\$ 100,000	0.00%
TOTAL LOCAL BUDGET		\$ 82,134,639	\$ 82,134,639	\$ -	\$ -	\$ 82,134,639	\$ 22,239,965	\$ 52,324,509	\$ 7,570,164	\$ 7,158,819	\$ 411,346	99.50%
900	Transfer to Non-Lapsing	\$ -	\$ 237,741	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
GRAND TOTAL		\$ 82,134,639	\$ 82,134,639	\$ -	\$ -	\$ 82,134,639	\$ 22,239,965	\$ 52,324,509	\$ 7,570,164	\$ 7,158,819	\$ 411,346	99.50%

EXCESS COST GRANT REVENUE	EXPENDED 2021-2022	APPROVED BUDGET	STATE PROJ 18-Jan	PROJECTED 1-Mar	ESTIMATED Total	VARIANCE to Budget	FEB DEPOSIT	MAY DEPOSIT	% TO BUDGET
Special Education Svcs Salaries ECG	\$ (7,170)	\$ (320,028)	\$ -	\$ -	\$ -	\$ -			100.00%
Transportation Services - ECG	\$ (333,218)	\$ (1,300,484)	\$ -	\$ (320,028)	\$ (1,300,484)	\$ -			100.00%
Tuition - Out of District ECG	\$ (1,193,144)	\$ (1,620,512)	\$ -	\$ -	\$ (1,620,512)	\$ -			100.00%
Total	\$ (1,533,532)	\$ (1,620,512)	\$ -	\$ -	\$ (1,620,512)	\$ -	Total*	\$ -	100.00%

SIDE MAGNET TRANSPORTATION GRANT	\$ (9,100)	\$ (13,000)	\$ -	\$ -	\$ (13,000)	\$ -			100.00%
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OTHER REVENUES

BOARD OF EDUCATION FEES & CHARGES - SERVICES	APPROVED BUDGET	ANTICIPATED	RECEIVED	BALANCE	% RECEIVED
LOCAL TUITION	\$32,430	\$32,430	\$32,430	\$32,430	0.00%
HIGH SCHOOL FEES FOR PARKING PERMITS	\$30,000	\$30,000	\$30,000	\$30,000	0.00%
MISCELLANEOUS FEES	\$6,000	\$6,000	\$6,000	\$6,000	0.00%
TOTAL SCHOOL GENERATED FEES	\$68,430	\$68,430	\$0	\$68,430	0.00%

OTHER GRANTS

ESSER II	21-22 EXPENSED	YTD EXPENSE	ENCUMBER	BALANCE	% EXPENSED
ESSER II	\$573,735	\$18,068	\$18,465	\$15,264	97.56%
ESSER III (estimated \$809k for 21-22 use)	\$709,840	\$64,577	\$427,742	\$51,567	95.89%

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Month	Health Grant	E.C.G	E.C.S	Tuition	Misc	Other
August						
September				\$5,225.00		
October				\$6,714.13		
November				\$3,056.63	\$927.96	
December						
January						
February						
March						
April						
May						
June						
Total	\$0.00	\$0.00	\$0.00	\$14,995.76	\$927.96	\$0.00

**2022 - 2023
 NEWTOWN BOARD OF EDUCATION
 TRANSFERS RECOMMENDED
 OCTOBER 31, 2022**

AMOUNT	FROM		TO		REASON
	CODE	DESCRIPTION	CODE	DESCRIPTION	
ADMINISTRATIVE					
\$25,008	100	TEACHERS & SPECIALISTS SALARIES	100	ADMINISTRATIVE SALARIES	TO COVER ADMINISTRATORS' SALARY ADJUSTMENTS
\$146,279	100	ADMINISTRATIVE SALARIES	100	TEACHERS & SPECIALISTS SALARIES	TO COVER SALARIES OF CURRENT TEACHING STAFF AND A PORTION OF BUDGETED TURNOVER SAVINGS
\$964,854	100	TEACHERS & SPECIALISTS SALARIES	500	CONTRACTED SERVICES	TO FUND 1ST INSTALLMENT OF BUS DRIVER BONUS
\$41,900	500	TRANSPORTATION SERVICES	500	CONTRACTED SERVICES	TO COVER COSTS ASSOCIATED WITH THE DISTRICTS STRATEGIC PLAN
\$14,000	300	PROFESSIONAL EDUCATIONAL SERVICES	500	TRANSPORTATION SERVICES	TO ADJUST NON-PUBLIC ALLOCATED PORTION OF THE TRANSPORTATION CONTRACT
\$6,000	500	TRANSPORTATION SERVICES			
\$31,500	500	TRANSPORTATION SERVICES			
\$1,229,541		TOTAL TRANSFER REQUEST			

**2022 - 2023
NEWTOWN BOARD OF EDUCATION
DETAIL OF TRANSFERS RECOMMENDED
OCTOBER 31, 2022**

OBJECT CODE		FROM		TO	
OBJECT CODE	AMOUNT	OBJECT CODE	AMOUNT	OBJECT CODE	AMOUNT
100	\$25,008	TEACHERS & SPECIALISTS SALARIES \$25,008 001840880000-51151 DISTRICT - OTHER SERV	100	\$25,008	ADMINISTRATIVE SALARIES \$13,383 001820820000-51111 DISTRICT - SUPERINTENDENT \$11,625 001840880000-51111 DISTRICT - BUS SERV
100	\$146,279	ADMINISTRATIVE SALARIES \$3,541 001500010000-51112 M.S. - ADMIN. \$142,738 001800800000-51112 DISTRICT - CURRICULUM	100	\$1,111,133	TEACHERS & SPECIALISTS SALARIES \$4,104 001100200000-51121 HAW. - MATH/SCI \$10,426 001300120000-51121 M.G. - WORLD LANG \$15,274 001300200000-51121 M.G. - MATH/SCI \$3,660 001400120000-51121 HOM. - WORLD LANG \$17,237 001400200000-51121 HOM. - MATH/SCI \$8,887 001400240000-51121 HOM. - P.E. \$2,542 001400300000-51121 HOM. - CLASSROOM \$3,041 001450260000-51121 RIS. - READING \$5,855 001450380000-51121 RIS. - CLASSROOM \$2,025 001450400000-51131 RIS. - GUIDANCE \$5,614 001500200000-51121 M.S. - ART \$86,087 001500120000-51121 M.S. - WORLD LANG \$2,358 001500140000-51121 M.S. - HEALTH ED \$3,552 001500200000-51121 M.S. - MATH \$199 001500300000-51121 M.S. - SOC STUDIES \$7,776 001600100000-51121 H.S. - ENGLISH \$48,565 001600280000-51121 H.S. - SCIENCE \$4,101 001600340000-51131 H.S. - LIBRARY \$20,134 001600390000-51121 H.S. - TAP \$108,768 001600400000-51131 H.S. - GUIDANCE \$7,584 001750600000-51121 SP ED - GATES \$12,399 001750610000-51126 SP ED - PREK-8 SP ED \$143,251 001750630000-51121 SP ED - H.S. SP ED \$5,752 001750790000-51121 SP ED - SUMMER PROGRAM \$32,157 001760560000-51133 PUPIL SERV - PSYCH \$76,817 001800800000-51131 DISTRICT - CURRICULUM \$473,168 001840880000-51132 DISTRICT - OTHER SERV
100	\$964,854	TEACHERS & SPECIALISTS SALARIES \$24,839 001100120000-51121 HAW. - WORLD LANG \$18,187 001100240000-51121 HAW. - P.E. \$29,237 001100380000-51121 HAW. - CLASSROOM \$25,127 001200240000-51121 S.H. - P.E. \$129,918 001200380000-51121 S.H. - CLASSROOM \$16,503 001300240000-51121 M.G. - P.E. \$171,355 001300380000-51121 M.G. - CLASSROOM \$35,000 001500100000-51121 M.S. - ENGLISH \$4,020 001500240000-51121 M.S. - P.E. \$5,223 001500260000-51121 M.S. - READING \$27,340 001600020000-51121 H.S. - ART \$111 001600080000-51121 H.S. - CWE \$95,192 001600120000-51121 H.S. - WORLD LANG \$472 001600180000-51121 H.S. - TECH ED \$107 001600200000-51121 H.S. - MATH \$41,099 001600300000-51121 H.S. - SOC STUDIES \$9,840 001750610000-51120 SP ED - PREK-8 SP ED \$100,507 001750610000-51121 SP ED - PREK-8 SP ED \$70,171 001750610000-51122 SP ED - PREK-8 SP ED \$3,850 001750610000-51123 SP ED - PREK-8 SP ED \$37,470 001750610000-51125 SP ED - PREK-8 SP ED \$30,994 001760530000-51133 PUPIL SERV - SOC WORKER \$88,512 001840880000-51151 DISTRICT - OTHER SERV	100	\$1,111,133	TEACHERS & SPECIALISTS SALARIES \$4,104 001100200000-51121 HAW. - MATH/SCI \$10,426 001300120000-51121 M.G. - WORLD LANG \$15,274 001300200000-51121 M.G. - MATH/SCI \$3,660 001400120000-51121 HOM. - WORLD LANG \$17,237 001400200000-51121 HOM. - MATH/SCI \$8,887 001400240000-51121 HOM. - P.E. \$2,542 001400300000-51121 HOM. - CLASSROOM \$3,041 001450260000-51121 RIS. - READING \$5,855 001450380000-51121 RIS. - CLASSROOM \$2,025 001450400000-51131 RIS. - GUIDANCE \$5,614 001500200000-51121 M.S. - ART \$86,087 001500120000-51121 M.S. - WORLD LANG \$2,358 001500140000-51121 M.S. - HEALTH ED \$3,552 001500200000-51121 M.S. - MATH \$199 001500300000-51121 M.S. - SOC STUDIES \$7,776 001600100000-51121 H.S. - ENGLISH \$48,565 001600280000-51121 H.S. - SCIENCE \$4,101 001600340000-51131 H.S. - LIBRARY \$20,134 001600390000-51121 H.S. - TAP \$108,768 001600400000-51131 H.S. - GUIDANCE \$7,584 001750600000-51121 SP ED - GATES \$12,399 001750610000-51126 SP ED - PREK-8 SP ED \$143,251 001750630000-51121 SP ED - H.S. SP ED \$5,752 001750790000-51121 SP ED - SUMMER PROGRAM \$32,157 001760560000-51133 PUPIL SERV - PSYCH \$76,817 001800800000-51131 DISTRICT - CURRICULUM \$473,168 001840880000-51132 DISTRICT - OTHER SERV
500	\$41,900	TRANSPORTATION SERVICES \$41,900 001-92-087-54110 DISTRICT - TRANSPORT	500	\$41,900	CONTRACTED SERVICES \$41,900 001-92-087-54000 DISTRICT - TRANSPORT
300	\$14,000	PROFESSIONAL EDUCATIONAL SERVICES \$14,000 001-80-080-53100 DISTRICT CURRICULUM	500	\$20,000	CONTRACTED SERVICES \$20,000 001-84-083-54000 DISTRICT - BOE
500	\$6,000	TRANSPORTATION SERVICES \$6,000 001-92-087-54110 DISTRICT - TRANSPORT			
500	\$31,500	TRANSPORTATION SERVICES \$31,500 001-92-087-54111 DISTRICT - TRANSPORT	500	\$31,500	TRANSPORTATION SERVICES \$31,500 001-92-087-54110 DISTRICT - TRANSPORT
	\$1,229,541	TOTAL TRANSFER REQUEST		\$1,229,541	TOTAL TRANSFER REQUEST



