

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

To make a public comment, the call in number is (US) 1-413-752-2685

The PIN is 710 646 521#

Board of Education Special Meeting
June 27, 2023

Council Chambers
3 Primrose St., Newtown, CT
6:30 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.

AGENDA

- | | |
|---------|--|
| Item 1 | PLEDGE OF ALLEGIANCE |
| Item 2 | CONSENT AGENDA <ul style="list-style-type: none">• Correspondence Report |
| Item 3 | **PUBLIC PARTICIPATION |
| Item 4 | REPORTS <ul style="list-style-type: none">• Chair Report• Superintendent's Report• Committee Reports• Action on Financial Report and Transfers Month Ending May 31, 2023 |
| Item 5 | PRESENTATIONS <ul style="list-style-type: none">• Social Emotional Supports• Chartwells Update |
| Item 6 | OLD BUSINESS <ul style="list-style-type: none">• Strategic Plan Update and Possible Action• Second Read and Possible Action on Grade 7 and 8 Kitchen Science Curriculum |
| Item 7 | NEW BUSINESS <ul style="list-style-type: none">• Discussion and Possible Action on Potential Standing Committee Assignments• Discussion and Possible Action on Connecticut Primary Mental Health Grant• Discussion Regarding Tuition• Action on Minutes of June 1, 2023• Action on Minutes of June 6, 2023• Action on Minutes of June 8, 2023 |
| Item 8 | **PUBLIC PARTICIPATION |
| Item 9 | EXECUTIVE SESSION <ul style="list-style-type: none">• Discussion and Action on Assistant Superintendent Contract Extension• Discussion and Action on Director of Business Contract Extension• Evaluation of the Superintendent |
| Item 10 | PUBLIC SESSION FOR POSSIBLE VOTE ON EXECUTIVE SESSION ITEMS |
| Item 11 | ADJOURNMENT |

***During the first Public Participation, the Board welcomes commentary regarding items on the agenda. After being recognized, please state your name and address for the record. We request that speakers be respectful and limit comments to not more than three minutes. The Board of Education does not discuss personnel items or student matters in public. During the second Public Participation, commentary may address the agenda or may introduce issues for the Board to consider in the future. The Board does not engage in dialogue during either public comment period. If you desire more information or answers to specific questions, please email the BOE: NewtownBOE@newtown.k12.ct.us*

**NEWTOWN BOARD OF EDUCATION
MONTHLY FINANCIAL REPORT
MAY 31, 2023**

SUMMARY

The eleventh financial report for the year continues to provide year to date expenditures, encumbrances and information for anticipated obligations. Many of the accounts within our major objects have been forecasted as “full budget spend” in order to more accurately project an estimated year-end balance. These balances are monitored closely and adjusted each month in order to capture any changes and fluctuations that occur throughout the year.

During the month of May, the district spent approximately \$5.7M for all operations. About \$4.2M was spent on salaries with the remaining balance of \$1.5M on all other objects. Monthly expenditures appear to be within normal limits at this time.

The change over the last month’s year-end projection has resulted in a decrease of -\$54,854 with a new estimated year-end balance of \$77,500.

Many of our accounts have now been adjusted to include anticipated expenses through year-end. This report also includes a transfer request in the amount of \$295,207 and has been included in this financial report for display. Once approved by the board, we will make the appropriate adjustments in our financial system. The transfer request also includes items from the 23-24 budget that are eligible for pre-purchase. This pre-purchase is necessary in order to provide funding for the shortfall in negotiated contractual salary obligations that begin on July 1st, 2023.

TRANSFERS

The total transfer request is for \$295,207 and we have broken this request into two parts. Requests for regular budget realignments and/or shortfalls are listed below along with the transfer request for pre-purchased items.

- \$56,140 from the vehicle fuel account to cover instructional and library supplies at Sandy Hook, Head O’Meadow, Middle School and Special Education. This transfer is all within the supply object (600);
- \$42,677 from the high school electric account to cover textbooks at Sandy Hook, Head O’Meadow, and curriculum. This transfer is all within the supply object (600).

Transfer request is \$98,817

The following transfer request is for the pre-purchase of chrome books. The cost for these items will be removed from the 2023-2024 budget and included in the current year. This transfer request is required in order to meet our negotiated contractual salary obligations that exceed the budgeted amount.

- \$101,276 from supervisor salaries plus \$95,114 from educational assistant salaries to cover technology equipment in the amount of \$196,390. This is a cross-object transfer, requesting to move the surplus in salaries (100) to cover the expenses in equipment (700)

Total transfer request for pre-purchased items: \$196,390

MAJOR MOVERS

SALARY OBJECT

The overall salary object currently displays a positive position of \$155,323, decreasing by \$372,186 over the prior month. Various adjustments have been made throughout these accounts for the anticipation of remaining substitute coverage as well as unfilled positions.

The non-certified salary accounts include the transfer request in the amount of \$196,390, reducing this object. Also included in this report are the transfer adjustments that were requested and approved last month totaling \$302,269.

EMPLOYEE BENEFITS

The overall benefit account has increased by \$44,246 over the prior month going from a negative -\$14,505 to a positive \$29,741. During the month of May, we analyze our FICA and Medicare projections which have now resulted in an additional \$19,604. We also reduced our anticipated unemployment costs which provided an additional \$20,437. This object is not in good standing.

PROFESSIONAL SERVICES

The object balance here has increased over the prior month by \$68,677 and still remains positive. Throughout the year, and for various reasons, we were unable to use all of the budgeted staff training dollars within this object. We also had some savings in our special education professional services (primarily student testing) which provided an offset for the overage we are experiencing in legal services.

In our legal account, we are projecting an overage of \$105,000. The majority of this overage is due to unanticipated contractual inquiries as well as other challenges.

OTHER PURCHASED SERVICES

The overall position of this object is displaying a negative balance of -\$339,066, which has decreased over the prior month by \$248,345. Changes that occurred this month were related to the April transfer request where we applied the SPED contingency of \$100,000 to cover the shortfall in out-of-district tuition and the transferring of BT salaries to cover the additional costs for BT contracted services.

SUPPLIES

The overall supply object is in good standing with a positive position of \$97,079, increasing slightly over the prior month. There are a few accounts within this object that remain in the red; such as, instructional supplies, medical and plant supplies. This was a result of the superintendent's 2023-24 budget adjustment and many of these items were purchased this year as they were required for programs, the health office and district wide cleaning supplies. These negative accounts were discussed and reviewed by the board in April's financial update.

EQUIPMENT

This object now shows a positive balance as it includes a request for the pre-purchase of technology equipment as well as a transfer request from our salary accounts to cover this purchase. Once approved by the board, we will encumber these funds.

REVENUE

The board of education received \$1,358.50 in tuition and \$927.96 in miscellaneous revenue.

Tanja Vadas
Director of Business
June 22, 2023

**NEWTOWN BOARD OF EDUCATION
2022-23 BUDGET SUMMARY REPORT
FOR THE MONTH ENDING MAY 31, 2023**

OBJECT CODE	EXPENSE CATEGORY	2022 - 2023 APPROVED BUDGET	YTD TRANSFERS 2022 - 2023	CURRENT BUDGET	YTD EXPENDITURE	ENCUMBER	BALANCE	ANTICIPATED OBLIGATIONS	PROJECTED BALANCE	% EXP
<u>GENERAL FUND BUDGET</u>										
100	SALARIES	\$ 53,701,233	\$ (132,875)	\$ 53,568,358	\$ 42,884,008	\$ 10,149,553	\$ 534,798	\$ 379,475	\$ 155,323	99.71%
200	EMPLOYEE BENEFITS	\$ 11,955,016	\$ 249	\$ 11,955,265	\$ 11,573,215	\$ 11,065	\$ 370,986	\$ 341,245	\$ 29,741	99.75%
300	PROFESSIONAL SERVICES	\$ 687,141	\$ (14,000)	\$ 673,141	\$ 430,122	\$ 55,159	\$ 187,860	\$ 100,316	\$ 87,544	86.99%
400	PURCHASED PROPERTY SERV.	\$ 1,814,663	\$ (8,700)	\$ 1,805,963	\$ 1,428,682	\$ 301,509	\$ 75,772	\$ 36,078	\$ 39,693	97.80%
500	OTHER PURCHASED SERVICES	\$ 10,095,326	\$ 231,626	\$ 10,326,952	\$ 9,359,227	\$ 1,424,630	\$ (456,905)	\$ (117,839)	\$ (339,066)	103.28%
600	SUPPLIES	\$ 3,365,464	\$ 15,000	\$ 3,380,464	\$ 2,705,869	\$ 594,651	\$ 79,944	\$ (17,135)	\$ 97,079	97.13%
700	PROPERTY	\$ 339,710	\$ 8,700	\$ 348,410	\$ 171,709	\$ 187,064	\$ (10,362)	\$ (16,787)	\$ 6,425	98.16%
800	MISCELLANEOUS	\$ 76,086	\$ -	\$ 76,086	\$ 74,200	\$ 1,125	\$ 761	\$ -	\$ 761	99.00%
910	SPECIAL ED CONTINGENCY	\$ 100,000	\$ (100,000)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	#DIV/0!
TOTAL GENERAL FUND BUDGET		\$ 82,134,639	\$ -	\$ 82,134,639	\$ 68,627,031	\$ 12,724,755	\$ 782,853	\$ 705,353	\$ 77,500	99.91%
900	TRANSFER NON-LAPSING <i>(unaudited)</i>									
GRAND TOTAL		\$ 82,134,639	\$ -	\$ 82,134,639	\$ 68,627,031	\$ 12,724,755	\$ 782,853	\$ 705,353	\$ 77,500	99.91%

**NEWTOWN BOARD OF EDUCATION
2022-23 BUDGET SUMMARY REPORT
FOR THE MONTH ENDING MAY 31, 2023**

OBJECT CODE	EXPENSE CATEGORY	2022 - 2023 APPROVED BUDGET	YTD TRANSFERS 2022 - 2023	CURRENT BUDGET	YTD EXPENDITURE	ENCUMBER	BALANCE	ANTICIPATED OBLIGATIONS	PROJECTED BALANCE	% EXP
100	SALARIES									
	Administrative Salaries	\$ 4,312,038	\$ (116,350)	\$ 4,195,688	\$ 3,686,529	\$ 504,852	\$ 4,307	\$ 17,531	\$ (13,224)	100.32%
	Teachers & Specialists Salaries	\$ 33,817,522	\$ 144,350	\$ 33,961,872	\$ 26,186,951	\$ 7,761,031	\$ 13,890	\$ 33,631	\$ (19,741)	100.06%
	Early Retirement	\$ 81,000	\$ -	\$ 81,000	\$ 89,000	\$ -	\$ (8,000)	\$ -	\$ (8,000)	109.88%
	Continuing Ed./Summer School	\$ 97,846	\$ 1,161	\$ 99,007	\$ 92,650	\$ 5,863	\$ 494	\$ -	\$ 494	99.50%
	Homebound & Tutors Salaries	\$ 189,413	\$ 45,185	\$ 234,598	\$ 157,078	\$ 18,901	\$ 58,618	\$ 13,000	\$ 45,618	80.55%
	Certified Substitutes	\$ 742,610	\$ -	\$ 742,610	\$ 701,484	\$ 55,240	\$ (14,114)	\$ 47,950	\$ (62,064)	108.36%
	Coaching/Activities	\$ 737,184	\$ -	\$ 737,184	\$ 715,951	\$ 0	\$ 21,233	\$ 2,768	\$ 18,465	97.50%
	Staff & Program Development	\$ 155,128	\$ (15,000)	\$ 140,128	\$ 57,357	\$ 80,759	\$ 2,013	\$ (2,915)	\$ 4,928	96.48%
	CERTIFIED SALARIES	\$ 40,132,741	\$ 59,346	\$ 40,192,087	\$ 31,687,000	\$ 8,426,646	\$ 78,441	\$ 111,965	\$ (33,524)	100.08%
	Supervisors & Technology Salaries	\$ 1,103,470	\$ 4,960	\$ 1,108,430	\$ 885,910	\$ 118,522	\$ 103,998	\$ 101,276	\$ 2,722	99.75%
	Clerical & Secretarial Salaries	\$ 2,361,178	\$ 200	\$ 2,361,378	\$ 2,011,735	\$ 302,353	\$ 47,290	\$ 4,600	\$ 42,690	98.19%
	Educational Assistants	\$ 2,965,151	\$ 47,602	\$ 3,012,753	\$ 2,542,369	\$ 363,921	\$ 106,463	\$ 97,114	\$ 9,349	99.69%
	Nurses & Medical Advisors	\$ 902,273	\$ 31,615	\$ 933,888	\$ 688,746	\$ 201,202	\$ 43,940	\$ 2,000	\$ 41,940	95.51%
	Custodial & Maint. Salaries	\$ 3,395,484	\$ (45,604)	\$ 3,349,880	\$ 2,805,053	\$ 460,410	\$ 84,417	\$ 2,510	\$ 81,908	97.55%
	Non-Certied Adj & Bus Drivers Salaries	\$ 155,981	\$ (155,981)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	#DIV/0!
	Career/Job Salaries	\$ 171,116	\$ 4,257	\$ 175,373	\$ 138,570	\$ 38,097	\$ (1,293)	\$ 2,207	\$ (3,501)	102.00%
	Special Education Svcs Salaries	\$ 1,456,181	\$ (84,063)	\$ 1,372,118	\$ 1,178,888	\$ 174,240	\$ 18,990	\$ 2,223	\$ 16,767	98.78%
	Security Salaries & Attendance	\$ 679,888	\$ 293	\$ 680,181	\$ 574,672	\$ 63,502	\$ 42,007	\$ 6,350	\$ 35,657	94.76%
	Extra Work - Non-Cert.	\$ 109,770	\$ 4,500	\$ 114,270	\$ 91,091	\$ 661	\$ 22,519	\$ 16,730	\$ 5,789	94.93%
	Custodial & Maint. Overtime	\$ 236,000	\$ -	\$ 236,000	\$ 252,944	\$ -	\$ (16,944)	\$ 31,500	\$ (48,444)	120.53%
	Civic Activities/Park & Rec.	\$ 32,000	\$ -	\$ 32,000	\$ 27,029	\$ -	\$ 4,971	\$ 1,000	\$ 3,971	87.59%
	NON-CERTIFIED SALARIES	\$ 13,568,492	\$ (192,221)	\$ 13,376,271	\$ 11,197,008	\$ 1,722,907	\$ 456,356	\$ 267,510	\$ 188,847	98.59%
	SUBTOTAL SALARIES	\$ 53,701,233	\$ (132,875)	\$ 53,568,358	\$ 42,884,008	\$ 10,149,553	\$ 534,798	\$ 379,475	\$ 155,323	99.71%
200	EMPLOYEE BENEFITS									
	Medical & Dental Expenses	\$ 8,790,863	\$ (12,125)	\$ 8,778,738	\$ 8,769,764	\$ 30	\$ 8,944	\$ 3,728	\$ 5,216	99.94%
	Life Insurance	\$ 87,000	\$ -	\$ 87,000	\$ 81,874	\$ -	\$ 5,126	\$ 7,406	\$ (2,280)	102.62%
	FICA & Medicare	\$ 1,706,549	\$ -	\$ 1,706,549	\$ 1,389,945	\$ -	\$ 316,604	\$ 297,000	\$ 19,604	98.85%
	Pensions	\$ 852,347	\$ 25,000	\$ 877,347	\$ 873,219	\$ -	\$ 4,128	\$ 25,798	\$ (21,670)	102.47%
	Unemployment & Employee Assist.	\$ 81,600	\$ -	\$ 81,600	\$ 34,566	\$ 11,035	\$ 36,000	\$ 7,313	\$ 28,687	64.84%
	Workers Compensation	\$ 436,657	\$ (12,626)	\$ 424,031	\$ 423,847	\$ -	\$ 184	\$ -	\$ 184	99.96%
	SUBTOTAL EMPLOYEE BENEFITS	\$ 11,955,016	\$ 249	\$ 11,955,265	\$ 11,573,215	\$ 11,065	\$ 370,986	\$ 341,245	\$ 29,741	99.75%