Greenery (1 & 2)

2 Curriculum Developers | Last Updated: Monday, Oct 31, 2022 by Mullen, Shawn

Unit Calendar by Year

Unit	Au	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Ju																											
Lessons	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Plant Culture	0																																					
Plant Science	0																																					
Plant Classification	0																																					
Composting & Soil Food Web	0																																					
Enterprise Practices & Career...	0																																					



5 Units found



Unit Planner: Plant Culture Greenery (1 & 2)

Newtown High School / 2022-2023 / High School / BEAT/Science / Greenery (1 & 2) / Week 1 - Week 18

Last Updated: Monday, October 31, 2022
by Shawn Mullen

Plant Culture

Mullen, Shawn; Stamm, Anastasia

- [Unit Planner](#)
- [Lesson Planner](#)

Concept-Based Unit Development Graphic Organizer (Download)

Unit Web Template (Optional)

Concepts / Conceptual Lens

Please attach your completed Unit Web Template here

Lens: Interdependence

Concepts: Germination, Propagation, Integrated Pest Management, Wholesale Plug Production, Nursery & Farm Productivity, Plants, Environment

<p>G Generalizations / Enduring Understandings</p> <p>1. Germination initiates the process of seeds developing into new plants.</p> <p>2. Propagation produces a new plant from an existing one.</p> <p>3. An environment must be optimized in order to support healthy growth and sustained life</p>	<p>Guiding Questions <i>Please identify the type of question: (F) Factual, (C) Conceptual, (P) Provocative [Debatable]</i></p> <p>FACTUAL</p> <p>What is Germination? (G1)</p> <p>What is Propagation? (G2, G6)</p> <p>What is Integrated Pest Management? (G3, G5)</p> <p>CONCEPTUAL</p> <p>How does germination initiate the process of seeds developing into new plants? (G1)</p> <p>How does propagation produce a new plant from an existing one? (G2, G6)</p> <p>How can wholesale plug production drive nursery & farm productivity? (G4)</p> <p>How does Integrated Pest Management relate to a balanced ecosystem? (G3, G5)</p> <p>In what ways can propagation be used to increase greenhouse/farm productivity? (G6)</p> <p>PROVOCATIVE</p> <p>Is Integrated Pest Management necessary for maintaining a healthy growing environment? (G3, G5)</p> <p>Should greenhouses & farms allow the public to propagate their plants? (G2, G6)</p>
--	--

in plants.

4. Wholesale plug production drives nursery and farm productivity.

5. Integrated Pest Management practices create a balanced ecosystem in the greenhouse and on the farm.

6. Propagation stimulates greenhouse and farm productivity.

Standard(s)

Connecticut Core Standards / Content Standards

NGSS: Science Performance Expectations (2017)

NGSS: HS Life Sciences

HS.Structure and Function

Performance Expectations

HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.

HS-LS1-3. Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

HS.Matter and Energy in Organisms and Ecosystems

Performance Expectations

HS-LS2-3. Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.

HS.Interdependent Relationships in Ecosystems

Performance Expectations

HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.*

HS-LS4-6. Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on

biodiversity.*

HS.Inheritance and Variation of Traits

Performance Expectations

HS-LS1-4. Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.

HS-LS3-1. Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.

NGSS: Disciplinary Core Ideas

NGSS: 9-12

LS1: From Molecules to Organisms: Structures and Processes

LS1.A: Structure and Function

Systems of specialized cells within organisms help them perform the essential functions of life. (HS-LS1-1)

LS1.C: Organization for Matter and Energy Flow in Organisms

The process of photosynthesis converts light energy to stored chemical energy by converting carbon dioxide plus water into sugars plus released oxygen. (HS-LS1-5)

CT: ASTE-Agricultural Science and Technology Education Standards 2014

Grades 9-12

Agriculture, Food, and Natural Resources Foundation Skills

CT-FS.06. Performance Element: Utilize and maintain tools used in AFNR.

CT-FS.06.01. Performance Indicator: Evaluate and select the appropriate tool to perform a given task

CT-FS.06.03. Performance Indicator: Maintain tools for efficient use.

Natural Resources Systems

Pathway Content Standard: The student will demonstrate competence in the application of scientific principles and techniques to the management of natural resources.

CT-NRS.01. Performance Element: Explain interrelationships between natural resources and humans necessary to conduct management activities in natural environments.

CT-NRS.04.01. Performance Indicator: Diagnose plant and wildlife diseases and follow protocol to prevent their spread

CT-NRS.04.02. Performance Indicator: Manage insect infestations of natural resources.

Plant Science

Pathway Content Standard: The student will demonstrate competence in the application of scientific principles and techniques to the production and management of plants

CT-PS.02.02. Performance Indicator: Evaluate soil/media and prepare soil/growth media for use in plant systems

CT-PS.03. Performance Element: Propagate culture and harvest plants.

CT-PS.03.01. Performance Indicator: Demonstrate plant propagation techniques.

PS.03.02. Performance Indicator: Develop and implement a plant management plan for crop production.

CT-PS.03.03. Performance Indicator: Develop and implement a plan for integrated pest management

CT-PS.03.04. Performance Indicator: Apply principles and practices of various plant production methods to meet the needs of the market.

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 Access the interactive version of the NGSS [here](#)

Critical Content & Skills

What students must **KNOW and be able to DO**

<u>Topic</u>	<u>Content</u>	<u>Skills</u>
	(What students must know in order to demonstrate Skills)	
Seeds	Explain Germination: Dormancy, Moisture, Temperature, Light, Aeration	Seed Starting
	Describe Seed Anatomy: Seed Coat, Cotyledon, Epicotyl, Hypocotyl, Radicle, Embryo	
	Identify Plant Parts: Primary Roots, Tap Roots, Root Hairs, Shoots, Stems, Lateral Bud, Terminal Bud, Apical Bud, Leaves	Propagate Successfully
	Recognize Flower Anatomy & Physiology: Stamen, Pistil, Stigma, Anther, Style, Ovary, Sepal, Petal	Cross Pollinate Plants
	Classify Plant Tissues: Parenchyma, Collenchyma, Sclerenchyma, Permanent/Meristematic, Ground Tissue, Vascular Tissue, Dermal Tissue	Hybridization of Plants
	Manage Garden & Greenhouse Environmental Factors: Moisture, Temperature, Lighting, Aeration	Implement Safety Practices
Propagation/Cutting	Utilize Safety Practices: Goggles, Gloves, Blades	
	Demonstrate Propagation Techniques for Various Plants: Layering, Root Divisions, Asexual Reproduction, Grafting, Optimal Moisture, Optimal Temperature	Observe Environmental Factors
	Demonstrate use of Propagation Tools & Equipment: Scalpel, Root Hormone, Pruners	Maintain Environmental Factors
	Utilize Cross Pollination Techniques for Various Plants	Manage Tools & Equipment
	Utilize Hybridization Techniques for Various Plants	
	Utilize Transplanting Techniques	Transplanting Practices
Plugs/Liners	Identify Soil Mediums: Clay, Silt, Sand, Humus, Drainage, Water retention, Aeration, Soil-less Mediums, Rockwool, Perlite, Vermiculite, Peet Moss, Coco Coir, Expanded Clay Pellets	Preparing Soil Mediums
	Demonstrate Plug/Liner Production/Process: Vacuum Plug Trays, Wholesale Production, Differences between Plugs & Liners (Seed Grown Juvenile Plants vs Propagated Juvenile Plants), Ebb & Flow	Selecting Appropriate Soil Mediums

Watering

Understand Connections Between Insects/Fungi/Bacteria for Prevention & Control of Pests

Describe Role of Insects: Beneficial Insects, Parasitic Insects, Plant/Insect Relationships

Describe Role of Fungi: Beneficial Fungi, Parasitic Fungi, Plant/Fungi Relationships

Describe Role of Bacteria (microbes): Beneficial Bacteria, Parasitic Bacteria, Plant/Bacterial Relationships

Identify Life Cycles of Pests: Egg, Larva, Pupa, Adult

Identify Natural Enemies (different pests have different enemies): Predator, Prey, Parasite

Monitor/Diagnose/Treat:

Prevention of Pests

Observation of Pests

Intervention of Pests

Evaluation of Pests

Develop Treatment Plan 4 Pests

IPM (Integrated Pest Management)

Core Learning Activities

Seed Germination [Gizmo](#)

Germination [Gizmo](#)

Propagation of Plants [Notes](#)

Propagation of Plants [Worksheet](#)

Propagation of Plants [Crossword](#)

Propagation of Plants [Quiz](#)

IPM (Integrated Pest Management) [Notes](#)

IPM (Integrated Pest Management) [Worksheet](#)

IPM (Integrated Pest Management) [Crossword](#)

IPM (Integrated Pest Management) [Quiz](#)

- Scented Geranium Cuttings
- Banana Root Divisions
- Seed Starting (Germination)
- Preparing & Planting Plug Trays
- Practicing Integrated Pest Management
- Grafting Tomatoes
- Air Layering Fig Plants

- Plant Profiles (Research Project)

Assessments
 Planting Plugs/Liners
 Summative:
 Lab
 Assignment
 Planting
 Rubric

Resources

Professional & Student

Propagation

** California Rare Fruit Growers - Plant Propagation Chart, Claude Sweet

<http://www.crfq.org/tidbits/protable.html>

** Carolina Biological Supply Company

Possible source for tissue culture kit

<https://www.carolina.com/>

** Fisher Science Education

[https://www.fishersci.com/us/en/education-](https://www.fishersci.com/us/en/education-products.html?LBCID=28393576&href=index.jsp&store=ScienceEducation&segment=scienceEduStandard&storeId=10652)

[products.html?LBCID=28393576&href=index.jsp&store=ScienceEducation&segment=scienceEduStandard&storeId=10652](https://www.fishersci.com/us/en/education-products.html?LBCID=28393576&href=index.jsp&store=ScienceEducation&segment=scienceEduStandard&storeId=10652)

** Food and Agriculture Organization (FAO) - Plant Tissue Culture: An Alternative for Production of Useful Metabolite

<http://www.fao.org/docrep/t0831e/t0831e00.htm>

** Home Harvest Garden Supply - Plant Propagation

<http://plantpropagation.com/>

** Kitchen Culture Kits

This site concerns tissue culture kits for "classroom and home."

<http://www.kitchenculturekit.com/>

** North Carolina Cooperative Extension - Plant Propagation by Stem Cuttings: Instructions for the Home Gardener

<https://content.ces.ncsu.edu/plant-propagation-by-stem-cuttings-instructions-for-the-home-gardener>

** Ohio State University - Propagating Plants, Part I

<https://plantfacts.osu.edu/movies/abstract.lasso?id=2102a>

** Ohio State University - Propagating Plants, Part II

<https://plantfacts.osu.edu/movies/abstract.lasso?id=2102b>

** Online Biology Book - Cell Division: Meiosis and Sexual Reproduction

<http://www2.estrellamountain.edu/faculty/farabee/biobk/BioBookmeiosis.html>

** Texas A & M University - The Many Dimensions of Plant Tissue Culture Research

<https://aggie-horticulture.tamu.edu/tisscult/pltissue/pltissue.html>

** Texas A & M University - Plant Propagation

<https://aggie-horticulture.tamu.edu/earthkind/landscape/plant-propagation/>

** Texas A & M University - Plant Tissue Culture Information Exchange

<https://aggie-horticulture.tamu.edu/tisscult/tcintro.html>

** University of Arizona - Meiosis Tutorial

http://www.biology.arizona.edu/CELL_BIO/tutorials/meiosis/main.html

** University of Nebraska - How Is Tissue Culture Done?

<http://passel.unl.edu/pages/informationmodule.php?idinformationmodule=957885612&topicorder=4&>

[maxto=8&minto=1](#)

Integrated Pest Management

** Entomology Research Laboratory - Greenhouse IPM
<https://www.uvm.edu/~entlab/Greenhouse%20IPM/UVMGreenhouseIPM.html>

** Greenhouseipm.org - Integrated Pest Management Basics
Open each section heading to see detailed information.
<http://greenhouseipm.org/ipm-basics/>

** Michigan State University - A guide to Greenhouse Sanitation for Growers
A guide to preparing a greenhouse for a new growing season
http://www.canr.msu.edu/news/a_guide_to_greenhouse_sanitation_for_growers_prepare_now_sweat_less_later

** Michigan State University Extension - Integrated Pest Management for Greenhouse Crops
<https://www.canr.msu.edu/outreach/uploads/files/7-7%20IPM%20factsheet%20JEANNE.pdf>

** University of California - Best Management Practices for Bedding and Container Color Plant Production in California
<https://mpparrella.faculty.ucdavis.edu/wp-content/uploads/sites/186/2015/02/Bedding-and-Container-Color-Plant-Best-Management-Practices.pdf>

** University of Connecticut - Greenhouse Integrated Pest Management
<http://ipm.uconn.edu/documents/view.php?id=1095>

** University of Massachusetts Extension - IPM Scouting and Decision Making
<https://ag.umass.edu/greenhouse-floriculture/fact-sheets/ipm-scouting-decision-making>

** Utah State University Extension - IPM for Greenhouse and Nursery Crops
This is a PowerPoint presentation with many photographs.
<https://utahpests.usu.edu/slideshows/ppt/10sh-IPM-greenhouse.pdf>

Student Learning Expectation & 21st Century Skills

Information Literacy
Critical Thinking
Spoken Communication
Written Performance

Interdisciplinary Connections

Biology

Botany

Chemistry

Ecology

Environmental Science

Geology

Language Arts

Personal Financial Literacy

Business Foundations

Digital Media & Communications

Fine Arts



Unit Planner: Plant Science Greenery (1 & 2)

Friday, October 14, 2022 12:11:11

Newtown High School / 2022-2023 / High School / BEAT/Science / Greenery (1 & 2) / Week 1 - Week 18

Last Updated: Monday, October 31, 2022
by Shawn Mullen

Plant Science

Mullen, Shawn; Stamm, Anastasia

- [Unit Planner](#)
- [Lesson Planner](#)

Concept-Based Unit Development Graphic Organizer (Download)

[Unit Web Template \(Optional\)](#)

Concepts / Conceptual Lens

Please attach your completed Unit Web Template here

Lens: Structure/Function

Concepts: Dormancy, Hardiness, Pollination, Photosynthesis, Ecosystems

G	Guiding Questions
Generalizations / Enduring Understandings	Please identify the type of question: (F) Factual, (C) Conceptual, (P) Provocative [Debatable]
1. Hardiness determines the environment a plant can survive in.	<p>FACTUAL</p> <p>What is pollination? (G3, G5)</p> <p>What is dormancy? (G2, G5)</p> <p>What determines hardiness? (G1, G5)</p> <p>What is photosynthesis? (G4, G5)</p> <p>What is an ecosystem? (G4)</p>
2. Dormancy functions to protect plants from harsh environments.	<p>CONCEPTUAL</p> <p>What structural systems play specific roles in the function & health of plants? (G5)</p> <p>What function do pollinators serve to ensure survival of plant species? (G3, G5)</p>
3. Pollination ensures the survival of a plant species.	<p>How does photosynthesis drive the ecosystem of our plant? (G4)</p> <p>PROVOCATIVE</p> <p>How might our ecosystem function if photosynthesis didn't happen? (G4)</p> <p>What is the best way to protect native pollinators? (G3, G5)</p>
4. Photosynthesis drives the ecosystem	

of our planet.

5. Structural systems play specific roles in the function and health of a plant to promote growth, survival, and reproduction

Standard(s)

Connecticut Core Standards / Content Standards

NGSS: Science Performance Expectations (2017)

NGSS: HS Life Sciences

HS.Structure and Function

Performance Expectations

HS-LS1-1. Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells.

HS.Matter and Energy in Organisms and Ecosystems

Performance Expectations

HS-LS1-5. Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy.

HS-LS1-6. Construct and revise an explanation based on evidence for how carbon, hydrogen, and oxygen from sugar molecules may combine with other elements to form amino acids and/or other large carbon-based molecules.

HS-LS1-7. Use a model to illustrate that cellular respiration is a chemical process whereby the bonds of food molecules and oxygen molecules are broken and the bonds in new compounds are formed resulting in a net transfer of energy.

HS.Inheritance and Variation of Traits

Performance Expectations

HS-LS1-4. Use a model to illustrate the role of cellular division (mitosis) and differentiation in producing and maintaining complex organisms.

HS-LS3-1. Ask questions to clarify relationships about the role of DNA and chromosomes in coding the instructions for characteristic traits passed from parents to offspring.

HS-LS3-2. Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.

CT: ASTE-Agricultural Science and Technology Education Standards 2014

Grades 9-12

Agriculture, Food, and Natural Resources Foundation Skills

Pathway Content Standard: The student will demonstrate competence in the application of scientific principles and practices to all areas of agriculture

CT-FS.01. Performance Element: Examine the importance of health, s management systems in organizations and their importance to performance and regulatory safety, and environmental compliance.

CT-FS.01.01. Performance Indicator: Safety with Contaminants and Equipment: Understand the concepts and procedures of handling contaminants, chemicals and related equipment in an agricultural setting.

CT-FS.02. Performance Element: Career Success: Demonstrate those qualities, attributes and skills necessary to succeedin, or further prepare for, a chosen career.

CT-FS.02.01. Performance Indicator: Understand the use and application of information-based technologies necessary for career success in agriculture

Plant Science

Pathway Content Standard: The student will demonstrate competence in the application of scientific principles and techniques to the production and management of plants

CT-PS.01.02. Performance Indicator: Apply knowledge of plant anatomy and the functions of plant structures to activities associated with plant systems.

CT-PS.01.03. Performance Indicator: Apply knowledge of plant physiology and energy conversion to plant systems

CT-PS.02.01. Performance Indicator: Determine the influence of environmental factors on plant growth.

CT-PS.02.03. Performance Indicator: Develop and implement a fertilization plan for specific plants or crops.

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Access the interactive version of the NGSS [here](#)

Critical Content & Skills

*What students must **KNOW** and be able to **DO***

<u>Topic</u>	<u>Content</u>	<u>Skills</u>
	(What students must know in order to demonstrate Skills)	
Plant Groups: Clades, Monocot/Dicot, Flowering/Non-Flowering, Vascular/Non-Vascular	Differentiate between Clade Types Analyze Cladogram Maps	Create Cladogram Maps Identify Monocot/Dicot, Flowering/Non-Flowering,

	<p>Compare the functions of Monocot/Dicot Organisms</p> <p>Compare the functions of Flowering/Non-Flowering Organisms</p> <p>Compare the functions of Vascular/Non-Vascular Organisms</p> <p>Identify Plant Structures: Shoots, Roots, Leaves, Flowers, Seeds, Nodes</p> <p>Examine Plant Tissues: Parenchyma, Collenchyma, Sclerenchyma, Permanent/Meristematic, Ground Tissue, Vascular Tissue, Dermal Tissue</p> <p>Interpret Dormancy functions: Hibernation, Weather/Climate, Drought</p> <p>Classify Hardiness: Global Plant Hardiness Zones</p>	<p>Vascular/Non-Vascular</p> <p>Categorize Monocot/Dicot, Flowering/Non-Flowering, Vascular/Non-Vascular</p> <p>Diagram Monocot/Dicot, Flowering/Non-Flowering, Vascular/Non-Vascular</p> <p>Utilize Microscopy to Diagram: Tissue Types, Cell Types, Cell Anatomy, Plant/Cell Organelles, etc</p> <p>Identify & Label Plant Parts, Tissue Types, Cell Types, Cell Anatomy, Plant/Cell Organelles, etc</p>
<p>Plant Parts: Tissue Types, Dormancy, Hardiness</p>	<p>Explain the function of Germination: Dormancy, Moisture, Temperature, Light, Aeration</p> <p>Describe Seed structure & anatomy: Seed Coat, Cotyledon, Epicotyl, Hypocotyl, Radicle, Embryo</p> <p>Describe Pollination: Flower, Pollen, Indigenous, Symbiosis, Pesticides</p> <p>Discuss Pollinators: Insects, Mammals, Wind, Rain, Manual (Humans)</p> <p>Survey Generation structure: Meiosis, Hybridization, Seed Saving Practices, Fertilization, Spore, Sporophyte, Sporangium, Gametophyte, Haploid, Diploid</p>	<p>Identify Plant Life Cycle Stages</p> <p>Diagram Plant Life Cycle Stages</p> <p>Manipulate Plant Life Cycle Stages</p>
<p>Plant Life Cycles</p>	<p>Summarize the function of Photosynthesis: Sunlight, Catalyst, Carbon Dioxide, Water, Glucose, Oxygen, Photons, Chloroplast, Chlorophyll</p> <p>Identify the function of Micro/Macro Nutrients & Indicate the function of Necessary Elements & Minerals: Nitrogen, Phosphorus, Potassium, Calcium, Sulfur, Magnesium, Iron, Manganese, Copper, Zinc, Boron, Chloride, Molybdenum</p> <p>Recognize Nutrient Deficiencies: Overwatering, Compacted Soil, Uptake, PH, Air Flow, Soil Consistency, Organic Materials</p>	<p>Diagram Process of Photosynthesis</p> <p>Test for Micro/Macro Nutrient Levels</p> <p>Diagnose & Treat Nutrient Deficiencies</p> <p>Survey Elements & Minerals in Garden</p> <p>Feed & Maintain Various Plants in the Garden & Greenhouse</p>
<p>Plant Nutrition</p>		

Core Learning Activities

Microscope practice [Virtual Microscope Lab](#)