**NEWTOWN BOARD OF EDUCATION
2022-23 BUDGET SUMMARY REPORT
FOR THE MONTH ENDING MAY 31, 2023**

OBJECT CODE	EXPENSE CATEGORY	2022 - 2023 APPROVED BUDGET	YTD TRANSFERS 2022 - 2023	CURRENT BUDGET	YTD EXPENDITURE	ENCUMBER	BALANCE	ANTICIPATED OBLIGATIONS	PROJECTED BALANCE	% EXP
300	PROFESSIONAL SERVICES									
	Professional Services	\$ 493,643	\$ -	\$ 493,643	\$ 346,085	\$ 31,075	\$ 116,484	\$ 94,544	\$ 21,940	95.56%
	Professional Educational Serv.	\$ 193,498	\$ (14,000)	\$ 179,498	\$ 84,037	\$ 24,084	\$ 71,376	\$ 5,772	\$ 65,604	63.45%
	SUBTOTAL PROFESSIONAL SERV.	\$ 687,141	\$ (14,000)	\$ 673,141	\$ 430,122	\$ 55,159	\$ 187,860	\$ 100,316	\$ 87,544	86.99%
400	PURCHASED PROPERTY SERV.									
	Buildings & Grounds Contracted Svc.	\$ 683,600	\$ -	\$ 683,600	\$ 580,225	\$ 117,711	\$ (14,337)	\$ (6,456)	\$ (7,880)	101.15%
	Utility Services - Water & Sewer	\$ 144,770	\$ -	\$ 144,770	\$ 104,948	\$ -	\$ 39,822	\$ 17,852	\$ 21,970	84.82%
	Building, Site & Emergency Repairs	\$ 450,000	\$ -	\$ 450,000	\$ 343,051	\$ 154,164	\$ (47,215)	\$ (3,637)	\$ (43,578)	109.68%
	Equipment Repairs	\$ 269,051	\$ -	\$ 269,051	\$ 182,297	\$ 27,133	\$ 59,621	\$ 16,319	\$ 43,302	83.91%
	Rentals - Building & Equipment	\$ 267,242	\$ (8,700)	\$ 258,542	\$ 218,161	\$ 2,500	\$ 37,881	\$ 12,000	\$ 25,881	89.99%
	Building & Site Improvements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
	SUBTOTAL PUR. PROPERTY SERV.	\$ 1,814,663	\$ (8,700)	\$ 1,805,963	\$ 1,428,682	\$ 301,509	\$ 75,772	\$ 36,078	\$ 39,693	97.80%
500	OTHER PURCHASED SERVICES									
	Contracted Services	\$ 886,545	\$ 427,070	\$ 1,313,615	\$ 984,443	\$ 183,585	\$ 145,587	\$ 147,909	\$ (2,322)	100.18%
	Transportation Services	\$ 4,919,428	\$ (308,070)	\$ 4,611,358	\$ 4,114,728	\$ 344,927	\$ 151,704	\$ 102,520	\$ 49,184	98.93%
	Insurance - Property & Liability	\$ 422,766	\$ 12,626	\$ 435,392	\$ 443,289	\$ -	\$ (7,897)	\$ -	\$ (7,897)	101.81%
	Communications	\$ 152,524	\$ -	\$ 152,524	\$ 151,312	\$ 18,506	\$ (17,294)	\$ 8,000	\$ (25,294)	116.58%
	Printing Services	\$ 24,789	\$ -	\$ 24,789	\$ 16,193	\$ 7,611	\$ 985	\$ 2,974	\$ (1,989)	108.02%
	Tuition - Out of District	\$ 3,450,187	\$ 100,000	\$ 3,550,187	\$ 3,431,537	\$ 857,494	\$ (738,844)	\$ (390,724)	\$ (348,120)	109.81%
	Student Travel & Staff Mileage	\$ 239,087	\$ -	\$ 239,087	\$ 217,725	\$ 12,507	\$ 8,855	\$ 11,482	\$ (2,627)	101.10%
	SUBTOTAL OTHER PURCHASED SERV.	\$ 10,095,326	\$ 231,626	\$ 10,326,952	\$ 9,359,227	\$ 1,424,630	\$ (456,905)	\$ (117,839)	\$ (339,066)	103.28%
600	SUPPLIES									
	Instructional & Library Supplies	\$ 854,242	\$ -	\$ 854,242	\$ 791,646	\$ 134,103	\$ (71,507)	\$ (42,861)	\$ (28,646)	103.35%
	Software, Medical & Office Supplies	\$ 194,940	\$ -	\$ 194,940	\$ 177,327	\$ 33,599	\$ (15,986)	\$ 2,000	\$ (17,986)	109.23%
	Plant Supplies	\$ 366,100	\$ -	\$ 366,100	\$ 378,633	\$ 16,384	\$ (28,917)	\$ 6,951	\$ (35,868)	109.80%
	Electric	\$ 1,022,812	\$ (449,500)	\$ 573,312	\$ 607,287	\$ -	\$ (33,975)	\$ (170,298)	\$ 136,323	76.22%
	Propane & Natural Gas	\$ 424,980	\$ 40,000	\$ 464,980	\$ 425,461	\$ -	\$ 39,519	\$ 46,519	\$ (7,000)	101.51%
	Fuel Oil	\$ 63,000	\$ 53,500	\$ 116,500	\$ 80,695	\$ -	\$ 35,805	\$ 12,805	\$ 23,000	80.26%
	Fuel for Vehicles & Equip.	\$ 216,258	\$ -	\$ 216,258	\$ 102,007	\$ -	\$ 114,251	\$ 80,391	\$ 33,860	84.34%
	Textbooks	\$ 223,132	\$ 371,000	\$ 594,132	\$ 142,812	\$ 410,565	\$ 40,755	\$ 47,358	\$ (6,603)	101.11%

**NEWTOWN BOARD OF EDUCATION
2022-23 BUDGET SUMMARY REPORT
FOR THE MONTH ENDING MAY 31, 2023**

OBJECT CODE	EXPENSE CATEGORY	2022 - 2023 APPROVED BUDGET	YTD TRANSFERS 2022 - 2023	CURRENT BUDGET	YTD EXPENDITURE	ENCUMBER	BALANCE	ANTICIPATED OBLIGATIONS	PROJECTED BALANCE	% EXP
	SUBTOTAL SUPPLIES	\$ 3,365,464	\$ 15,000	\$ 3,380,464	\$ 2,705,869	\$ 594,651	\$ 79,944	\$ (17,135)	\$ 97,079	97.13%
700	PROPERTY									
	Technology Equipment	\$ 156,024	\$ -	\$ 156,024	\$ 119,389	\$ 55,751	\$ (19,116)	\$ (19,116)	\$ (0)	100.00%
	Other Equipment	\$ 183,686	\$ 8,700	\$ 192,386	\$ 52,319	\$ 131,313	\$ 8,754	\$ 2,329	\$ 6,425	96.66%
	SUBTOTAL PROPERTY	\$ 339,710	\$ 8,700	\$ 348,410	\$ 171,709	\$ 187,064	\$ (10,362)	\$ (16,787)	\$ 6,425	98.16%
800	MISCELLANEOUS									
	Memberships	\$ 76,086	\$ -	\$ 76,086	\$ 74,200	\$ 1,125	\$ 761	\$ -	\$ 761	99.00%
	SUBTOTAL MISCELLANEOUS	\$ 76,086	\$ -	\$ 76,086	\$ 74,200	\$ 1,125	\$ 761	\$ -	\$ 761	99.00%
910	SPECIAL ED CONTINGENCY	\$ 100,000	\$ (100,000)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	#DIV/0!
	TOTAL LOCAL BUDGET	\$ 82,134,639	\$ -	\$ 82,134,639	\$ 68,627,031	\$ 12,724,755	\$ 782,853	\$ 705,353	\$ 77,500	99.91%
900	Transfer to Non-Lapsing									

**NEWTOWN BOARD OF EDUCATION
2022-23 BUDGET SUMMARY REPORT
FOR THE MONTH ENDING MAY 31, 2023**

OBJECT CODE	EXPENSE CATEGORY	2022 - 2023 APPROVED BUDGET	YTD TRANSFERS 2022 - 2023	CURRENT BUDGET	YTD EXPENDITURE	ENCUMBER	BALANCE	ANTICIPATED OBLIGATIONS	PROJECTED BALANCE	% EXP
GRAND TOTAL		\$ 82,134,639	\$ -	\$ 82,134,639	\$ 68,627,031	\$ 12,724,755	\$ 782,853	\$ 705,353	\$ 77,500	99.91%

SPECIAL REVENUES

EXCESS COST GRANT REVENUE		APPROVED BUDGET	STATE PROJECTE	STATE PROJECTED	ESTIMATED	VARIANCE			% TO	
			1-Jan	1-Mar	Total	to Budget	FEB DEPOSIT	MAY DEPOSIT	BUDGET	
51266	Special Education Svcs Salaries ECG		\$ (7,843)	\$ (7,750)	\$ (7,750)	\$ 7,750	\$ (5,673)	\$ (2,077)	#DIV/0!	
54116	Transportation Services - ECG	\$ (320,028)	\$ (469,245)	\$ (489,641)	\$ (489,641)	\$ 169,613	\$ (358,435)	\$ (131,207)	153.00%	
54160	Tuition - Out of District ECG	\$ (1,300,484)	\$ (1,348,899)	\$ (1,373,397)	\$ (1,373,397)	\$ 72,913	\$ (1,005,383)	\$ (368,013)	105.61%	
Total		\$ (1,620,512)	\$ (1,825,987)	\$ (1,870,788)	\$ (1,870,788)	\$ 250,276	\$ (1,369,491)	\$ (501,297)	115.44%	
							Total*		\$ (1,870,788)	
							*75% of Jan Proj			

SDE MAGNET TRANSPORTATION GRANT

	\$ (13,000)	\$ (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	\$37,986	(\$5,556)	117.13%
HIGH SCHOOL FEES FOR PARKING PERMITS	\$30,000	\$30,000	\$30,000	\$0	100.00%
MISCELLANEOUS FEES	\$6,000	\$6,000	\$16,696	(\$10,696)	278.27%
TOTAL SCHOOL GENERATED FEES	\$68,430		\$84,683	(\$16,253)	123.75%

OTHER GRANTS

	TOTAL BUDGET	21-22 EXPENSED	YTD EXPENSE	ENCUMBER	BALANCE	% EXPENSED
214 ESSER II	\$625,532	\$573,735	\$16,243	\$25,000	\$10,554	98.31%
218 ESSER III (estimated \$809k for 21-22 use)	\$1,253,726	\$709,840	\$278,988	\$233,314	\$31,584	97.48%

2022 - 2023
NEWTOWN BOARD OF EDUCATION
TRANSFERS RECOMMENDED
MAY 31, 2023

AMOUNT	FROM		TO		REASON
	CODE	DESCRIPTION	CODE	DESCRIPTION	
ADMINISTRATIVE					
\$101,276	100	SUPERVISORS/TECHNOLOGY SALARIES	700	TECHNOLOGY EQUIPMENT	TO COVER PRE-PURCHASING OF CHROMEBOOKS AND OTHER TECHNOLOGY EQUIPMENT
\$95,114	100	EDUCATIONAL ASSISTANTS			
\$196,390					
\$56,140	600	FUEL FOR VEHICLES & EQUIP.	600	INSTRUCTIONAL & LIBRARY SUPPLIES	TO COVER PRE-PURCHASING OF SUPPLIES AND REQUIRED SPECIAL EDUCATION SUPPLIES
\$42,677	600	ELECTRIC	600	TEXTBOOKS	TO COVER PRE-PURCHASING OF TEXTBOOKS
\$295,207	TOTAL TRANSFERS REQUESTED				

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

		FROM			TO
OBJECT CODE	AMOUNT		OBJECT CODE	AMOUNT	
100	\$101,276	SUPERVISORS/TECHNOLOGY SALARIES \$94,405 001810850000-51210 DISTRICT - TECH \$6,871 001900920000-51210 B&G - ADMIN.	700	\$196,390	TECHNOLOGY EQUIPMENT \$196,390 001810850000-57200 DISTRICT - TECH
100	\$95,114	EDUCATIONAL ASSISTANTS			EQUIPMENT/PROPERTY
	\$196,390	\$1,114 001100380000-51232 HAW. - CLASSROOM \$39,000 001450380000-51232 RIS. - CLASSROOM \$18,000 001750610000-51235 SP ED - RIS. SP ED \$37,000 001750630000-51232 SP ED - H.S. SP ED			
600	\$56,140	FUEL FOR VEHICLES & EQUIP. \$56,140 001920870000-56600 DISTRICT TRANSPORT	600	\$56,140	INSTRUCTIONAL & LIBRARY SUPPLIES \$14,080 001200380000-55100 S.H. - CLASSROOM \$10,869 001400380000-55100 HOM. - CLASSROOM \$11,992 001500120000-55100 M.S. - WORLD LANG \$19,199 001750610000-55100 SP ED - PREK-8 SP ED
600	\$42,677	ELECTRIC \$42,677 001900960000-56205 B&G - CUSTODIAL	600	\$42,677	TEXTBOOKS \$16,710 001200380000-56900 S.H. - CLASSROOM \$12,017 001400380000-56900 HOM. - CLASSROOM \$13,950 001800800000-56900 DISTRICT - CURRICULUM
	\$295,207	TOTAL TRANSFERS REQUESTED		\$295,207	TOTAL TRANSFERS REQUESTED

Newtown Public Schools 2022-23



**SOCIAL-EMOTIONAL
HEALTH & WELL-BEING**

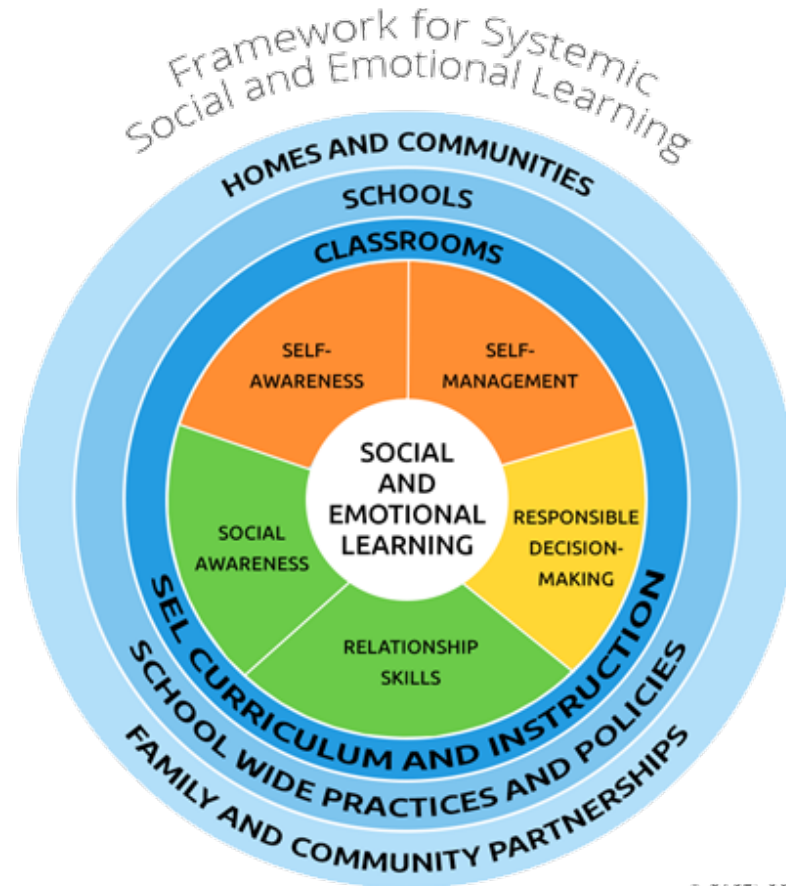


Newtown recognizes social emotional and mental health as essential to the development of healthy, happy, responsible young people.

Social Emotional Health Supports

Programs	Personnel	Practices	Partners
HAW,HOM,MGS,SHS Responsive Classroom Second Step Grades K-5 Curriculum Second Step K - 5 Lessons	HAW,HOM,MGS,SHS School Psychologist School Counselor School Nurse Elementary Support Staff Contact Info	HAW,HOM,MGS,SHS Elementary Counseling Office Bounce Back (trauma) Gizmo 4 Mental Health Kid's Kore Program Mindful Schools	Parent Connection Newtown Community Center Newtown Youth Academy Newtown Parks & Rec Newtown Youth & Family Services Newtown Health District Newtown Prevention Council Resiliency Center of Newtown Newtown Suicide Prevention Initiative Newtown Center for Support & Wellness Newtown Suicide Postvention Newtown Center for Support and Wellness Newtown Continuing Education
RIS Full Value Contract Second Step Grade 5 Lessons Second Step Grade 6 Curriculum Second Step Grade 6 Lessons Project Adventure	RIS 3 School Counselors 2 School Psychologists 2 Social Workers 1.5 School Nurses RIS Support Staff Contact Info	RIS RIS Counseling Office CBITS (trauma) GIZMO	NHS Book Club Deep Dive St Joseph's Parenting Center, Danbury The Center For Empowerment and Education Western CT Coalition
NMS Second Step Middle School grades 7-8 Project Adventure Junior Advisory Lessons Signs of Suicide SOS Program	NMS 3 School Counselors 1.5 School Psychologists 2 Social Workers 1.5 School Nurses School Based Health Center SRO NMS Teen Talk Counselor (Kids in Crisis) NMS Support Staff Contact Info	NMS NMS Counseling Office QPR Gatekeeper Training Counselor Lessons CBITS (trauma) Unified Sports Program	
NHS Project Adventure Project Empower - Advisory Curriculum Social Emotional Learning at NHS Signs of Suicide SOS Program	NHS 8 School Counselors 3 School Psychologists 3 Social Workers 2.5 School Nurses SRO Family Assistance Counselor (12/14 families) NHS Teen Talk Counselor (Kids in Crisis) Student Assistance Counselor (Substance Abuse) NHS Support Staff Contact Info	NHS NHS Counseling Office QPR Gatekeeper Training NHS Link Crew Hope Squad Student Success Plans CBITS (trauma) FUSION Unified Programs Newtown Youth Suicide Prevention Manual	

CASEL: Collaboration for Academic & Social Emotional Learning



Project Adventure

Experiential Learning Experiences

- Team Building
- Decision Making
- Positive Risk Taking
- Leadership





Project Empower

- NHS 9th & 10th grade Advisory Program.
- Twice a month on Wednesday for 40 minutes.
- Created in conjunction with Project Adventure.
- SEL curriculum in alignment with the CASEL framework.



So why worry?

CDC Youth Risk Survey

Released in February 2023:

**YOUTH RISK
BEHAVIOR
SURVEY**

**DATA SUMMARY &
TRENDS REPORT**

2011-2021

Worrisome National Trends



Substance use is generally decreasing, but still too high.



Experiences of violence, including sexual violence, are not declining and in some cases are increasing.



Poor mental health and suicidal thoughts and behaviors are increasing for nearly all groups of youth.

How is Newtown doing?



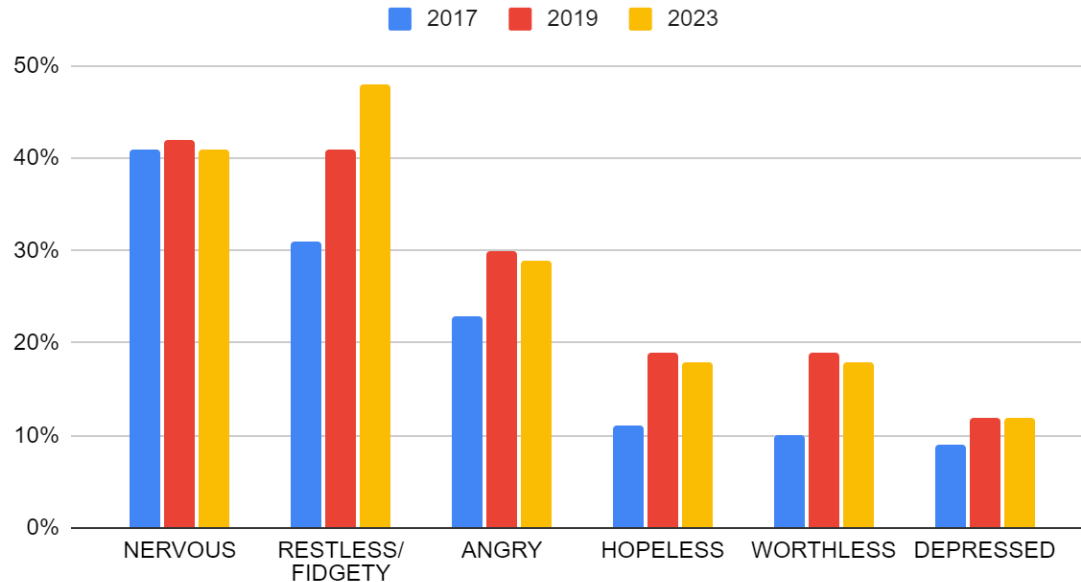
Newtown Public
School District



Newtown Youth Risk Survey: given to 7 - 12 graders in April 2023

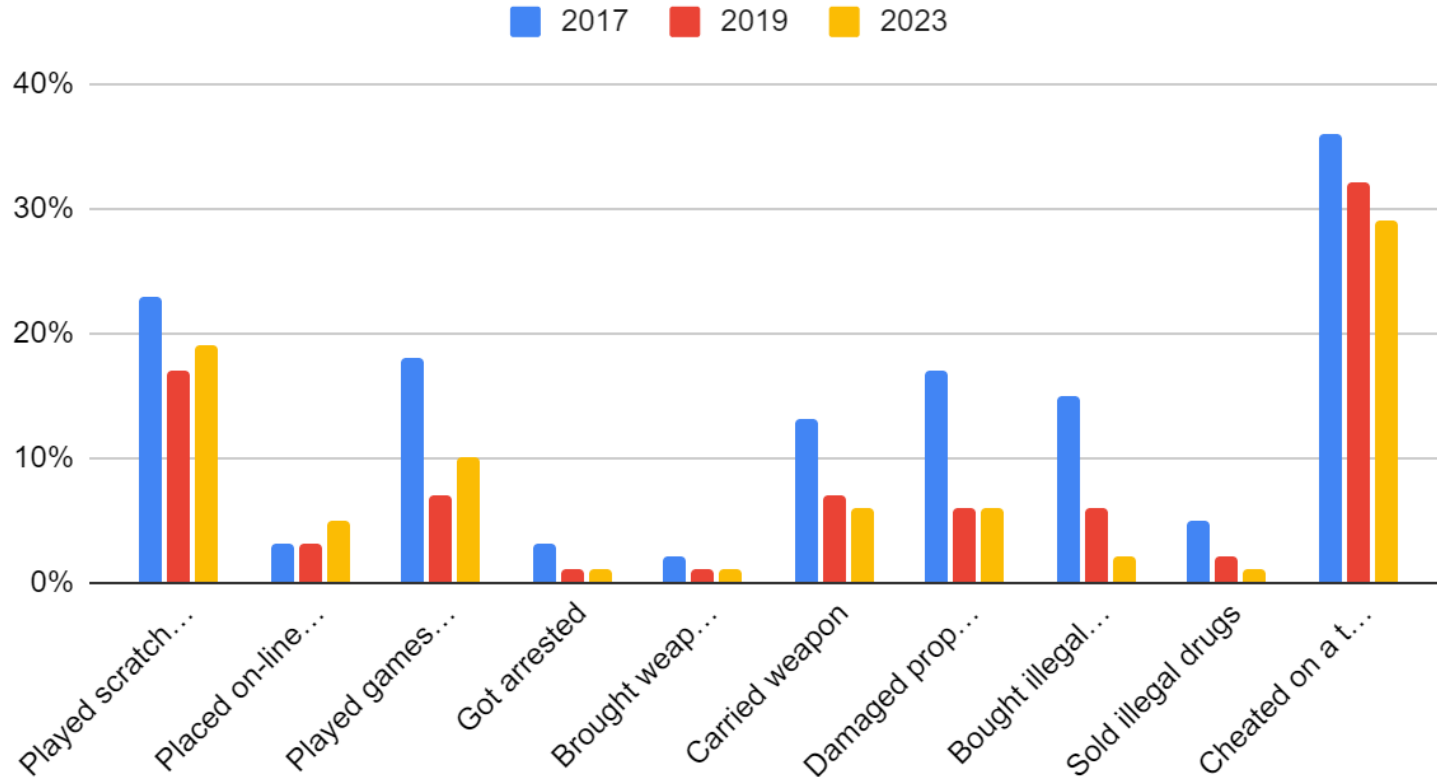
Mental Health: How often do you feel...