ID and Label plant parts, flower anatomy, and life cycles

Purpose games Students race to label various diagrams

From seed to fruit Label the life cycle

Photosynthesis lab (elodea) Elodea Photosynthesis Lab

Cladograms GIZMO

Essential Nutrients Slideshow

Essential Nutrients Background Information

Essential Nutrients Worksheet

Essential Nutrients Crossword Puzzle

Essential Nutrients Test

Nutrient Deficiencies Notes

Nutrient Deficiencies Worksheet

Nutrient Deficiencies Crossword

Nutrient Deficiencies Quiz

Plant Anatomy Slideshow

Plant Anatomy Background

Plant Anatomy Worksheet

Plant Anatomy Crossword

Plant Anatomy Test

Structure of Plants Slideshow

Structure of Plants Background

Structure of Plants Vocabulary

Structure of Plants VEGETATIVE MORPHOLOGY OF FLOWERING PLANTS

Structure of Plants Worksheet

Structure of Plants Crossword

Structure of Plants Test

Assessments	Resources <i>Professional & Student</i> * Reed College - Nitrogen Fixation http://www.reed.edu/biology/Nitrogen/ ** e-Gro webinar - Identification of Nutrient Deficiencies (Greenhouse Plants) 42:19-minute video https://www.youtube.com/watch?v=Cq9tTqMxh2o ** Greenhouse Product News - Diagnosing Bedding Plant Nutrient Deficiencies Includes descriptions and many photos http://gpnmag.com/wp-content/uploads/diagnosingbeddingplant.pdf ** International Plant Nutrition Institute http://www.ipni.net/ ** Michigan State University Extension - Disease or Disorder: How Do I Tell the Difference? Part 1 Discusses common problems related to nutritional disorders and provides pictures http://www.canr.msu.edu/news/disease_or_disorder_how_do_i_tell_the_difference_part_1 ** Michigan State University Extension - Six Steps to Identifying Nutrient Deficiencies in Ornamental Plants Includes a plant nutrient deficiency key http://www.canr.msu.edu/news/six_steps_to_identifying_nutrient_deficiencies_in_ornamental_plants ** North Carolina State University Extension - Managing Micronutrients in the Greenhouse https://hortscans.ces.ncsu.edu/uploads/m/a/managing_51e6d89fe35b2.pdf ** OFA Association of Floriculture Professionals - Geranium Nutrient Deficiencies: A Visual Primer for Grower Diagnosis & Correction Includes many photographs of various nutrient deficiencies in geraniums https://www.ars.usda.gov/ARSUserFiles/50820500/Publications/FertilityManagement/OFA%20geranium%20nutrient%20deficiencies.pdf ** Promix Training Center https://www.pthorticulture.com/en/training-center/ ** University of Florida - Fertilizer Management for Greenhouse Vegetables http://edis.ifas.ufl.edu/cv265
Student Learning Expectation & 21st Century Skills Information	Interdisciplinary Connections Biology Botany

<u>Literacy</u>	Chemistry
<u>Critical</u>	
<u>Thinking</u>	Ecology
<u>Spoken</u>	
<u>Communication</u>	Environmental Science
<u>Written</u>	
<u>Performance</u>	Geology
	Language Arts
	Personal Financial Literacy
	Business Foundations
	Digital Media & Communications
	Fine Arts



Unit Planner: Plant Classification Greenery (1 & 2)

Friday, November 4, 2023 10:41 AM

Newtown High School / 2022-2023 / High School / BEAT/Science /
Greenery (1 & 2) / Week 11 - Week 17

Last Updated: Monday, October 31, 2022 by
Anastasia Stamm

Plant Classification

Mullen, Shawn; Stamm, Anastasia

- [Unit Planner](#)
- [Lesson Planner](#)

Concept-Based Unit Development Graphic Organizer (Download)

Unit Web Template (Optional)

Concepts / Conceptual Lens

Please attach your completed Unit Web Template here

Lens: Relationship

Concepts: Evolution, Traits, Classification, Hosts, Survival, Indigenous, Invasive, Ecosystems

G

Generalizations / Enduring Understandings

1. Evolution impacts traits and relates to plant classification.
2. Hosts maintain survival of another organism.
3. Indigenous populations require similar conditions for survival.
4. Invasive organisms interrupt ecosystems.

Guiding Questions

Please identify the type of question: (F) Factual, (C) Conceptual, (P) Provocative [Debatable]

FACTUAL

What is evolution? (G1)

What is a host plant? G2)

What does it mean when a plant is referred to as indigenous? (G3)

What does it mean when a plant is referred to as invasive? (G4)

What indigenous plants are common in our area? (G3)

What invasive plants negatively effect our area? (G4)

What is binomial nomenclature? (G1)

CONCEPTUAL

What does evolution look like in plant species? (G1)

Why are host plants considered keystone species? (G2)

How can we use the Linnaeus Classification system to identify plant species? (G1)

How does the Linnaeus Classification system demonstrate

plant species evolutionary relationships? (G1)

How does variation in traits among plant species impact binomial nomenclature? (G1)

PROVOCATIVE

What species could we plant at NHS to help pollinators mitigate the effects of local construction? (G2, G3)

Can invasive plants interrupt an ecosystem in a positive way? (G4)

Standard(s)

Connecticut Core Standards / Content Standards

NGSS: Science Performance Expectations (2017)

NGSS: HS Life Sciences

HS.Matter and Energy in Organisms and Ecosystems Performance Expectations

HS-LS2-4. Use mathematical representations to support claims for the cycling of matter and flow of energy among organisms in an ecosystem.

HS.Interdependent Relationships in Ecosystems Performance Expectations

HS-LS2-2. Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.

HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.*

HS-LS2-8. Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce.

HS-LS4-6. Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.*

HS.Inheritance and Variation of Traits Performance Expectations

HS-LS3-2. Make and defend a claim based on evidence that inheritable genetic variations may result from: (1) new genetic combinations through meiosis, (2) viable errors occurring during replication, and/or (3) mutations caused by environmental factors.

HS-LS3-3. Apply concepts of statistics and probability to explain the variation and distribution of expressed traits in a population.

HS.Natural Selection and Evolution

Performance Expectations

HS-LS4-1. Communicate scientific information that common ancestry and biological evolution are supported by multiple lines of empirical evidence.

HS-LS4-2. Construct an explanation based on evidence that the process of evolution primarily results from four factors: (1) the potential for a species to increase in number, (2) the heritable genetic variation of individuals in a species due to mutation and sexual reproduction, (3) competition for limited resources, and (4) the proliferation of those organisms that are better able to survive and reproduce in the environment.

HS-LS4-4. Construct an explanation based on evidence for how natural selection leads to adaptation of populations.

HS-LS4-5. Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species.

NGSS: Disciplinary Core Ideas

NGSS: 9-12

LS3: Heredity: Inheritance and Variation of Traits

LS3.B: Variation of Traits

Environmental factors also affect expression of traits, and hence affect the probability of occurrences of traits in a population. Thus the variation and distribution of traits observed depends on both genetic and environmental factors. (HS-LS3-2),(HS-LS3-3)

CT: ASTE-Agricultural Science and Technology Education Standards 2014

Grades 9-12

Plant Science

Pathway Content Standard: The student will demonstrate competence in the application of scientific principles and techniques to the production and management of plants

CT-PS.01.01. Performance Indicator: Classify agricultural plants according to taxonomy systems

CT-PS.01.02. Performance Indicator: Apply knowledge of plant anatomy and the functions of plant structures to activities associated with plant systems.

CT-PS.02.01. Performance Indicator: Determine the influence of environmental factors on plant growth.

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Access the interactive version of the NGSS [here](#)

Critical Content & Skills

What students must **KNOW and be able to DO**

Content

Topic

(What students must know in order to demonstrate Skills)

Skills

Indigenous Plants

Locate Host Plants, Indigenous Plants, Invasive Plants, Keystone Species.

Identify Keystone Species within our Local

Defend Identification of Host Plants, Indigenous Plants, Invasive Plants.

Discuss the relationship of Host Plants, Indigenous Plants, Invasive Plants.

Binomial
Nomenclature

Classify Plants: Domain, Kingdom, Phylum, Class, Order, Family, Genus, Species

Environment

Map Host Plants, Indigenous Plants

Remove Invasive Plants

Classify Plants with the Linnaeus System
Name Plants Utilizing Binomial Nomenclature

Compare Characteristics of Plants using Binomial Nomenclature

Organize Plant Fruits & Flowers according to Characteristics within the Linnaeus System

Core Learning Activities

Planting Pollinator Garden

Pollinator [Pathway](#) Site Assessment

Using Native Plants [Notes](#)

Using Native Plants [Worksheet 1](#)

Using Native Plants [Worksheet 2](#)

Using Native Plants [Worksheet 3](#)

Using Native Plants [Worksheet 4](#)

Using Native Plants [Crossword](#)

Using Native Plants [Quiz](#)

Classifying and Naming Plants (Taxonomy) [Notes](#)

Classifying and Naming Plants (Taxonomy) [Worksheet](#)

Classifying and Naming Plants (Taxonomy) [Crossword](#)

Classifying and Naming Plants (Taxonomy) [Quiz](#)

Using Dichotomous Keys [GIZMO](#)

Assessments

Resources

Professional & Student

Using Native Plants

** Minnesota Department of Natural Resources -
Landscaping with Native Plants

A good example of information provided by a state. Includes landscaping information, plant sources, species listing, etc.
<https://www.dnr.state.mn.us/gardens/nativeplants/index.html>

** K-State University - Prairie Flowers: Hardy for Kansas
2:12-minute video shows examples of native plants suitable for Kansas.

<https://www.youtube.com/watch?v=Wi8Nq4REB2g>

** PlantNative - Making a Naturescape Plan

Choosing native trees, shrubs and herbaceous plants for an urban setting

http://www.plantnative.org/how_plan.htm

** PlantNative - Community Services Directory

Find national or regional organizations offering information about native plantings.

http://www.plantnative.org/cs_nat_reg.htm

** University of Florida Extension - Native Plants: An Overview

A fact sheet on how "native" is defined

<http://edis.ifas.ufl.edu/ep297>

** University of Illinois - Using Native Plants in the Garden

<https://extension.illinois.edu/downloads/hkmw/45648.pdf>

** Utah State University Forestry Extension - Are Native Trees Always the Best Choices?

<https://forestry.usu.edu/trees-cities-towns/tree-selection/native-trees>

** Wild Ones

A not-for-profit environmental education group advocating native plants and natural landscapes

<https://wildones.org/>

Student Learning Expectation & 21st Century Skills

Information Literacy

Critical Thinking

Spoken Communication

Written Performance

Interdisciplinary Connections

Biology

Botany

Chemistry

Ecology

Environmental Science

Geology

Language Arts

Personal Financial Literacy

Business Foundations

Digital Media & Communications

Fine Arts



Unit Planner: Composting & Soil Food Web Greenery (1 & 2)

Friday, November 4, 2023, 1:47 PM

Newtown High School / 2022-2023 / High School / BEAT/Science / Greenery (1 & 2) / Week 1 - Week 10

Last Updated: Monday, October 31, 2022
by Shawn Mullen

Composting & Soil Food Web
Mullen, Shawn; Stamm, Anastasia

- [Unit Planner](#)
- [Lesson Planner](#)

Concept-Based Unit Development Graphic Organizer (Download)

Unit Web Template (Optional)

Concepts / Conceptual Lens

Please attach your completed Unit Web Template here

Lens: Interdependence

Concepts: Soil, Organisms, Plants, Decomposition, Survival, Nutrition, Environment, Ecosystem

G	Guiding Questions
Generalizations / Enduring Understandings	<i>Please identify the type of question: (F) Factual, (C) Conceptual, (P) Provocative [Debatable]</i>
1. Soil, a complex living ecosystem, comprises billions of organisms from thousands of species.	FACTUAL What is the soil food web? (G2) What is decomposition? (G5) What is a healthy ecosystem? (G1, G5) What is PH? (G3) What is moisture? (G3)
2. All plants - grass, trees, shrubs, agricultural crops - depend on the soil food web for their nutrition.	What is temperature? (G3) What is air flow? (G3) What is symbiosis? (G2, G5) What roles do microorganisms play in the soil food web? (G2, G3)
3. Microorganisms can only survive in optimal conditions.	CONCEPTUAL What are optimal conditions for microorganism survival? (G3) How does soil quality impact plant survival? (G1, G3)
4. Decomposition of organic	How does PH Level effect soil and compost? (G3)

matter in soils is vital for the survival of any ecosystem.