2017, 2019 and 2023



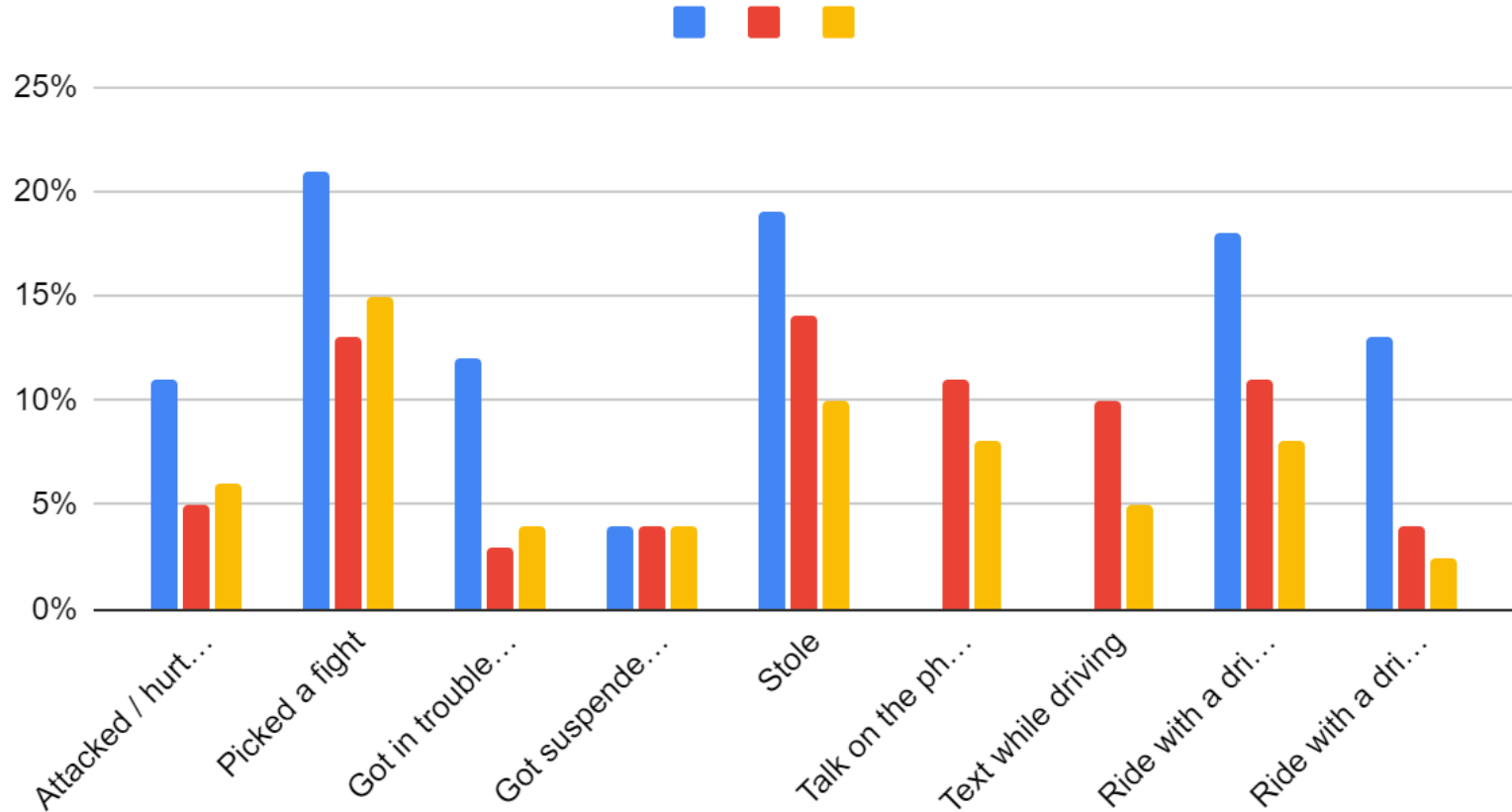
Risky Behaviors: In the past year, did you...

2017, 2019 and 2023



Risky Behaviors continued

2017, 2019 and 2023



Other Data from the Newtown Youth Survey

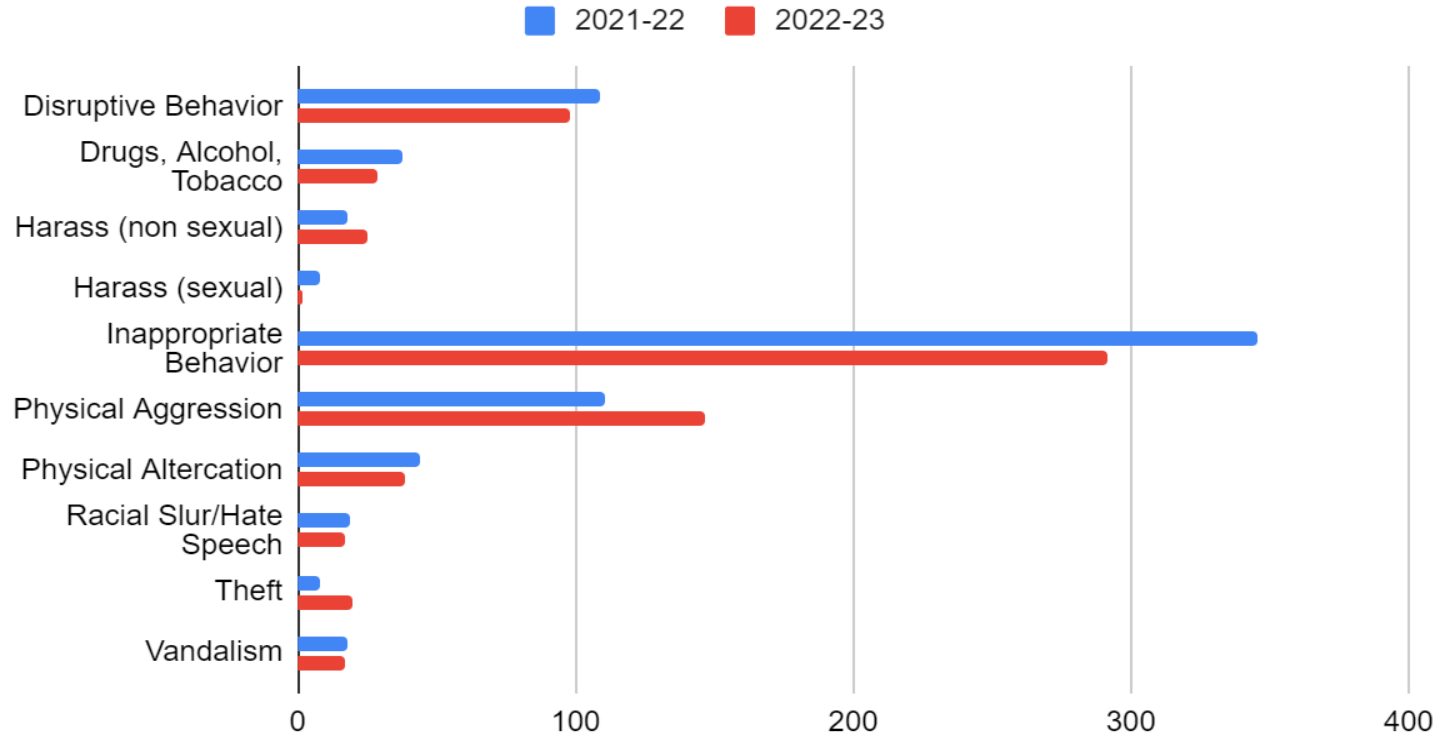
Of students in grades 7 - 12 who responded to the survey:

- 97% said “When I am away from home, my parents know where I am and who I’m with.”
- 92% said “I enjoy spending time with my parent / guardian.”
- 92% said “My parents give me help and support when I need it.”
- 93% said “I try hard to do good work at school.”
- 98% said “I have never smoked a cigarette.”
- 95% said “I do not vape.” (78% think 25 - 50% of students in their grade use some type of vaping product)
- 83% said “I feel safe at school”

From the PowerSchool Incident Log

Incident Log Data

2021-22 and 2022-23



CDC: What Works in Schools

- Provide quality health education
- Increase student access to health care services
- Create safe and supportive environments where students feel connected to adults and peers who care about them.



The Center

for Empowerment and Education

Expanded classes offered in collaboration with The C.E.E. to support SEL curriculum in grades K - 12

- Kindergarten: “Care and Kindness” puppet show
- 1st grade: “Safe Touch/ Unsafe Touch” puppet show
- 2nd grade: “Recess Queen” interactive book reading
- 3rd grade: “Just Kidding” interactive book reading
- 4th grade: “Boundaries and Our Bodies”
- 5th and 6th: Empathy and Healthy Friendships
- NMS: Healthy Relationships and Consent
- NHS: “Techknowledgy” Internet Safety



Vaping Education & Prevention

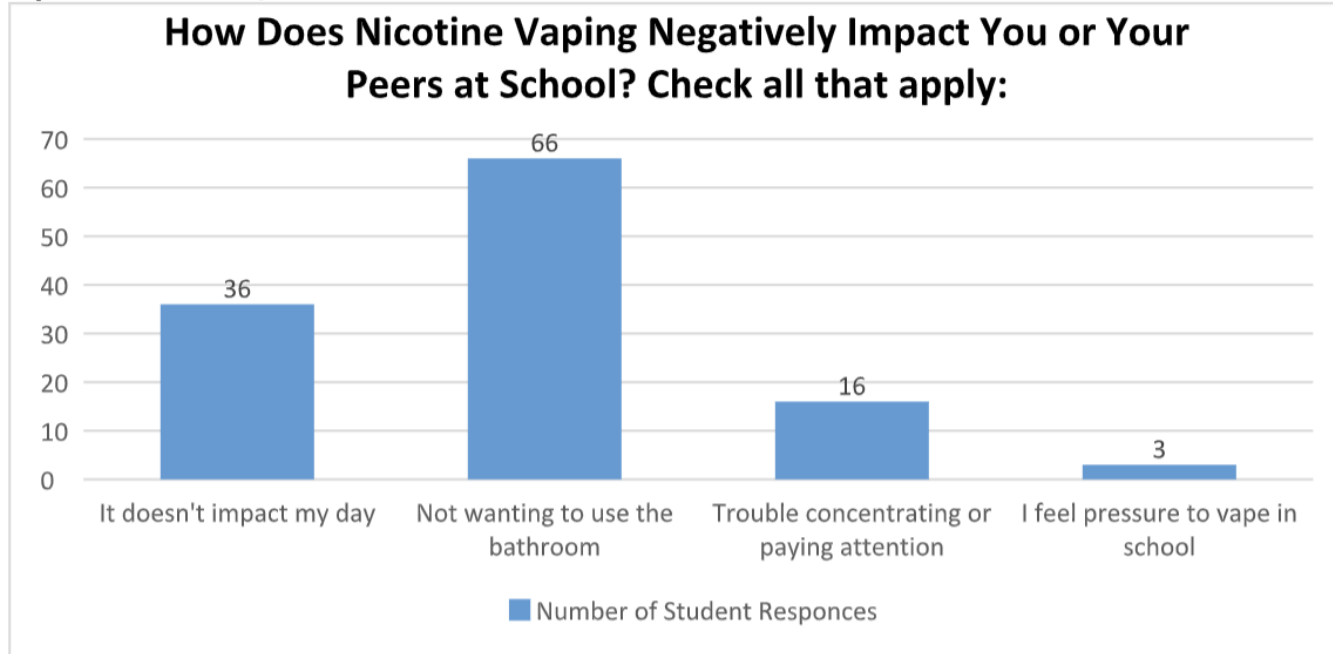
Collaboration with Yale School of Medicine and SCSU to provide Vaping Prevention Education to NHS students

- Tricia Dahl: Yale Research Assistant: T.R.Y. to Stop Vaping speaker for all NHS Health 1 students.
- Vaping Cessation Program offered through Yale Stop Vaping
- Southern CT State University: Interns (senior Public Health majors) to Health 1 classes for educational game about vaping

Survey Results from SCSU Vaping Program

Newtown High School: 106 Student's Surveyed

April 26 and 28, 2023

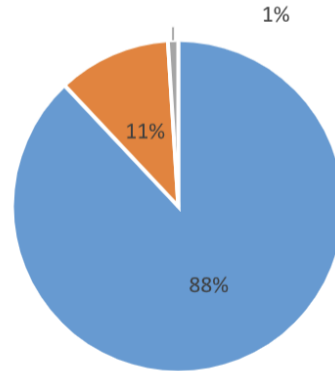


SCSU Survey Results continued

What was the most impactful piece of information you learned today?

- The issues associated with withdrawal
- Marijuana can cause mental health disorders
- That vaping is illegal indoors in CT
- That people really young can be affected badly
- The long term health problems
- That secondhand smoke from vape can be dangerous to others
- Nicotine can affect the brain so early
- That some of the chemicals in vapes are also found in car exhaust.

Today's discussion makes me less likely to try or continue nicotine vaping and/or marijuana products.



School Health Services



Experienced school nurses in every building provide for the full range of student health care needs during the school day. School nurses also fill an important role in connecting students with other support staff when needed.



Collaboration with Newtown Health District and HVHD to provide Flu Vaccine Clinics to staff, students and families

October 4th at NHS:	132
October 13th at RIS:	86
October 15th at NMS:	174
November 5th at NMS:	<u>182</u>

Total Flu vaccines: 574



Collaboration with Griffin Hospital Yellow Van Program to make COVID vaccine accessible to the community. Clinics were held at NHS on:

August 11, 25

January 19, 26

September 16, 22

February 16

October 12, 20

March 23

November 10, 17

April 20

December 1, 15, 22, 29

1106 vaccinated as of Feb 2023



SCHOOL BASED HEALTH CENTER

- Opened at Newtown Middle School in March of 2015
- Free standing medical facility located within the Newtown Middle School
- Offers medical care and behavioral health counseling on site to registered students
- Medical services: vaccines, physical exams, testing for flu, strep, COVID, etc., diagnose and treat common illnesses, send prescriptions to pharmacy
- Mental health services: individual, family, group counseling for bullying, anxiety, depression, peer/family relationships, trauma/loss, self harm, suicidal ideation

SCHOOL BASED HEALTH CENTER



NEWTOWN MIDDLE SCHOOL

"Healthy Kids Make Better Learners"

- 200 registered students (of 607 total)
- 113 students seen
- 799 SBHC visits this school year (471 counseling and 328 medical)

This year SBHC will offer behavioral health counseling through the summer months. This service will be available to rising 7th graders as well as current 7th and 8th grade students.

Data since SBHC opened in March 2015

SCHOOL YEAR	<u>Opened March 2015</u>	<u>15-16</u>	<u>16-17 20-21 Hybrid</u>	<u>17-18 GBTQ Group</u>	<u>18-19</u>	<u>19-20 COVID 3/17/19</u>	<u>20-21</u>	<u>21-22</u>	<u>22-23</u>
Total # NMS students	829	808	752	711	683	680	637	581	607
Total # enrolled SBHC	131	356	292	344	343	335	218	193	200
% population enrolled SBHC	16%	44%	39%	48%	50%	49%	34%	33%	33%
Total # SBHC visits	136	395	587	947	556	589	629	748	799
# Medical Visits	91	248	301	239	222	142	187	321	328
# Behavioral Health Visits	45	147	286	737	344	447	442	427	471

Teen Talk



NMS: Olivia Bucci

NHS: Wendy Chum

- **Master's level mental health counselors in Fairfield county middle and high schools**
- **Specially trained, compassionate counselors identify and help students navigate difficult personal, family and school related issues**
- **Help to identify at risk students**
- **Provide individual, group and family counseling**
- **Collaborate with school staff**
- **Provide crisis intervention and referrals (211 services)**



Teen Talk: Presenting Problems

At NHS: 444 counseling sessions (21 crisis safety assessments)

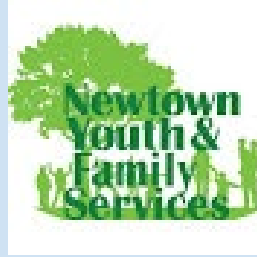
75% girls 25% boys

- anxiety
- peer issue
- family conflict
- academic challenges
- suicidal ideation

At NMS: 357 counseling sessions (2 crisis safety assessments)

50/50 girls and boys

- peer issue
- anxiety
- disruptive behavior



Student Assistance Counselor

- **Partnership between the Newtown Youth and Family Services and the Board of Education since 2007**
- **Licensed Clinical Social Worker is available on site for middle and high school students.**
- **Available to talk with students on an informal, drop-in basis, and has a focus on substance use prevention.**
- **This counselor also serves as a consultant and resource to staff at both schools in implementing prevention services and programs**

School year:

2018-2019: 157 students; 1419 contacts

2019-2020: 86 students; 927 contacts

2020-2021: 67 students; 650 contacts

2021-2022: 68 students; 754 contacts

2022-2023: 61 students; 682 contacts



Data Analysis:

- **Contacts by grade: majority of contacts were from 12th graders (with the exception on academic years**
- **19-20 and 22-23, where majority of contacts were from 10 th graders)**
- **Referral source: across all 5 academic years, majority of students were self-referred or referred by**
- **friends**
- **Gender: overwhelming majority of contacts identify as females all 5 academic years**



Cognitive Behavioral Intervention for Trauma in Schools

CBITS is a program for students in grades 5 - 12, who have experienced trauma and would benefit from individual or group counseling. It is designed to reduce symptoms of post traumatic stress disorder (PTSD), depression and behavioral problems, and to improve functioning, grades and attendance, peer and parent support and coping skills.

- Newtown has trauma trained counselors at RIS, NMS and NHS. Each school generally runs two to five small groups per year.**
- The program is so well established that outside providers often refer parents and students**
- Our trauma trained staff are recognized regional experts and now provide CBITS training to other school districts.**



SOS Signs of Suicide Program

- **Evidence based youth suicide prevention program presented to Newtown Middle School 7th graders and Newtown High School students in 9th and 11th grades classes since 2013/14.**
- **Designed for use in middle and high schools, SOS teaches students how to identify signs of depression and suicide in themselves and their peers, while providing materials that educate school professionals, parents, and communities to recognize at-risk students and take appropriate action.**

NMS Signs of Suicide Data



	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2020-21	2021-22	2022-23
Screenings Completed	368	344	268	322	320	315	266	289	278
Follow up with mental health staff	58	34	41	53	58	37	42	44	48
% followed up of screenings	15.8%	9.9%	11.1%	15.6%	18.1%	11.7%	15.8%	15.2%	16.6%
Suicidal thoughts / attempts	10	5	7	8	8	7	15	10	15
% suicidal thoughts/action s of screenings	2.7%	1.5%	1.9%	2.5%	2.5%	2.2%	5.6%	3.46%	5.39%
Parent opt out	34	45	12	15		13	9	5	2

NHS Signs of Suicide Data



	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2020-21	2021-22	2022-23
Screenings Completed	650	650	705	729	710	715	557	648	525
Follow up with mental health staff	61	83	79	69	94	99	77	110	83
% followed up of screenings	9.4%	2.8%	11.2%	9.5%	13.2%	13.8%	13.8%	16.9%	15.8%
Suicidal thoughts / attempts	12	9	16	19	27	11	22	29	21
% suicidal thoughts/actions of screenings	1.8%	1.4%	2.3%	2.6%	3.8%	1.5%	3.9%	4.4%	4.0%
Parent opt out	107	75	21	16	12	8		2	2



PEER RUN SUICIDE PREVENTION PROGRAM

NHS

- 30 student members this year (largest ever). All receive orientation and introduction to QPR training. Parents of these students are also oriented to the program.
- Positive messages throughout the year: Valentine's Day, exam weeks,
- Hope Week: April 24 - 28 ending with Check In Fair
- Check In Fair: 456 Students attended

NMS

- New program: 5 members this year
- Weekly activities to help spread hope: positive messaging on lockers, hope wall, therapy dogs





At Our Core



Newtown Center
for Support and Wellness



Newtown
COMMUNITY CENTER

Barre
BOUTIQUE

Collaboration with town organizations and local business to support Staff Wellness Programs

Staff Survey in the Fall: Fitbits, Yoga and Strength training

- **Fitbit Program**: 293 fitbits distributed plus 331 currently using Fitbit Premium Membership
- **Tuesday Yoga**: consistently popular - self sustaining (42 registered)
- **Fall Series**: Deep Stretch, Water Aerobics, Body Blast
- **Barre Introduction**: 20 were able to try a challenging fitness class at a discounted price



Newtown Public School District

Strategic Plan

May 30, 2023



Newtown Public School District

Table of Contents

Welcome letter	3
Strategic Planning Process	4
Strategic Planning Process: <i>At a Glance</i>	5
Portrait of the Newtown Graduate	6
Core Values of the Community	8
Statement on Diversity, Equity and Inclusion	10
Strategic Priorities	11
Strategic Priority 1	13
Strategic Priority 2	14
Strategic Priority 3	15
Strategic Priority 4	16
Continuous Improvement Process	17



Newtown Public School District

Dear Parents, Students, Staff, and Community Members,

I am delighted to present to you the Newtown Public Schools Strategic Plan, a roadmap that will guide our collective efforts towards an exceptional education for all our students. Beginning in November of 2022, the Newtown Board of Education launched a strategic planning process designed to solicit input from various stakeholders including, students, parents, educators, community members and experts. Through surveys, focus groups and individuals, we learned about your current experiences of the school district as well as your hopes for the future. Through the winter and spring of 2023, the Strategic Planning Committee carefully analyzed the diverse perspectives of our community, considering strengths, challenges, and aspirations for the future.

At the core of our plan is the unwavering commitment to ensuring all students graduate prepared to succeed in life. With your assistance, we have articulated a Portrait of the Graduate; a vision of the skills and dispositions necessary to thrive after graduation. This will be our North Star, shining a light and providing clarity of purpose. We have also identified four strategic priorities that will help guiding efforts in the coming years:

- Strategic Priority 1: Ensure Stimulating, Engaging, and Challenging Learning Opportunities Tailored to the Individual Needs of Students
- Strategic Priority 2: Prepare Students for Life Beyond Graduation
- Strategic Priority 3: Hire, Retain, and Develop a Diverse and Exceptional Faculty and Staff
- Strategic Priority 4: Strengthen District, Family, and Community Partnership

At Newtown Public Schools, we are committed to providing an exceptional educational experience that empowers students to thrive academically, socially, and personally. Our strategic plan serves as a roadmap for achieving our mission and guiding our actions as we strive for continuous improvement and excellence.

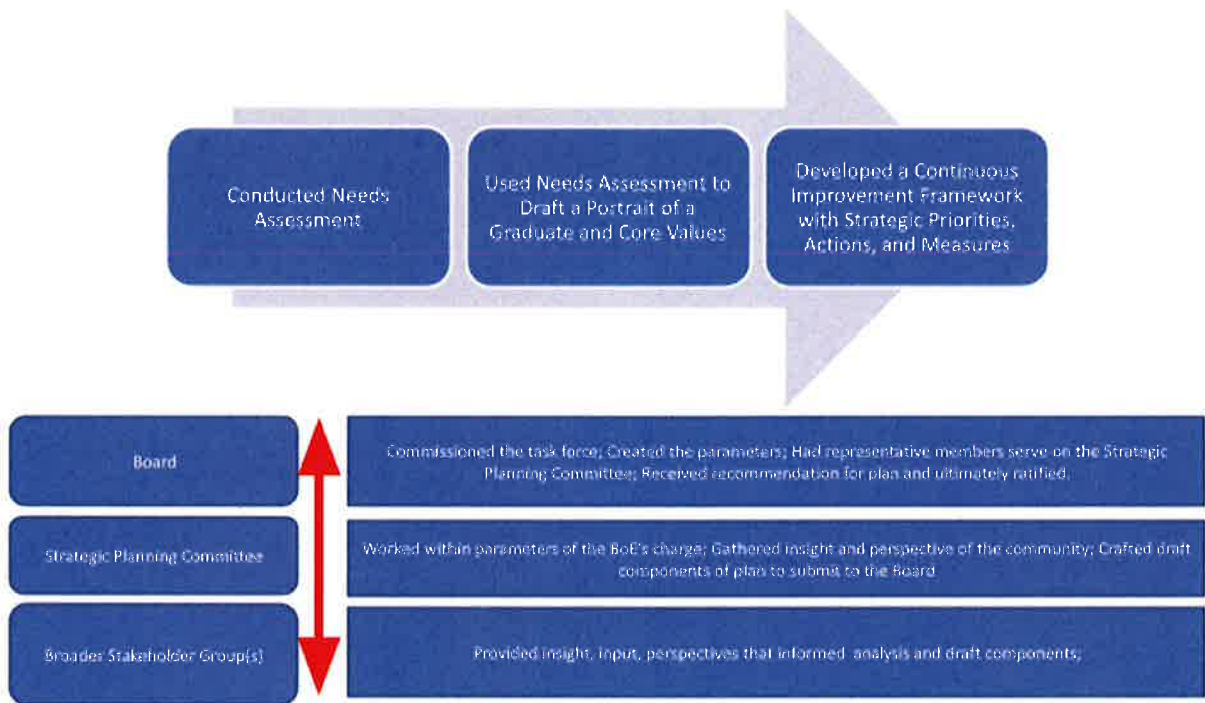
I invite you all to join us on this exciting path as we work towards realizing our shared vision of academic excellence, student well-being, and community engagement. Together, we will make a positive and lasting impact on the lives of our students and the future of our community.