5. As individual plants and soil organisms work to survive, they depend on interactions with each other.

What is the relationship between plants, soil, and nutrients? (G2, G5)

How can moisture content effect the rate of decomposition within a compost pile? (G4)

What could happen to plants if decomposition did not occur? (G4, G5)

PROVOCATIVE

What is the most effective method of starting a compost pile? (G4, G5)

Is composting food scraps from a home kitchen worthwhile? (G2)

Standard(s)

Connecticut Core Standards / Content Standards

NGSS: Science Performance Expectations (2017)

NGSS: HS Life Sciences

HS.Matter and Energy in Organisms and Ecosystems

Performance Expectations

HS-LS2-3. Construct and revise an explanation based on evidence for the cycling of matter and flow of energy in aerobic and anaerobic conditions.

HS.Interdependent Relationships in Ecosystems

Performance Expectations

HS-LS2-6. Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem.

HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.*

CT: CTE: Agricultural Science (2011)

Grades 9-12

Plant Science

A. Plant Science: Understand the concepts and skills necessary related to plant science technology.

3. Describe the influence of soil (including growing media), water and other environmental factors on horticultural plant growth.

CT: ASTE-Agricultural Science and Technology Education Standards 2014

Grades 9-12

Agriculture, Food, and Natural Resources Foundation Skills

CT-FS.09. Performance Element: Scientific Inquiry: Utilize scientific inquiry as an investigative method.

CT-FS.09.02. Performance Indicator: Design and conduct a scientific investigation.

Natural Resources Systems

Pathway Content Standard: The student will demonstrate competence in the application of scientific principles and techniques to the management of natural resources.

CT-NRS.01. Performance Element: Explain interrelationships between natural resources and humans necessary to conduct management activities in natural environments.

CT-NRS.01.01. Performance Indicator: Apply knowledge of natural resource components to the management of natural resource systems

CT-NRS.01.02. Performance Indicator: Classify natural resources.

CT-NRS.02.01. Performance Indicator: Develop a safety plan for work with natural resources.

CT-NRS.06.01. Performance Indicator: Apply soil science principles to environmental service systems

Plant Science

Pathway Content Standard: The student will demonstrate competence in the application of scientific principles and techniques to the production and management of plants

CT-PS.02.02. Performance Indicator: Evaluate soil/media and prepare soil/growth media for use in plant systems

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Critical Content & Skills

*What students must **KNOW and be able to DO***

TOPIC	CONTENT	SKILLS
Microbes	Describe the effects of "Good" Microbes and "Bad" Microbes in Compost & Soil	Harvest Lactobacillus bacteria from rice
	Explain the role of Microbes in Compost & Soil	Make Compost Teas
	Select the best method for harvesting Microbes from Compost & Soil	Apply Compost Teas
	Manage the Microbes in Compost & Soil	Inoculate Soil with Lactobacillus
	Distinguish between three groups of bacteria working at three different temperature zones: Psychrophilic, Mesophilic, and Thermophilic bacteria	
Micro & Macro Invertebrates	Define the role of Micro-invertebrates / Macro-invertebrates in the Food Web and Decomposition.	Identify the Role of Micro-invertebrates / Macro-invertebrates in the Food Web and Decomposition.
	Explain positive & negative effects of Micro-invertebrates / Macro-invertebrates in the Food Web and Decomposition.	Predict positive & negative effects of Micro-invertebrates / Macro-invertebrates in the Food Web and Decomposition in the Garden at NHS.
	Explain the role of PH, Moisture, Temperature, and Air Flow in maintaining a productive compost pile.	Monitor the moisture, pH, air flow, and temperature in our school compost pile.
Environmental Factors	Define the three phases that compost can be in under various temperatures: Psychrophilic, Mesophilic, and Thermophilic phases.	Amend the compost pile according to moisture, pH, air flow, and temperature
	Explain how PH, Moisture, Temperature, and Air Flow	Determine the current phase of the composting process by measuring the

are interdependent to one another in composting and decomposition.

Identify Micro/Macro Nutrients & **Indicate** Necessary Elements & Minerals: Nitrogen, Phosphorus, Potassium, Calcium, Sulfur, Magnesium, Iron, Manganese, Copper, Zinc, Boron, Chloride, Molybdenum

Elements and Minerals

Monitor environmental factors (PH, Moisture, Temperature, Air Flow) in nutrient uptake.

Explain effects of environmental factors (PH, Moisture, Temperature, Air Flow) in nutrient uptake.

Utilize Mycorrhizal Fungi in soil and compost

Fungi

Understand complex interrelationship of plants & fungi

Describe symbiotic relationship of fungi and plants

temperature within the compost pile.

Identify when it is appropriate to mix the contents of the pile according to temperature.

Test soil and compost for Nutrient Levels

Make amendment decisions based on Nutrient Level in soil and compost

Survey Elements & Minerals in soil and compost

Feed & Maintain soil and compost in the Garden & Greenhouse

Harvest indigenous fungi

Monitor campus fungi levels

Adjust environmental factors (PH, Moisture, Temperature, Air Flow) to ensure fungi grow and thrive.

Core Learning Activities

Composting [Slideshow](#)

Composting [Vocabulary](#)

Composting [Worksheet](#)

Composting [Crossword Puzzle](#)

Compost [campaign](#)

soil testing and other soil based [activities](#)

Garden Soil [Lesson](#)

[Dig Deeper](#) (soil activities and games)

Compost Jin [card game](#)

compost [teas](#)

[Making LAB](#) (Lactobacillus)

[Korean](#) Natural Farming Practices

Fermented plant [extract](#) and [juices](#)

Properties of Soil [Slideshow](#)

Properties of Soil [Background Information](#)

Properties of Soil [Worksheet](#)

Properties of Soil [Crossword Puzzle](#)

Assessments

**Properties of
Soil Test**

**Summative:
Written Test**

[Properties of
Soil Test](#)

**Composting
Test**

**Summative:
Written Test**

[Composting
Test](#)

Cornell

**Compost Quiz
Game**

**Summative:
Written Test**

[Cornell
Composting](#)

[Quiz Game](#)

Resources

Professional & Student

[Cornell Composting](#)

[Composting 101](#)

[Soils 4 Teachers](#)

** Colorado State University Extension - Composting Yard Waste
<http://extension.colostate.edu/docs/pubs/garden/07212.pdf>

** Cornell Waste Management Institute - Composting
Includes resources on composting for farms, residences and businesses
<http://cwmi.css.cornell.edu/composting.htm>

** Lowe's Project Center - Making Compost
<https://www.lowes.com/projects/gardening-and-outdoor/learn-to-compost/project>

** National Public Radio - Science Friday Videos - A Compost Guru Shares His Secrets 3:59-minute video interviewing Malcolm Beck of Texas
<https://vimeo.com/30598097>

** North Carolina Cooperative Extension Service - Backyard Composting of Yard, Garden, and Food Discards
<https://content.ces.ncsu.edu/backyard-composting-of-yard-garden-and-food-discards>

** North Carolina State University - Vermicomposting for Households
Vermicomposting uses worms in the composting process.
<https://composting.ces.ncsu.edu/vermicomposting-2/vermicomposting-for-households/>

** Ohio State University - Compost Facility Tour, Part I
<https://plantfacts.osu.edu/movies/abstract.lasso?id=1906a>

** Ohio State University - Compost Facility Tour, Part II
<https://plantfacts.osu.edu/movies/abstract.lasso?id=1906b>

** Ohio State University Extension - Composting at Home
http://www.therockpile.com/wp-content/uploads/2010/01/OSU_composting.pdf

** U.S. Environmental Protection Agency - Composting at Home
A good basic description of composting, including lists of what should and should not be composted
<https://www.epa.gov/recycle/composting-home>

** U.S. National Arboretum - Creating Compost
A simple description of composting
<https://www.usbg.gov/creating-compost>

** University of Florida Extension - Farm Scale Composting

http://blogs.ifas.ufl.edu/smallfarms/2017/11/30/composting/?mc_cid=64fe46323f&mc_eid=b9bb859ac1

**** University of Minnesota Extension Service - Composting and Mulching**
<https://conservancy.umn.edu/bitstream/handle/11299/54827/3296.pdf>

**** University of Missouri-Columbia - Making and Using Compost**
Includes detailed information for constructing compost piles
<https://extension2.missouri.edu/G6956>

**** Whatcom County Public Works - Easy Composting**
Includes two methods for making compost -- an easy way and a quicker way
<http://www.whatcomcounty.us/DocumentCenter/View/1871/Easy-Composting-PDF>

Soils

**** Dr. Dirt - Soil Air and Composition**
Uses marbles, golf balls, beads, and water to illustrate soil components
<https://www.doctordirt.org/teachingresources/idealsoil>

**** Smithsonian Environmental Research Center - Dig It! The Secrets of Soil**
Reports on an exhibit at the Smithsonian Museum of Natural History
<http://forces.si.edu/soils/> **** U.S. Department of Agriculture - FFA Students Learn To Judge Land And Soil**
1:38-minute video showing FFA students in soils judging contest
<https://www.youtube.com/watch?v=jj3eEbxDmr8>

**** USDA Natural Resources Conservation Service (NRCS) - Soils home page**
<https://www.nrcs.usda.gov/wps/portal/nrcs/site/soils/home/>

**** USDA (NRCS) - Distribution Maps of Dominant Soil Orders**
Shows photos of each type of soil and maps showing where those types are found.
https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/class/?cid=nrcs142p2_053589

Student Learning Expectation & 21st Century Skills

Information Literacy
Critical Thinking
Spoken Communication
Written Performance

Interdisciplinary Connections

Biology

Botany

Chemistry

Ecology

Environmental Science

Geology

Language Arts

Personal Financial Literacy

Business Foundations

Digital Media & Communications

Fine Arts



Unit Planner: Enterprise Practices & Career Readiness Greenery (1 & 2)

Newtown High School / 2022-2023 / High School / BEAT/Science /
Greenery (1 & 2) / Week 2 - Week 18

Last Updated: Wednesday, June 29, 2022
by Shawn Mullen

Enterprise Practices & Career Readiness

Mullen, Shawn; Stamm, Anastasia

- [Unit Planner](#)
- [Lesson Planner](#)

Concept-Based Unit Development Graphic Organizer (Download)

Unit Web Template (Optional)

Concepts / Conceptual Lens

Please attach your completed Unit Web Template here

Lens: Systems

Concepts: Enterprise, Opportunity, Industry, Supply & Demand, Profit, Marketing, Design, Safety

G

Generalizations / Enduring Understandings

1. The US Agriculture Industry provides a multitude of career opportunities - no farms, no food.
2. Different careers require employees to possess specific skills and traits.
3. Safety practices and systems ensure all are safe in a working environment.
4. Effective marketing and supply & demand practices drive enterprise success, measured by profit margin.