Sincerely,



Newtown Public School District

Newtown Strategic Planning Process







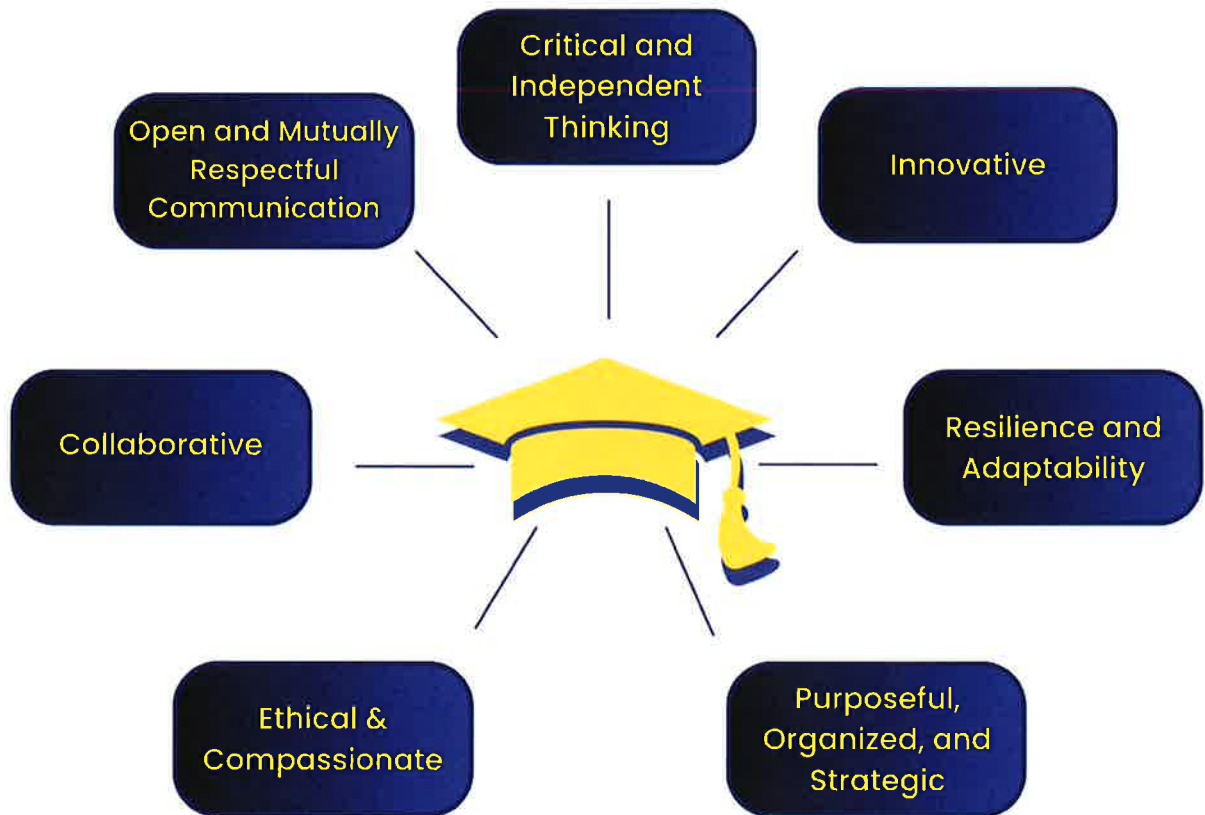
Newtown Public School District

Portrait of the Newtown Graduate

Dimension	
Critical and Independent Thinking	<ul style="list-style-type: none"> ● Processes, analyzes, examines, interprets, and evaluates information to form an opinion and make decisions ● Questions, discusses, and explores varying ideas and viewpoints
Innovative	<ul style="list-style-type: none"> ● Demonstrates a sense of curiosity ● Uses imagination to identify novel solutions to existing challenges ● Explores the unknown
Resilience and Adaptability	<ul style="list-style-type: none"> ● Perseveres and adapts to challenges ● Learns and grows from setbacks and challenges ● Exhibits flexibility in changing situations
Purposeful, Organized, and Strategic	<ul style="list-style-type: none"> ● Identifies and pursues goals ● Assesses complex challenges and identifies appropriate strategies ● Monitors progress and adjusts approaches as necessary
Ethical & Compassionate	<ul style="list-style-type: none"> ● Displays empathy and regard for others ● Fosters a caring community ● Seeks to understand the perspectives of others ● Seeks to serve others and the community ● Acts with integrity in accordance with defined principles
Collaborative	<ul style="list-style-type: none"> ● Works interdependently and respectfully with others to enhance learning and achieve common goals ● Respects divergent thinking and works with others in productive discussion ● Partners with others possessing varying backgrounds and experiences ● Welcomes feedback from others to enhance quality of work
Open and Mutually Respectful Communication	<ul style="list-style-type: none"> ● Listens to and seeks to understand the ideas, thoughts, and opinions of others ● Articulates ideas effectively in varying modes and media ● Understands and tailors communications to the audience and the intended purpose



PORTRAIT OF THE NEWTOWN GRADUATE





Newtown Public School District

Core Values of the Newtown Public Schools Community

	We are committed to:
Respect	Valuing and Maintaining Positive Regard for Others
Inclusion, Belonging, and Diversity	A compassionate, community-minded climate that embraces and honors the needs and contributions of all.
Integrity	Displaying ethical conduct in every decision and practice.
Excellence Through Continuous Improvement	A disciplined, rigorous and dynamic pursuit of improvement for students and staff.
Innovation	Exploring, researching and investigating new solutions and opportunities.
Collaboration	Working together respectfully and supporting each other in pursuit of common purpose.
Safety	Ensuring the physical and emotional well-being of all.



CORE VALUES





Newtown Public School District

Newtown Board of Education's Statement on Diversity, Equity and Inclusion

Diversity, equity and inclusion are words that, when used together, describe policies and programs that promote the representations, participation and contributions of different groups of individuals as set forth in [Policy 0523 Equity and Diversity](#) including but not limited to people of different race, culture, religion, mental and physical ability, sexual orientation, or gender expression or identity.

More specifically:

- Schools should be welcoming and supportive spaces for our students.
- Our curriculum should be infused with materials that include diverse authors, protagonists, heroes and historical figures.
- When studying topics in our classroom, our students will learn through multiple lenses and points of view.
- Schools should embrace kindness and diversity. Any form of harassment or bullying based on personal characteristics, as enumerated above, will not be tolerated.
- As educators, we need to provide various perspectives on topics and remain apolitical. To encourage critical thinking, we need to develop learning environments that allow students to identify and understand perspectives provided in the material and related discussions, and to draw their own informed conclusions. That is where true learning occurs.



STRATEGIC PRIORITIES

01

**Ensure Stimulating, Engaging,
and Challenging Learning
Opportunities Tailored to the
Individual Needs of Students**

02

**Prepare Students to Thrive Post-
graduation**

03

**Hire, Retain, and Develop a
Diverse and Exceptional Faculty
and Staff**

04

**Strengthen District, Family, and
Community Partnership**



Newtown Public School District

Strategic Priority 1:

Ensure Stimulating, Engaging, and Challenging Learning Opportunities Tailored to the Individual Needs of Students

Strategic Actions	Measures of Progress
<p>Making learning experiences that are culturally responsive, rigorous, and personalized</p>	<ul style="list-style-type: none"> ● Learning Walks and other types of non-evaluative classroom visits ● Annual performance on benchmark assessments ● Student/Family Survey
<p>Increase opportunities for inquiry-based and student-centered learning that promotes curiosity and student engagement</p>	<ul style="list-style-type: none"> ● Student/Family Survey ● Learning Walks and other types of non-evaluative classroom visits ● Annual performance on benchmark assessments
<p>Use data and evidence to drive instructional decision making to meet the individual needs of our students</p>	<ul style="list-style-type: none"> ● Annual performance on benchmark assessments ● Number of students receiving interventions- in and dismissed ● Annual review of data use for driving instruction
<p>Create learning experiences that support students in identifying and understanding perspectives provided in materials and related discussions, and to draw their own conclusions.</p>	<ul style="list-style-type: none"> ● Learning Walks and other types of non-evaluative classroom visits ● Annual performance on benchmark assessments ● Student/Family Survey ● Non-evaluative classroom visits ● Analysis of curricular shifts within ongoing curriculum review process



Newtown Public School District

Strategic Priority 2: Prepare Students to Thrive Post-Graduation

Strategic Actions	Measures of Progress
Make available to students a variety of resources and options for post high school pursuits.	<ul style="list-style-type: none">● Exit surveys and interviews (sampling strategy) of graduating seniors● College and Career Center participation metrics● Student interest survey
Provide authentic experiences aligned to post-graduate possibilities/opportunities.	<ul style="list-style-type: none">● Capstone topics for graduating seniors● End-of-capstone survey
Create a comprehensive plan to help all students achieve the portrait of the graduate, including an assessment process	<ul style="list-style-type: none">● Completion of the plan● Implementation of plan at school levels
Expand opportunities for students to explore career pathways and to develop marketable skills	<ul style="list-style-type: none">● Exit surveys and interviews (sampling strategy) of graduating seniors● College and Career Center participation metrics● Participation rates in career pathway opportunities



Newtown Public School District

Strategic Priority 3:

Hire, Retain, and Develop a Diverse and Exceptional Faculty and Staff

Strategic Actions	Measures of Progress
Analyze climate surveys to identify needs and develop school-specific action steps to address results	<ul style="list-style-type: none">● Existence of school annual plans● Progress toward addressing identified needs
Diversify applicant pool by strategic recruitment	<ul style="list-style-type: none">● Creation of a comprehensive recruitment system● Annual summary of applicant diversity statistics
Provide mentoring support for all new hires	<ul style="list-style-type: none">● Annual survey of new teachers and mentors● Annual retention rates
Create comprehensive professional development plan to address needs at the individual, school and district levels	<ul style="list-style-type: none">● Professional development priorities articulated in annual improvement plans● Professional development impact results



Newtown Public School District

Strategic Priority 4: Strengthen District, Family, and Community Partnership

Strategic Actions	Measures of Progress
Enhance communications to stakeholders to encourage timely and effective information flow using various methods.	<ul style="list-style-type: none">● Parent survey results, disaggregated by school● Annual communications plan that articulates priorities, strategies and timetables
Rebuild district website to optimize communications with stakeholders	<ul style="list-style-type: none">● Completion and launch and website● Website view statistics● Participation rates for family programming events
Revitalize family advisory groups at the school and district levels to enhance engagement, problem-solving, and feedback.	<ul style="list-style-type: none">● Articulated charter of advisory groups● Parent survey results, disaggregated by school
Build capacity within the district and community to support diversity, inclusion, accessibility and belonging.	<ul style="list-style-type: none">● Completed needs assessment by consultant.● Implementation of recommendations from consultant.



Newtown Public School District

Newtown Continuous Improvement Process

The Newtown Public Schools Strategic Plan is a tool to clarify priorities and promote focused and sustained improvement efforts over time. To operationalize the Strategic Plan, NPS will engage in an annual process of study, plan, act, and do.

Each year:

- NPS and the board will review progress from the previous year and identify annual goals in alignment with the Strategic Plan.
- School leadership teams will examine results from the previous year and identify school-based goals in alignment with the Strategic Plan.
- The Communications Committee of the NPS Board of Education will publish highlights of progress aligned with the Strategic Plan.
- The Strategic Planning Committee meets three times per year to review progress, examine data, provide updates to the Communications Committee, and identify necessary adjustments.
- NPS Superintendent will provide the Board of Education updates three times per year in alignment with Strategic Planning Committee Meeting reviews.
- Family Advisory Groups will be invited to board meetings for strategic plan progress updates.



Kitchen Science Gr. 7

2 Curriculum Developers | Last Updated: Tuesday, May 2, 2023 by Iacofano, Elizabeth

Unit Calendar by Year

Unit	Lessons	Au		Sep			Oct			Nov			Dec			Jan			Feb			Mar			Apr			May			Ju								
		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
Food Chemistry and Food Safety	0																																						

1 Unit found

Previous Year



Unit Planner: Food Chemistry and Food Safety Kitchen Science Gr. 7

Monday, May 1, 2023 11:26AM

Newtown Middle School / 2022-2023 / Grade 7 / Science / Kitchen Science Last Updated: Tuesday, May 2, 2023 by Elizabeth Iacofano

Food Chemistry and Food Safety

Bradley, Nancy; Iacofano, Elizabeth

- [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: Change

Concepts: Structure, Process, Motion, Energy, Transformation, Growth, Function, Health

G

Generalizations / Enduring Understandings

1. Adding energy to a system creates a change in motion which when sufficient leads to a change in the state of matter or chemical transformation.

2. A change in molecular structure affects function.

3. Following specific processes for storing and cooking food reduces the likelihood of bacterial growth thereby affecting health.

Guiding Questions

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

1a. What are the three states of matter? (F)

1b. What is an atom? (F)

1c. What is a molecule? (F)

1d. What is a solution? (F)

1e. What is a mixture? (F)

1f. What is the difference between a physical change and a chemical change? (F)

1g. What happens to molecules when they are heated up and cooled down? (F)

1h. What is bench tolerance and how do the three leavening gases in baked goods affect bench tolerance? (F)

1i. Why do oil and water separate when in a mixture? (C)

1j. Why does dissolved sugar come out of solution when cooled? (C)

- 1k. Why does a cut up apple turn brown? (C)
- 1l. How does adding heat enhance the leavening process? (C)
- 1m. Which is more useful, baking soda or baking powder and why? (P)
- 2a. What is sugar and what are examples of different types of sugar? (F)
- 2b. What is a protein? (F)
- 2c. What are the different structures of proteins? (F)
- 2d. What are the three components in a wheat kernel? (F)
- 2e. What is gluten and how is it formed? (F)
- 2f. How does the hygroscopic nature of sugar contribute to its function? (C)
- 2g. How does protein structure affect its function? (C)
- 2h. How can protein denaturation occur when preparing food? (C)
- 2i. How do eggs provide structure in cake? (C)
- 2j. How does the Maillard reaction occur when food is cooked? (C)
- 2k. How does flour provide structure? (C)
- 2l. Which has more gluten: wheat or white flour and why? (C)
- 2m. Is high fructose corn syrup safe to consume? (P)
- 2n. What are the pros and cons to alternatives to sugar? (P)
- 2o. Which is healthier: wheat or white flour and why? (P)
- 3a. What is a foodborne illness (F)
- 3b. What happens to food when heated and how does this relate to prevention of illness from a microorganism? (C)
- 3c. What needs to be considered to safely purchase and

transport food?(C)

3d.What are the best ways to safely store food? (C)

3e. How can foodborne illnesses be avoided? (C)

3f.Is bacteria good or bad? Why? (P)

Standard(s)

Connecticut Core Standards / Content Standards

NGSS: Science Performance Expectations (2017)

NGSS: MS Physical Science

MS.Structure and Properties of Matter

Performance Expectations

MS-PS1-3. Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.

MS-PS1-4. Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.

MS.Chemical Reactions

Performance Expectations

MS-PS1-2. Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.

NGSS: MS Life Science

MS.Matter and Energy in Organisms and Ecosystems

Performance Expectations

MS-LS1-7. Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

MS.Growth, Development, and Reproduction of Organisms

Performance Expectations

MS-LS4-5. Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.

NGSS: Disciplinary Core Ideas

NGSS: 6-8

PS1: Matter and Its Interactions

PS1.A: Structure and Properties of Matter

Each pure substance has characteristic physical and chemical properties (for any bulk quantity under given conditions) that can be used to identify it. (MS-PS1-2), (MS-PS1-3)

Gases and liquids are made of molecules or inert atoms that are moving about relative to each other. (MS-PS1-4)

In a liquid, the molecules are constantly in contact with others; in a gas, they are widely spaced except when they happen to collide. In a solid, atoms are closely spaced and may vibrate in position but do not change relative locations. (MS-PS1-4)

The changes of state that occur with variations in temperature or pressure can be described and predicted using these models of matter. (MS-PS1-4)

PS1.B: Chemical Reactions

Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. (MS-PS1-2),(MS-PS1-3),(MS-PS1-5)

PS3: Energy

PS3.A: Definitions of Energy

The term "heat" as used in everyday language refers both to thermal motion (the motion of atoms or molecules within a substance) and radiation (particularly infrared and light). In science, heat is used only for this second meaning; it refers to energy transferred when two objects or systems are at different temperatures. (secondary to MS-PS1-4)

Temperature is not a measure of energy; the relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter present. (secondary to MS-PS1-4)

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Critical Content & Skills

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

Generalization 1

Students will know that:

- the four states of matter are liquid, solid, gas, and plasma
- an atom is the smallest unit of matter that makes up an element
- a molecule is a group of atoms bonded together
- a mixture is made up of two or more different substances that are not chemically combined
- a solution is a mixture in which two or more substances are well mixed (homogeneous). Best known when a solute is dissolved in a solvent
- a physical change occurs when a substance changes its appearance/state of matter where a chemical change results in the formation of a new substance
- when molecules are heated up, they start vibrating/moving faster causing them to bang into each other and, in turn, causing them to spread out which leads to a decrease in density as the volume increases. When molecules cool down, they slow down allowing the attraction between molecules to bring them closer leading to a decrease in volume and increase in density.
- oil and water don't naturally mix. This is because water molecules prefer to stick with other water molecules and they move as far from the oil molecules as possible. The same is true for the oil molecules, which are hydrophobic. As a result, oil and water molecules are happiest furthest from each other so they separate into layers when mixed together. The drops of oil separate from the water droplets and touch one another then merge to form a single drop of oil. This happens until the two liquids completely separate into two layers. The more dense water is at the bottom and oil is on the top. These fluids are called immiscible because they don't dissolve in one another. When making a vinaigrette of oil and vinegar(vinegar is mostly water), adding another ingredient, such as mustard, will help bind the oil and vinegar together by forming a buffer between the oil and water. The molecules that make up the mustard are amphiphilic: one half of each molecule is hydrophilic and likes to be in water and the other half is hydrophobic and likes to be in oil. We've formed an emulsion and the ingredients appear to be mixed but aren't at the molecular level. The oil is still separated from the water but the mustard binds it all together.

- when you supersaturate a solution with sugar, it is unstable as there is more solute than can stay in liquid form. When the solution cools, sugar molecules combine with each other and form crystals. As the solution continues to cool, more and more molecules combine making hard candy.
- bench tolerance is the measure of how well batters and doughs tolerate being held before baking without risking a large loss in leavening gases. It is affected by the thickness of the batter/dough and the leavening agent used.
- the three main leavening gases in baked goods are air, steam, and carbon dioxide.
- leavening agents cause baked goods to rise providing lightness and volume. Heat causes the gases to expand making them larger. This causes the cell walls to stretch increasing the volume. This, in turn, creates a strong structure preventing baked goods from collapsing.
- baking soda and baking powder are both leaveners but they are chemically different. Baking soda is sodium bicarbonate, which is a base, and needs an acid to produce gas. Baking powder is baking soda plus a dry acid. As a result, it doesn't need an acid to perform its leavening function. So baking powder is used when there is not an acid present in the ingredients and baking soda is used when an acid is part of the ingredients.
- a cut up apple turns brown due to a process called enzymatic browning. When the cut apple is exposed to oxygen, an enzyme, polyphenol oxidase (PPO), is triggered to oxidize micronutrients called polyphenols. This results in a new chemical to be produced that reacts with amino acids to produce brown-colored melanins. Different types of apples contain different amounts of PPO and polyphenols so they brown at different rates.

Students will be able to:

- create a heterogeneous and homogenous mixture and a solution.
- separate a solution into individual parts.
- explain the difference between baking soda and baking powder based on an activity investigating both.
- explain what happens to molecules when heated and cooled.
- explain the purpose of adding salt to winter roads.
- explain the function of yeast and how to activate it.
- explain why apples get brown when exposed to air.

Generalization 2

Students will know that:

- sugars are simple carbohydrates: molecules that consist of carbon, hydrogen, and oxygen atoms arranged in a specific way. They are further classified as monosaccharides (one sugar unit) also known as simple sugars, disaccharides (two sugar units bonded together), oligosaccharides (usually 3-10 sugar units bonded to a chain), and polysaccharides (often thousands of sugar units). Common simple sugars are glucose and fructose. These are naturally present in many ripened fruit and are important in the makeup of many syrups. Maltose (malt sugar) is an example of a disaccharide that is commonly found in glucose corn syrup and malt syrup while lactose is a disaccharide found in dairy products and sucrose (table sugar) is the most common sugar in the bakeshop as it is glucose bonded to fructose. Oligosaccharides are often called dextrans and are present in many syrups used in the bakeshop. Lastly, starch is an example of a polysaccharide.
- some of the functions of sweeteners are related to their hygroscopic properties, or their ability to attract and hold water. Sugars are important in tenderizing because once dissolved, they interfere with gluten formation, protein coagulation, and starch gelatinization. This is because gluten, eggs, and starch structure all depend on water so sugars strong ability to attract water keeps it away from them thereby not allowing them to build structure and increasing the tenderness of the product. The more sugar added, the more the delay to structure formation and the more tender the baked good. If too much sugar is added, too little structure forms and the product will never rise or if it does rise, it will collapse when it cools. In the end, the hygroscopic nature of sugar increases the softness and moistness in freshly baked goods and extends their shelf life by keeping them from drying and staling. Fructose is the most hygroscopic of the sugars so syrups that contain a significant amount of fructose such as honey, high fructose corn syrup, and agave syrup, provide more moistness than other syrups or granulated sugar.
- there are healthy and unhealthy substitutes for sugar.
- the Maillard reaction produces browning on cooked food. This occurs when the amino acids in the food binds

with sugar in the presence of heat. The molecule that results breaks down, binds to new molecules, and breaks down further. This process forms hundreds of new flavor molecules and causes browning to occur on the outside of the food.

- proteins are very large molecules made up of many amino acids linked together into long chains. There are 20 amino acids living organisms use to make proteins - 9 are essential which means they cannot be made so we must eat them in food.
- there are four levels of structure for proteins: primary, secondary, tertiary, and quaternary. There are two major classes of proteins based on shape: fibrous proteins (linear shape) such as glutenin which forms the backbone of gluten (important in baked goods), ovomucin in egg whites, elastin in tendons, collagen in connective tissue, and keratin in hair and nails, and globular proteins (spherical shape) such as ovalbumin in egg whites and hemoglobin.
- egg whites, or egg albumen consists of more than 6 different types of proteins. This mix is responsible for most of the function of egg whites such as structure building and aeration. The egg yolk also provides structure in baked goods because it contains lipoproteins (proteins bound to fats and emulsifiers such as lecithin). These lipoproteins bond to both water and oil thereby binding complex mixtures of ingredients such as cake batter.
- when heat is added to protein, the protein wiggles breaking the bonds that hold the three-dimensional structure together and the protein unfolds or denatures. This causes the protein to not function properly.
- when you add a higher amount of heat to protein, it unfolds even further and causes the proteins to coagulate or stick together changing the liquid to a solid. Example: an egg cooking. The albumin goes from a clear liquid to a white solid as the protein denatures. Each of the proteins in eggs denature at a slightly different temperature so the egg appears different as it cooks.
- flour provides structure: Wheat is the most popular cereal grain for use in baked goods due mostly to the gluten that forms when flour is mixed with water. Without gluten, raised bread would not occur. Wheat kernels or wheat grains are the seeds of the wheat plant and they are the part milled into flour. There are three parts: the endosperm, the germ, and the bran. Whole wheat flour contains all three parts so it is considered whole grain while white flour is milled from the endosperm, which makes up 80% of the wheat kernel and is made up of mostly starch. Two proteins in the endosperm are glutenin and gliadin. When flour is mixed with water, glutenin and gliadin form a network of gluten, which is important in the structure of baked goods. The germ is the embryo of the wheat plant and contains many vitamins and minerals and is high in protein. The bran is the protective covering of the wheat kernel and is high in dietary fiber, protein, fat, B vitamins, and minerals. Bran and germ proteins are not gluten forming and actually interfere with gluten formation.

Students will be able to:

- determine the difference between molecular structures based on smell.
- investigate the amount of water sugar absorbs
- explore the function of thickeners in cooking
- observe the Maillard reaction when cooking.
- observe crystal formation of sugar and also how to avoid crystal formation when not desired.
- observe protein denaturation in eggs.
- investigate how proteins in eggs whites are stabilized by sugar in order to make a desired type of cookie.
- identify which flour creates the most gluten.
- observe the function of leavening agents in baking.
- research sugar substitutes and the GMO sugar beet controversy

Generalization 3

Students will know that:

- before food is cooked, it is filled with microorganisms (bacteria and fungi) that can be harmful if ingested. Small amounts of heat can cause the proteins within the microorganisms to malfunction and the organism dies. Most live and multiply in a temperature range of a few degrees above freezing to 122 degrees F. At cooler temperatures, it is too cold for microbes to survive and grow. This is why freezing and refrigeration are

effective ways to preserve food.

- in order to safely purchase food: check the expiration (sell by or best by) dates and checked canned goods for damage (swollen, bulging, leaking, dents)
- when purchasing eggs, choose only refrigerated eggs and make sure they are clean and are not cracked as bacteria from cracked eggs can be transferred to the surface of, and then inside of, a neighboring uncracked egg.
- when purchasing produce, fruits and vegetables have a short shelf-life so they should not be bought in bulk unless they will be cooked/eaten in short order. Don't purchase produce that is bruised, shriveled, moldy, slimy, or have soft spots.
- when purchasing meat, fish, poultry, dairy: check expiration/sell by date. Place raw seafood, meat, and poultry in plastic bags to prevent cross contamination to other foods in the shopping cart. Choose only pasteurized dairy products as this process ensures no harmful bacteria will be present.
- it's important to shop for refrigerated foods, frozen foods, and hot deli items last to ensure they are not in the danger zone (40-140 degrees F) for more than 2 hours.
- it's important to bag and transporting food, bag meat, seafood, poultry in a bag separate from all other food; bag cold/frozen items together; separate non-food items such as cleaning supplies. Place cold foods in the coldest part of the car: backseat with the A/C on in the summer and in the trunk in the winter.
- storage of perishable foods involves the following: Meat, poultry, and seafood should be stored in the lowest part of the refrigerator as this where the coldest air circulates and it prevents cross-contamination by containing dripping juices so they don't come in contact with ready-to-eat foods. Dairy and egg products should be stored on the refrigerator shelves and never in the door. The door is the warmest area in the refrigerator so it should be for storing condiments, nondairy drinks, jarred foods, etc. Keep fruits and veggies in the crisper.
- storage of nonperishable foods involves the following: nonperishable foods such as canned goods, pasta, flour, cereal, peanut butter, and rice should be stored in a dark, dry, cool space kept at room temperature. These foods do best in a cupboard or pantry away from the range, over, dishwasher, or refrigerator exhaust
- it is important to discard cans that are leaking, bulging, dented, or rusty. Low-acid canned foods such as stews, soups, vegetables, pasta maintain their quality for 2-5 years, high-acid canned foods such as tomato products, fruits, sauerkraut, and salad dressings maintain their quality for 12-18 months, and canned fruit juices maintain their quality for approximately 9 months.
- researchers have identified more than 250 foodborne diseases most of them caused by bacteria, viruses, and parasites. However, harmful toxins and chemicals can also contaminate food causing illness. It can be avoided by following 4 steps: clean, separate, cook, and chill. Clean your hands, work surface, and tools with hot soapy water and rinse fruits and vegetables under running water. Keep raw meat, seafood, poultry, and eggs separate from all other foods, cook food to the correct temperature using a food thermometer where appropriate, and chill/refrigerate promptly (keep your refrigerator at 40 degrees F or below, refrigerate perishables within 2 hours, and thaw frozen food in the refrigerator, in cold water, or in the microwave; not on the counter).

Students will be able to:

- store food safely.