Guiding Questions

Please identify the type of question: (F) Factual, (C) Conceptual, (P) Provocative [Debatable]

FACTUAL

What is an enterprise? (G4)

What career opportunities are available in the agriculture industry? (G1)

What skills and traits should a person possess for specific careers within the agriculture industry? (G2)

What safety practices must we follow in the lab, greenhouse, and garden? (G3)

CONCEPTUAL

What systems can be put in place to ensure all work safely in the lab, greenhouse, and garden? (G3)

What are different marketing strategies for different target consumers? (G4)

How can profit from sales efforts be guaranteed? (G4)

How does an enterprise determine which products to sell? (G4)

PROVOCATIVE

How can an organization ensure each individual and the

job they perform is vital to greater success? (G1)

What are the best ways to market a product? (G4)

What makes the design of a product aesthetically pleasing to different consumers? (G4)

Standard(s)

Connecticut Core Standards / Content Standards

NGSS: Crosscutting Concepts

NGSS: 9-12

Crosscutting Statements

1. Patterns – Observed patterns in nature guide organization and classification and prompt questions about relationships and causes underlying them.

Patterns of performance of designed systems can be analyzed and interpreted to reengineer and improve the system.

2. Cause and Effect: Mechanism and Prediction – Events have causes, sometimes simple, sometimes multifaceted. Deciphering causal relationships, and the mechanisms by which they are mediated, is a major activity of science and engineering.

Systems can be designed to cause a desired effect.

4. Systems and System Models – A system is an organized group of related objects or components; models can be used for understanding and predicting the behavior of systems.

Systems can be designed to do specific tasks.

7. Stability and Change – For both designed and natural systems, conditions that affect stability and factors that control rates of change are critical elements to consider and understand.

Feedback (negative or positive) can stabilize or destabilize a system.

Connections to Engineering, Technology and Applications of Science

Interdependence of Science, Engineering, and Technology

Science and engineering complement each other in the cycle known as research and development (R&D).

CT: CTE: Agricultural Science (2011)

Grades 9-12

Plant Science

D. Marketing: Understand the sequence of the channels of distribution and marketing including their impact on the agriculture industry.

20. Understand supply and demand principles in Agriculture, Food, and Natural Resource systems.

21. Identify strategies frequently employed in agricultural marketing programs.

22. Define the concept of profit and loss in agricultural business.

24. Explain the impact of positive customer/client relations.

E. Career Exploration and Development: Understand the diversity of careers related to the agricultural industry and strategies to acquire and advance in an agricultural career.

25. Identify the employability skills required for various careers in agriculture.

28. Identify ways to develop and maintain professional relationships to enhance career success.

CT: ASTE-Agricultural Science and Technology Education Standards 2014

Grades 9-12

Agriculture, Food, and Natural Resources Foundation Skills

CT-FS.02. Performance Element: Career Success: Demonstrate those qualities, attributes and skills necessary to succeed in, or further prepare for, a chosen career.

CT-FS.02.01. Performance Indicator: Understand the use and application of information-based technologies necessary for career success in agriculture

CT-FS.03. Performance Element: Utilize economic principles to establish and manage an AFNR enterprise.

CT-FS.03.01. Performance Indicator: Understand the sequence of the channels of distribution and marketing including their impact on the agriculture industry.

CT-FS.04. Performance Element: Apply principles of environment science.

CT-FS.04.01. Performance Indicator: Observe required regulations to maintain/improve safety, health and environmental management systems.

CT-FS.05. Performance Element: Apply safety/health practices to AFNR worksites.

CT-FS.05.04. Performance Indicator: Assess workplace safety.

CT-FS.07. Performance Element: Utilize appropriate management planning principles in AFNR business enterprises.

CT-FS.07.01. Performance Indicator: Apply economic principles to AFNR systems (e.g., supply, demand and profit).

CT-FS.07.02. Performance Indicator: Apply skills with computer software to accomplish a variety of business activities.

CT-FS.08.0. Performance Element: Utilize technology within AFNR.

CT-FS.08.02. Performance Indicator: Relate technology advancements to the need for Continuing Education/Career Development.

CT-FS.10. Performance Element: Technical Skills: Compare and contrast issues affecting the AFNR industry.

CT-FS.10.01. Performance Indicator: Apply economic principles to AFNR systems (e.g., supply, demand and profit).

CT-FS.10.02. Performance Indicator: Apply skills with computer software to accomplish a variety of business activities.

CT-FS.10.03. Performance Indicator: Flexibility / Adaptability: Describe traits that enable one to be capable and willing to accept change.

CT-FS.11. Performance Element: Systems: Examine roles within teams, work units, departments, organizations, inter-organizational systems, and the larger environment.

CT-FS.11.01. Performance Indicator: Examine performance and goals to appreciate organizations and industries within AFNR.

CT-FS.12. Performance Element: Systems: Identify how key organizational structures and processes affect organizational performance and the quality of products and services.

CT-FS.12.01. Performance Indicator: Manage organizational structures and processes to better serve customers.

Leadership Skills

Pathway Content Standard: The student will demonstrate competence in the application of leadership, personal growth and career success skills necessary for a chosen profession while effectively contributing to society

CT-LS.01.01. Performance Indicator: Action: Exhibit the skills and competencies needed to achieve a desired result

CT-LS.01.02. Performance Indicator: Relationships: Build a constituency through listening, coaching, understanding and appreciating others.

CT-LS.02. Performance Element: Personal Growth: Develop a skill set to enhance the positive evolution of the whole person.

CT-LS.02.03. Performance Indicator: Professional Growth: Develop awareness and apply skills necessary for achieving career success.

CT-LS.02.04. Performance Indicator: Mental Growth: Demonstrate the effective application of reasoning, thinking, and coping skills.

CT-LS.03. Performance Element: Career Success: Demonstrate those qualities, attributes and skills necessary to succeed in, or further prepare for, a chosen career while effectively contributing to society.

CT-LS.03.01. Performance Indicator: Communication: Demonstrate oral, written and verbal skills

CT-LS.03.03. Career Exploration and Development: Understand the diversity of careers related to the agricultural industry and strategies to acquire and advance in an agricultural career

Natural Resources Systems

Pathway Content Standard: The student will demonstrate competence in the application of scientific principles and techniques to the management of natural resources.

CT-NRS.01. Performance Element: Explain interrelationships between natural resources and humans necessary to conduct management activities in natural environments.

CT-NRS.01.01. Performance Indicator: Apply knowledge of natural resource components to the management of natural resource systems

CT-NRS.03.01. Performance Indicator: Produce, harvest, process and use natural resource products

CT-NRS.05.01. Performance Indicator: Communicate natural resource information to the public

Plant Science

CT-PS.03. Performance Element: Propagate culture and harvest plants.

CT-PS.03.04. Performance Indicator: Apply principles and practices of various plant production methods to meet

the needs of the market.

CT-PS.04. Performance Element: Employ elements of design to enhance an environment.

CT-PS.04.01. Performance Indicator: Create designs using plants.

CT-PS.04.02 Performance Indicator: Determine supplies needed to create landscape designs and develop a marketing plan

Power Structural and Technical Systems (Agriculture Mechanics)

CT-PST.05. Performance Element: Plan, build and maintain agricultural structures.

CT-PST.05.01. Performance Indicator: Create sketches and plans of agricultural structures.

CT-PST.05.03. Performance Indicator: Examine structural requirements for materials and procedures and estimate construction cost.

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 Access the interactive version of the NGSS [here](#)

Critical Content & Skills

*What students must **KNOW and be able to DO***

<u>Topic</u>	<u>Content</u>	<u>Skills</u>
Safety	Demonstrate use of tools and equipment aligning with safe work habits.	Exhibit safe work practices in the lab, greenhouse, and garden.
	Recognize when others do something unsafely, and help to redirect to work more safely Develop purchase lists for plant sales.	Implement safe use of tools and equipment in the lab, greenhouse, and garden.
Sales, Finance, & Budgeting	Determine pricing for plant sales.	Collaborate with peers to make decisions for plant sales
	Analyze profit margin for plant sales. Design systems to monitor & document inventory, sales, and deposits.	Manage pricing, bookkeeping, and inventory for plant sales Execute plant sales
Marketing & Advertising	Create systems for communicating upcoming sales to consumers.	Produce marketing materials for distribution to bring awareness of sales to consumers.
	Design systems for selling products to consumers during sales periods. Survey past and future consumers to determine product demand	Communicate with consumers the methods for transactions and delivery of plants.
Agricultural & Floral Design	Design aesthetically pleasing outdoor landscaping that is appropriate for the project scope and function.	Construct aesthetically pleasing outdoor landscaping that is appropriate for the project scope and function.
	Design aesthetically pleasing indoor arrangements (centerpieces/wreathes/bouquets,	Create aesthetically pleasing indoor arrangements (centerpieces/wreathes/bouquets,

etc) of cut plants/flowers, appropriate for the project scope and function.

Explore careers within the Agriculture Industry

Occupational
Preparation

Determine individual aptitude & interest in specific careers within the Agriculture Industry

Discuss logistics and management systems within the Agriculture Industry.

etc) of cut plants/flowers, appropriate for the project scope and function.

Research careers within the Agriculture Industry

Express rationale for personal aptitude & interest in specific careers within the Agriculture Industry

Compare logistics and management systems within the Agriculture Industry to those systems used working in our Greenhouse and Garden.

Core Learning Activities

Productivity/Professionalism Rubric

Generic Flyer Document

Fall Mums sale

Fall Mums Flyer

Learning About Chrysanthemums Notes

Learning About Chrysanthemums Worksheet

Learning About Chrysanthemums Crossword

Learning About Chrysanthemums Quiz

Holiday Centerpiece Photos

Holiday Centerpieces Rubric

Holiday Poinsettia Sale

Video about the Paul Ecke Poinsettia Ranch

Growing Poinsettias Notes

Growing Poinsettias Worksheet

Growing Poinsettias Crossword

Growing Poinsettias Quiz

Valentines Day Carnation Sale

Valentines Day Flyer

Spring Plant sale Flyer

Spring Sale Advertisement for faculty and staff

Assessments

Career Profile

Summative: Exhibition

develop an understanding of several jobs related to the field of Greenery, Agriculture, Botany, Farming, Soil management, Etc.

Career Profile

Resources

Professional & Student

US Dept of Agriculture Careers

Agriculture Careers Database by US Region

US Occupational Health & Safety Administration - Agricultural Operations

US Dept of Agriculture - Nat'l Institute of Farms & Agriculture - Farm Safety

Student Learning Expectation & 21st Century Skills

Information Literacy

Critical Thinking

Spoken Communication

Written Performance

Interdisciplinary Connections

Biology

Botany

Chemistry

Ecology

Environmental Science

Geology

Language Arts

Personal Financial Literacy

Business Foundations

Digital Media & Communications

Fine Arts

DRUG-FREE WORK PLACE

The Newtown Board of Education, working with the Superintendent, will provide a drug-free work place in accordance with applicable federal and state statutes and regulation. As such, the Newtown Board of Education certifies it will:

1. Notify all employees in writing that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the school district's work place and specify the actions that will be taken against employees for violation of such prohibitions.
2. Establish a drug-free awareness program to inform employees about the dangers of drug abuse; the district's policy of maintaining a drug-free work place; any available drug counseling, rehabilitation, and employee assistance programs; and the penalty that may be imposed on employees for drug abuse violations occurring in the work place.
3. Make it a requirement that each employee be given a copy of the statement concerning a drug-free work place.
4. Notify the employees in the required statement that as a condition of employment, the employees will abide by the terms of the statement and will notify the district of any criminal drug statute conviction for a violation occurring in the work place no later than five (5) days after such conviction.
5. Notify the federal agency within ten (10) days after receiving notice from any employee or otherwise receiving notice of such conviction.
6. Indicate to employees that their failure to report incidents of violations of this policy by other employees not only violates their obligations to the board to assist in the maintenance of a safe and healthy work place, but also denies the offending party an opportunity for rehabilitation prior to the possible occurrence of more serious actions and/or consequences.
7. Based on the severity of the incident, choose one of the following actions within thirty (30) days of receiving notice with respect to any employee who is so convicted: take appropriate personnel action against such an employee, up to and including termination; or require such employee to participate satisfactorily in a drug abuse assistance or rehabilitation program approved for such purposes by federal, state, or local health, law enforcement, or other appropriate agency.

Reference: 10-154a, 10-221(d)

Adopted 11/19/90

Modified 10/10/95, 11/12/97

Personnel – Certified/Non-Certified

Alcohol, Tobacco, and Drug-Free Workplace

The purpose of this policy is to establish a workplace that is free of the effects of alcohol and second-hand smoke, and free from drug abuse. By accomplishing this purpose, the Board also seeks to promote a safe, healthy working environment for all employees and to reduce absenteeism, tardiness, and other job performance problems that may be caused by alcohol and/or drug abuse. This policy is adopted in accordance with state law and the Drug Free Workplace Act.

Definitions

“**Any area**” means the interior of a school building and the outside area within twenty-five feet of any doorway, operable window or air intake vent of a school building.

“**Cannabis**” means marijuana, as defined in Conn. Gen. Stat. § 21a-240.

“**Controlled substance**” means a controlled substance in schedules I through V of section 202 of the Comprehensive Drug Abuse Prevention and Control Act of 1970 (21 U.S.C. 812), including marijuana.

“**Inhalant**” means use of products in a manner not intended and for the purpose of becoming “high” or intoxicated.

“**Electronic cannabis delivery system**” means an electronic device that may be used to simulate smoking in the delivery of cannabis to a person inhaling the device and includes, but is not limited to, a vaporizer, electronic pipe, electronic hookah and any related device and any cartridge or other component of such device.

“**Electronic nicotine delivery system**” means an electronic device used in the delivery of nicotine to a person inhaling from the device, and includes, but is not limited to, an electronic cigarette, electronic cigar, electronic cigarillo, electronic pipe or electronic hookah and any related device and any cartridge or other component of such device, including, but not limited to, electronic cigarette liquid or synthetic nicotine.

“**School property**” means any land and all temporary and permanent structures comprising the district’s school and administrative office buildings and includes, but is not limited to, classrooms, hallways, storage facilities, theatres, gymnasiums, fields, and parking lots.

“**School-sponsored activity**” means any activity sponsored, recognized, or authorized by a board of education and includes activities conducted on or off school property.

“**Smoke**” or “**smoking**” means the burning of a lighted cigar, cigarette, pipe or any other similar device, whether containing, wholly or in part, tobacco, cannabis or hemp.

P4118.231(b)
4218.231

“Vapor product” means any product that employs a heating element, power source, electronic circuit or other electronic, chemical or mechanical means, regardless of shape or size, to produce a vapor that may or may not include nicotine or cannabis and is inhaled by the user of such product.

Employees shall not be involved with the unlawful manufacture, distribution, possession, or use of an illegal drug, a controlled substance, ~~or~~ alcohol, or inhalant and shall not be under the influence of such substances while on school property or while conducting Board business on or off school property. Any employee who discovers illegal drugs, a controlled substance, ~~or~~ alcohol, or inhalant on school property shall notify the Superintendent or the Superintendent’s designee who shall investigate the matter.

An employee must report any conviction under a criminal drug statute for violations occurring on or off school property while on Board business to the Superintendent or his/her designee within five (5) days after the conviction. The Board will notify any agency awarding a grant to the Board of such conviction within ten (10) days thereafter.

Employees shall only use prescription drugs on school property, or during the conduct of Board business, that have been prescribed to them by a licensed medical practitioner, and such drugs shall be used only as prescribed. However, in accordance with Conn. Gen. Stat. § 21a-408a through 408q, the Board specifically prohibits the palliative use of marijuana on school property, at a school-sponsored activity, or during the conduct of Board business, and specifically prohibits employees from being under the influence of intoxicating substances during work hours.

The Board prohibits smoking, including smoking using an electronic nicotine delivery system (e.g., e-cigarettes), electronic cannabis delivery system, or vapor product, and the use of tobacco products in any area of a school building, on school property, including property owned, leased, contracted for, or utilized by the Board, or at any school-sponsored activity.

While Connecticut law allows for the legal use of marijuana under certain circumstances, because marijuana use is still prohibited under federal law, the use of marijuana at work, or outside of work if it impairs an employee’s ability to perform their job, constitutes a violation of this policy.

Violations of this policy may result in disciplinary action, up to and including possible termination of employment.

Employee Assistance

In appropriate circumstances, the Board shall provide an employee with an opportunity for rehabilitation in overcoming addiction to, dependence upon or other problem with alcohol or drugs.

Employees who feel they have developed an addiction to, dependence upon, or other problem with alcohol or drugs are encouraged to seek assistance. Certain benefits for alcoholism or drug addiction are provided under the Board's group medical insurance plan. An employee may be given an opportunity to participate in a rehabilitation program that requires absence from work for bona fide treatment. Such absence may be charged to the employee's accrued and unused sick leave, subject to the provisions of the employee's collective bargaining agreement and/or any applicable Board policies and regulations.

P4118.231(c)
4218.231

Any request for assistance with a drug or alcohol problem will be treated as confidential and only those persons "needing to know" will be made aware of such request.

Legal References:

Connecticut General Statutes:

Conn. Gen. Stat. § 10-233a(h) (definition of school-sponsored activity)

Conn. Gen. Stat. § 19a-342

Conn. Gen. Stat. § 19a-342a

Conn. Gen. Stat. § 21a-408a through 408q (palliative use of marijuana)

June Special Session, Public Act No. 21-1

United States Code:

Pro-Children Act of 2001, 20 U.S.C. § 7973, as amended by the Every Student Succeeds Act, Public Law 114-95, § 4001

Drug Free Workplace Act, 41 U.S.C. § 8101 et seq.

Personnel -- Certified/Non-Certified

Recruitment and Selection

The Board of Education (Board) believes in recruiting and employing the best certified and non-certified talent available and believes that those who are most familiar with the needs of our classrooms and schools and who are also most knowledgeable about the skills and expertise needed are the ones best able to recruit and identify such talent. Therefore, the board authorizes the Superintendent or his/her designee(s) to recruit and hire the district's non-administrative certified and non-certified staff.

Further, the Board recognizes the importance of the contributions provided by a diverse workforce. Therefore, the Board believes it is important that diversity be recognized in the recruitment, hiring, promotion and assignment of personnel. The administration shall be responsible for establishing fair and sound recruitment, selection and appointment procedures that abide by the Board's Equal Employment Opportunity (P4111.1/4311.1) and Plan for Minority Recruitment and Selection (P4111.3/4211.3) policies.

On the application form, an applicant for such a position in the school district shall disclose any previous relationship with the Superintendent or any administrator or Board member. Previous relationships will include any business, financial, personal, political or family connections. Prior to hiring a candidate, the superintendent will inform the Board of any such relationship

(cf. 4115 – Evaluation)

Legal Reference: Connecticut General Statutes
10-151 Employment of teachers. Notice and hearing on termination of contract (as amended by P.A. 12-116 An Act Concerning Educational Reform)
10-153 Discrimination on account of marital status.
10-183v Reemployment of teachers, as amended by P.A. 10-111, An Act Concerning Education Reform in Connecticut, P.A. 16-91, An Act Making Changes to the Teachers' Retirement System, and PA 17-173 An Act Concerning Minor Revisions and Additions to the Education Statutes
10-220 Duties of Boards of Education.
31-126 Unfair Employment Practices
46a-60 Discriminatory employment practices prohibited.
P.L. 114-95 Every Student Succeeds Act, S.1177-55, 56

Policy adopted: November 7, 2017

NEWTOWN PUBLIC SCHOOLS
Newtown, Connecticut

Administration

Hiring School Administrators

The Board of Education (Board) recognizes that the Superintendent is its sole employee, and also that the district requires an administrative staff that will work productively and efficiently with the Superintendent. The Board further recognizes that administrators have a large impact on students and staff. Therefore, the Superintendent and the Board shall work cooperatively when recruiting and hiring administrative staff.

Hiring Procedure

There shall be a Search Committee for each open administrative position consisting of district staff and parents as the Director of Human Resources or his/her designee deems appropriate and shall also include up to two Board representatives as selected by the Board Chair. The Superintendent shall not be a member of the Search Committee. The Search Committee shall forward two or more potential candidates to the Superintendent who will form an advisory Selection Committee that includes others he/she feels warranted and up to two Board members. The Board members shall be selected by the Chair and shall not include those who served on the Search Committee for the position.

The Superintendent shall send his/her recommendation(s) to the Board at least five calendar days prior to a regular or special Board meeting in which the Board will accept or reject said recommendations. This meeting shall be held no later than one calendar month after receiving the Superintendent's selection(s). If the Board should reject all of the Superintendent's nominations, this procedure shall be repeated.

Alternative Procedure

Upon request of the Superintendent, the Board may vote to fully authorize the Superintendent and his/her staff to recruit and hire for a specified open position. This process may include up to two Board members, if included in said authorization.

Legal Reference: Connecticut General Statutes

10-151(b) Employment of teachers. Definitions. Tenure, etc. (as amended by P.A. 12-116, An Act Concerning Education Reform)

Personnel – Certified/Non-Certified

Substitute Teachers

The Superintendent shall, within budgetary provisions, make every effort to provide substitute teachers during the absence of the regular teacher. Insofar as possible, the substitute teacher shall continue the academic work of the class as planned. Teachers shall have plans prepared for use when they are absent. The substitute teacher must be qualified to implement the lesson plan and accomplish the goals set by the classroom teacher.

Suitable programs for hiring, training, assigning, orienting and evaluating the work of substitute teachers shall be provided by the District.

Rates of compensation for substitute teachers will be set by the Board of Education.

~~Substitute teachers will not participate in the health and welfare plans or other fringe benefits of the school system.~~

Retired teachers may be employed as substitute teachers without jeopardizing their retirement salary within the limits as prescribed by law.

Legal Reference: Connecticut General Statutes

[10-183v](#) Reemployment of teachers.

[10-145a](#) Certificates of qualification for teachers.

Policy adopted:

Personnel – Certified/Non-Certified

Substitute Teachers

Definitions

1. A **daily substitute teacher** is a person who has earned a Bachelor's Degree, is fully qualified to instruct in our schools and who is employed for short periods of time in the absence of the regular teacher. The Commissioner of Education may waive requirement for a Bachelor's Degree for good cause upon the request of the Superintendent of Schools.
2. A **long-term substitute teacher** is a person who substitute teaches in the same assignment for the same teacher for a period of 30 days or more.
3. A **building substitute teacher** is a person who substitute teaches wherever needed in the same school building each day according to the school calendar established annually by the Board of Education. A teaching certification is preferred but not required.

Payment

1. **Daily substitute teacher** – the daily substitute teacher shall be paid at the daily substitute per diem rate established by the Board of Education.
2. **Long-term substitute teacher** – the long-term substitute teacher shall be paid at the daily substitute per diem rate established by the Board of Education for the first 30 days of the assignment. Beginning with the 31st day of the continuous service, the per diem rate of pay will increase to the certified teacher salary of bachelor's step 1 as established in the current Newtown Federation of Teachers contract. The Superintendent may alter this payment schedule under certain circumstances.
3. **Building substitute teacher** – the building substitute teacher shall be paid at the building substitute per diem rate established by the Board of Education.

Procedure for Employment/Selection

1. All candidates for substitute teaching positions will be submit a complete application and will be interviewed by a District building administrator.
2. The Board shall only hire applicants for substitute teaching positions who comply with the reference and background checks as detailed in Board Policies P 4112.5/P 4212.5. The Board shall determine which such persons are employable as substitute teachers and maintain a list of such persons. Only those substitute teachers on the list shall fill available substitute assignments.

Personnel – Certified/Non-Certified

Substitute Teachers

3. Approved substitutes shall remain on such list as long as she/he is continuously employed by the Board as a substitute teacher, provided the Board does not have any knowledge of a reason that such person should be removed from the list. There is reasonable assurance of continued employment from one school year to the next unless the substitute teacher communicates in writing that they are no longer interested in accepting substitute teaching assignments.
4. The administration will ensure that all substitute teachers are trained in school rules and policies. It will be the responsibility of the Principal or his/her designee to assign a substitute to fill any vacancy by the temporary absence of a regular staff member.
5. Only substitute teachers who are fully certified teachers will be assigned to classes whose regular teachers are on long-term leaves of absence of 40 days or more unless an appropriate extension of the 40-day assignment has been granted by the Commissioner of Education.
6. Principals will attempt to maintain as much continuity as possible by engaging only one substitute for the full period of absence and will notify parents of all long-term substitutes in a timely fashion.
7. Retired teachers may be employed as substitute teachers without jeopardizing their retirement salary within the limits as prescribed by law.

SUBSTITUTE TEACHERS

The Superintendent, or his/her designee, should make every effort to provide qualified substitute teachers who are certified either as a substitute or regular teacher. Prior to the initial placement on the substitute teacher roll, the candidate shall be required to file written references and participate in a personal interview.

Adopted 10/10/95

Leave Provisions for Per Diem Substitutes

Per diem substitute teachers, regardless of the duration of a particular assignment, will not be entitled to sick leave or any other type of leave. No pay shall be awarded for any day absent.

Long-Term Substitute Teachers

A substitute teacher may be employed by the Superintendent, subject to approval by the Board of Education, during the school year for the regular teacher whose absence will extend beyond thirty (30) days for extenuating reasons. The substitute's appointment, however, may not extend beyond the current school year. The long-term substitute will be employed at the appropriate step on the current salary schedule commensurate with training and experience.

Long-Term Leave Provisions

Long-term substitute teachers will be entitled to sick leave awarded at the rate of one-and- one-half days per month, credited on the first working day of each month. Such leave may be accumulated month by month for the duration of continued employment in the position for which the substitute was hired. Such leave accumulation shall revert to zero upon completion of the substitute teaching assignment and may not be applied toward other assignments or to regular teaching service.

No other types of leaves shall be available to substitute teachers, except leave without pay.

Adopted 2/9/71

Updated 1/25/77, 10/10/95

**Please note: These minutes are pending Board approval.
Board of Education
Newtown, Connecticut**

Minutes of the Board of Education meeting held on November 1, 2022, at 7:00 p.m. in the Council Chambers, 3 Primrose Street.

D. Zukowski, Chair	C. Melillo
J. Vouros, Vice Chair	A. Uberti
D. Ramsey, Secretary (by phone)	T. Vadas
D. Cruson	7 Staff
J. Kuzma	3 Public
J. Larkin	
A. Plante	
K. Kunzweiler	
D. Godino	

Ms. Zukowski called the meeting to order at 7:00 p.m.

Item 1 – Pledge of Allegiance

Item 2 – Consent Agenda

MOTION: Mr. Cruson moved that the Board of Education approve the consent agenda which includes the donations to Middle Gate School and the correspondence report. Mrs. Kuzma seconded. Motion passes unanimously.

Item 3 – Public Participation

Item 4 – Reports

Chair Report: Ms. Zukowski reported that the Board of Finance is reviewing the CIP request and we will get questions as the work progresses.

Superintendent's Report: Mr. Melillo would be asking the Board to approve the school lunch extension and will use our dining funds to help support our community. They can only be used for school lunches or to support the lunch program. Due to the pandemic we have a surplus and many districts are extending their lunch programs also. He enjoyed attending the Unified Sports Soccer Tournament on Wednesday afternoon and visited the scarecrows in front of the middle school. Last Friday Sandy Hook School hosted their One School, One Read event where he was joined by Ms. Zukowski, Mr. Vouros, Mr. Ramsey and the First Selectman. He attended the Rotary Student-of-the-Month dinner where students Savanna Robertson and Samuel Villagran were recognized. Regarding the mandated reading program we will evaluate and compare the programs and decide the best course of action. Recommendations will be brought to the Board through C & I for review.

Committee Reports:

Mr. Cruson noted that Policy met last week and there were no questions about the policies for approval tonight. They began reviewing recruitment and selection and the hiring of staff policies as well as those on substitute teachers, student teachers, interns and consultants.

Mr. Vouros reported that C & I met last week. Mrs. Uberti provided information on kindergarten skills when students start school. Professional Development for certified staff will be on November 8. Mrs. DiBartolo provided updates on the new standards on social studies and the K-8 curricula. He also went to the high school PTA meeting.

Student Representatives Report:

Mr. Godino reported that this week and last week have been Spirit Weeks. The Unified Soccer tournament had an amazing turnout of attendees. The Pep Rally was held in the stadium with the band and dance team.

Ms. Kunzweiler noted that rehearsals continue for the fall drama "Almost Maine." Athletics have had great success in competitions and the senior class is busy with college applications. Quarter one has come to a close.

Item 5 – Old Business

MOTION: Mr. Cruson moved that the Board of Education approve Policy 1700 Possession of Firearms on School Property. Mrs. Kuzma seconded. Motion passes unanimously.

MOTION: Mr. Cruson moved that the Board of Education approve Policy 4118.234 & 5141.231 Prohibition on Recommendations for Psychotropic Drugs. Mrs. Kuzma seconded. Motion passes unanimously.

MOTION: Mr. Cruson moved that the Board of Education approve Policy 5131.911 Bullying. Mrs. Kuzma seconded. Motion passes unanimously.

Item 6 – New Business**Newtown Federation of Teachers Contract:**

MOTION: Mr. Cruson moved that the Board of Education approve the ratified Newtown Federation of Teachers Contract. Mrs. Plante seconded. Motion passes unanimously.

Ms. Zukowski noted that the negotiations on both sides was civil and productive and thanked Mr. Goodridge from the Board of Finance for attending tonight's meeting.

Hawley School Ed Specs:

MOTION: Mr. Cruson moved that the Board of Education approve the Ed Specs for the Hawley HVAC Project. Mrs. Plante seconded.

Mr. Melillo spoke about the grant and one of the requirements is to approve the ed specs which is an overview of how the project will improve the air quality in the school.

Mr. Larkin asked if we had any savings by doing this.

Mr. Melillo said the money we receive will offset some of the bonding. There is also money set aside by the State.

Mrs. Larkin asked if we could put in another school.

Mr. Melillo said the timeframe around the project is it has to be concluded by the end of the 2022-23 school year. If it falls outside of that time period we would have to pay for any overages. We will create an application for other projects we have a need for.

Mr. Ramsey said years ago there was an air quality report and asked if we have data on that and if we will get a report after the project is completed.

Mr. Melillo said we could get a post-air quality report after the project is completed.

Mr. Ramsey said the previous study was for the middle school.

Mr. Melillo will see what data we might have.

Motion passes unanimously.

Extension of Free Student Meals:

MOTION: Mr. Cruson moved that the Board of Education approve the extension of free student meals through January 20, 2023. Mrs. Larkin seconded.

Mr. Melillo said we have to give at least 30 days as to when this program ends.

Mrs. Vadas suggested sending the information out tomorrow. A lot of districts are doing this as it's a federally funded program.

Ms. Zukowski asked how much in the fund was designated for school lunches.

Ms. Vadas said approximately \$600,000 right now.

Ms. Zukowski asked how much of this we will be drawing down.

Mrs. Vadas this will be for approximately 20 days but we will use other funds also. The SMART Funds run out the middle of December. The cost is about \$171,000 for the 20 days. The net cost is roughly \$62,000.

Mrs. Larkin asked if we could extend it again in a month.

Mrs. Vadas doesn't see why we couldn't. We need to make note of the participation.

Ms. Zukowski suggested revisiting this in CFF.

Motion passes unanimously.

BOE Communications Sub-committee Newsletter:

MOTION: Mr. Cruson moved that the Board of Education approve the Communications Sub-committee District Highlights Newsletter. Mrs. Larkin seconded.

Mr. Ramsey thanked those who contributed. We have incredible people working in the maintenance department.

Mrs. Plante asked to work with Mr. Ramsey on his part of the newsletter as parts were confusing to the reader.

MOTION: Mr. Cruson moved to amend the motion pending grammatical and structural feedback to the introduction by Mr. Ramsey. Mrs. Plant seconded.

Motion passes unanimously.

First Read of Policies:

Mr. Cruson noted that Policy 4-111, Student teachers be rescinded because they decided to not have a new policy on them because most is governed by the universities.

Policy 4118.231 & 4218.321 Alcohol, Tobacco, and Drug-Free Workplace is specifically for our staff. We worked with the HR Director and two policies were combined. This will replace the existing policy.

Action on Minutes:

MOTION: Mr. Cruson moved that the Board of Education approve the minutes of October 17, 2022. Mrs. Larkin seconded. Motion passes unanimously.

MOTION: Mr. Cruson moved that the Board of Education approve the minutes of October 18, 2022. Mrs. Larkin seconded. Motion passes unanimously.

MOTION: Mr. Cruson moved to approve the minutes of October 22, 2022 with the clerical corrections. VOTE: 6 ayes, 1 abstained (Mr. Vouros) Motion passes.

Item 7 – Public Participation

MOTION: Mr. Cruson moved to adjourn. Mrs. Larkin seconded.

Item 8 – Adjournment

The meeting adjourned at 8:03 p.m.

Respectfully submitted:

Donald Ramsey
Secretary