Core Learning Activities

Generalization 1:

1. Mixture/Solution/Solubility activities- investigate the difference between a mixture and a solution

2. emulsions and adding heat to marshmallows - observe molecules that are hydrophobic, hydrophilic, and

amphiphilic and observe what happens when molecules are heated

3. Leavening agents activity - investigate the difference between different leavening agents.
4. Chemical Change Activities - creating bubbles and heat through chemistry to leaven dough; blowing up a balloon when yeast, water, and sugar are added; observing the Maillard reaction.
5. Making ice cream activity - salt lowers freezing point of water making it colder

Generalization 2:

1. Investigating the hygroscopic nature of sugar - using sugar cubes and colored water to see sugar's absorption power
2. investigating pectin by making strawberry jam - pectin is a natural thickening agent that is activated when sugar is added to the acid in strawberries
3. Making Hard Candy - investigate crystal formation of sugar
4. Investigating Protein Denaturation - investigate protein denaturation through heating egg whites and beating them.
5. Making Toll House Cookies - applying knowledge of sugar, flour, protein, and yeast.
6. Measuring the amount of sugar in beverages - use a hygrometer to determine the sugar level in beverages
7. Making Homemade Soft Pretzels - investigate gluten and the function of yeast using white flour.
8. Sugar Substitutes Assignment - web-based research assignment investigating common sugar substitutes.

Generalization 3:

1. Food Safety Assignment - read an article and watch videos while answering questions

Assessments



Assessments



7 Food safety assignment S2

Resources

Professional & Student

Books:

1. The Food Safety Book by Joe Kivett and Dr. Mark Tamplin with Dr. Gerald J. Kivett Copywrite 2016
2. Awesome Kitchen Science Experiments for Kids by Dr. Megan Olivia Hall, Copywrite 2020
3. How Baking Works, 3rd edition by Paula Figoni, Copywrite 2011
4. Culinary Reactions: The Everyday Chemistry of Cooking by Simon Quellen Field, Copywrite 2012
5. The Science of Cooking by Dr. Stuart Farrimond, Copywrite 2017
6. Science and Cooking by Michael Brenner, Pia Sorensen, and David Weitz, Copywrite 2020

Websites:

[Leavening agents information](#)

[Exploratorium - The Accidental Scientist: The Science of Cooking](#)

[Sciencebob.com](#)

[100 amazing food experiments for kids](#)
[Simple experiments and activities for youth](#)

[Science Buddies](#)

[Food Science Experiments - Steve Spangler](#)

[sugar crystal ornaments](#)

[Food science activities for middle school](#)

Student Learning Expectation & 21st Century Skills

[Information Literacy](#)

[Critical Thinking](#)

[Spoken Communication](#)

[Written Performance](#)

Interdisciplinary Connections

This unit connects to math when measuring, to health when discussing nutrition and food preservation, and to literacy when students analyze data and explain the science behind what they observe.



Kitchen Science Gr. 8 (Pilot)

2 Curriculum Developers | Last Updated: Tuesday, May 2, 2023 by Iacofano, Elizabeth

Unit Calendar by Year

Unit	Lessons	Au		Sep				Oct				Nov				Dec				Jan				Feb				Mar				Apr				May				Ju			
		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				
Draft Waves, Molecular Motion, an...	0	█																																									
Draft Food Chemistry	0	█																																									
Draft Food Preservation	0	█																																									

3 Units found

[Previous Year](#)



Unit Planner: Waves, Molecular Motion, and Senses

Kitchen Science Gr. 8

Newtown Middle School / 2022-2023 / Grade 8 / Science / Kitchen Science
Gr. 8 (Pilot) / Week 1 - Week 3

Last Updated: Tuesday, May 2, 2023 by
Elizabeth Iacofano

Waves, Molecular Motion, and Senses

Bradley, Nancy; Iacofano, Elizabeth

- [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: Change

Concepts: Structure, Process, Motion, Energy (heat and electromagnetic), Transformation, Function, Health

G

Generalizations / Enduring Understandings

1. Food cooks when heat and electromagnetic energy transfer from one source to another.
2. Cooking food causes a change in structure and function.
3. Specialized cells located in our sense organs collect sensory information that is then brought to our brain for interpretation resulting in our ability to taste and smell food.

Guiding Questions

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

- 1a. What is electromagnetic radiation? (F)
- 1b. What is a wave? (F)
- 1c. What are the parts of a wave? (F)
- 1d. What is the difference between a light and a sound wave? (F)
- 1e. How are microwaves different from the other types of waves in the electromagnetic spectrum? (C)
- 1f. What is the difference between a microwave oven, conventional oven, and a convection oven when cooking food? (C)
- 1g. Is radiation harmful to humans? (P)
- 1h. What are the pros and cons of the three types of ovens? (P)
- 2a. What is the difference between a physical change and a chemical change? (F)
- 2b. What happens to molecules when they are heated

up and cooled down? (F)

2c. How does a microwave lead to cooked food? (C)

2d. How do the different types of heat transfer apply to cooking? (C)

3a. What is the difference between a stimulus and a receptor? (F)

3b. What is a neuron? (F)

3c. How do specialized cells contribute to the ability to taste and smell? (C)

3d. Why do different foods smell and taste different? (P)

3e. How are taste and smell connected? (C)

Standard(s)

Connecticut Core Standards / Content Standards

NGSS: Science Performance Expectations (2017)

NGSS: MS Physical Science

MS.Waves and Electromagnetic Radiation

Performance Expectations

MS-PS4-1. Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.

MS-PS4-2. Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.

NGSS: MS Life Science

MS.Structure, Function, and Information Processing

Performance Expectations

MS-LS1-8. Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.

MS.Matter and Energy in Organisms and Ecosystems

Performance Expectations

MS-LS1-7. Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.

MS.Growth, Development, and Reproduction of Organisms

Performance Expectations

MS-LS4-5. Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.

NGSS: Disciplinary Core Ideas

NGSS: 6-8

LS1: From Molecules to Organisms: Structures and Processes

LS1.D: Information Processing

Each sense receptor responds to different inputs (electromagnetic, mechanical, chemical), transmitting them as signals that travel along nerve cells to the brain. The signals are then processed in the brain, resulting in immediate behaviors or memories. (MS-LS1-8)

PS4: Waves and Their Applications in Technologies for Information Transfer

PS4.A: Wave Properties

A simple wave has a repeating pattern with a specific wavelength, frequency, and amplitude. (MS-PS4-1)

PS4.B: Electromagnetic Radiation

The path that light travels can be traced as straight lines, except at surfaces between different transparent materials (e.g., air and water, air and glass) where the light path bends. (MS-PS4-2)

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Critical Content & Skills

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

Generalization 1

Students will know that:

- electromagnetic radiation is one way energy travels through space. The heat from a burning fire, the light from the sun, the X-rays used by your doctor, as well as the energy used to cook food in a microwave are all forms of electromagnetic radiation. All these forms of energy exhibit wavelike properties.
- a wave is a disturbance in a medium or field that results in vibration or oscillation.
- a wave has a *trough* (lowest point) and a *crest* (highest point). The vertical distance between the tip of a crest and the wave's central axis is known as its *amplitude*. This is the property associated with the brightness, or intensity, of the wave. The horizontal distance between two consecutive troughs or crests is known as the *wavelength* of the wave.
- the quantity known as the wave's *frequency* refers to the number of full wavelengths that pass by a given point in space every second; the SI unit for frequency is Hertz, which is equivalent to "per seconds"
- wavelength and frequency are inversely proportional: that is, the shorter the wavelength, the higher the frequency, and vice versa.
- a wave's period is the length of time it takes for one wavelength to pass by a given point in space.
- electromagnetic waves can be classified and arranged according to their various wavelengths/frequencies; this classification is known as the electromagnetic spectrum.
- the visible spectrum—that is, light that we can see with our eyes—makes up only a small fraction of the different types of radiation that exist. To the right of the visible spectrum are the types of energy that are lower in frequency (and thus longer in wavelength) than visible light. These types of energy include infrared (IR) rays (heat waves given off by thermal bodies), microwaves, and radio waves. These types of radiation surround us constantly, and are not harmful, because their frequencies are so low. Lower frequency waves are lower in energy so are not dangerous to our health.
- to the left of the visible spectrum are ultraviolet (UV) rays, X-rays, and gamma rays. These types of radiation

are harmful to living organisms, due to their extremely high frequencies (and thus, high energies). It is for this reason that we wear suntan lotion at the beach (to block the UV rays from the sun) and why an X-ray technician will place a lead shield over us, in order to prevent the X-rays from penetrating anything other than the area of our body being imaged. Gamma rays, being the highest in frequency and energy, are the most damaging. Luckily though, our atmosphere absorbs gamma rays from outer space protecting us from harm.

- at the beginning of the twentieth century, the discovery that energy is quantized led to the revelation that light is not only a wave, but can also be described as a collection of particles known as photons. Photons carry discrete amounts of energy called quanta. This energy can be transferred to atoms and molecules when photons are absorbed. Atoms and molecules can also lose energy by emitting photons
- light waves are electromagnetic waves while sound waves are mechanical waves. Light waves are transverse (move up and down) while sound waves are longitudinal (move left and right). Light waves can travel in vacuum. Sound waves require a material medium to travel, and hence, cannot travel in vacuum.
- microwave ovens use electromagnetic radiation produced by microwaves to heat food. Microwaves are produced inside the oven by a component called a magnetron. These microwaves are reflected within the interior of the oven where they are absorbed by the food.
- microwaves cause water molecules to vibrate producing heat that cooks food. The interior of the oven is not heated; only the food.
- a conventional oven uses metal, wood, or an electric current to heat food. The interior of the conventional oven is heated up using a temperature gauge which then heats the food. Some spots of the oven may be hotter than others so food may not cook evenly. As a result, it must be turned half way through cooking.
- sometimes the oven contains a fan which distributes the heat evenly around the interior of the oven so food cooks evenly. This type of oven is a convection oven.

Students will be able to:

- explain what a wave is and what the parts of a wave are.
- explain what electromagnetic radiation is.
- explain the areas of the electromagnetic spectrum.
- explain the difference between a microwave oven and a conventional oven.
- explain how a microwave oven works.
- explain how conventional and convection ovens work.

Generalization 2

Students will know that:

- a physical change occurs when a substance changes its appearance/state of matter where a chemical change results in the formation of a new substance
- when molecules are heated up, they start vibrating/moving faster causing them to bang into each other and, in turn, causing them to spread out which leads to a decrease in density as the volume increases. When molecules cool down, they slow down allowing the attraction between molecules to bring them closer leading to a decrease in volume and increase in density.
- microwave ovens use electromagnetic radiation produced by microwaves to heat food. Microwaves are produced inside the oven by a component called a magnetron. These microwaves are reflected within the interior of the oven where they are absorbed by the food.
- microwaves cause water molecules to vibrate producing heat that cooks food. The interior of the oven is not heated; only the food
- heat transfer is the movement of energy from one place to the next. Conduction is the transfer of energy between adjacent molecules, convection involves the movement of heated fluid, and radiation refers to the transmission of energy in the form of electromagnetic radiation from one surface to another surface.
- transfer of heat in a pot of boiling water involves all three types of heat transfer: the hot burner transfers heat to the pot via radiation, the molecules start moving quickly when heated up bumping into each other transferring energy via conduction, and a convection current is created since the molecules are moving quickly and spread out as a result of bumping into other water molecules. This causes a decrease in density and the molecules move upward. When the molecules are further from the heat source, they cool down causing them to slow down and move closer together decreasing the volume and increasing the density.

This causes them to sink. This pattern repeats causing what's called a convection current.

Students will be able to:

- explain the difference between a physical and chemical change
- explain what happens when molecules become heated
- explain how a microwave oven cooks food
- explain how heat is transferred when cooking

Generalization 3

Students will know that:

- a stimulus is what causes the nervous system to respond. It can be an internal or external stimulus. In the case of smell, it's an external stimulus. With taste, it's an internal stimulus.
- a receptor is what receives the stimulus. In the case of smell and taste, it's a sense organ (nose and mouth).
- a neuron is a nerve cell. It carries messages throughout the body.
- a sensory neuron is what takes the impulse created from the stimulus to the brain.
- the process of smelling is as follows: When humans sniff, odor molecules (stimuli) in the air are dissolved in the olfactory mucus in the nasal cavity. Olfactory receptor cells in olfactory epithelium detect these odors and send the electrical signals on to the olfactory bulbs. These signals are then sent along olfactory tracts to the olfactory cortex of the brain where the impulse is interpreted as a smell.
- humans can detect millions of different smells. Approximately 10 million olfactory receptor cells are in the olfactory mucosa.
- anosmia is the inability to detect smell. It can be temporary or permanent.
- taste receptor cells (taste buds) on the tongue and roof of the mouth are responsible for the ability to taste.
- taste buds send information to the brain via three cranial nerves.
- smell and taste are connected since the food molecules go from the mouth to the nasal cavity. If that cavity is inflamed, the molecules won't get to the olfactory nerves and then to the olfactory bulb. In turn, the impulse won't be created and sent to the brain.

Students will be able to:

- explain the process of how humans are able to smell
- explain what a neuron is and its importance in smelling and tasting
- explain how the sense of taste is related to the sense of smell

Core Learning Activities

Generalization 1

Wave speed activity

Generalization 2

Molecular Motion Activity: making popcorn

Assessments

Resources

Professional & Student

[Introduction to Electromagnetic Waves - Khan Academy](#)

[Differences between conventional oven and microwave oven](#)

[The Physics Classroom - describing waves](#)

[nasal cavity diagram](#)

[The Science Behind Taste and Smell](#)

[The science behind the taste and smell of food video](#)

Student Learning Expectation & 21st Century Skills

[Information Literacy](#)

[Critical Thinking](#)

[Spoken Communication](#)

[Written Performance](#)

Interdisciplinary Connections

This unit connects to 7th grade science in the discussion of what a wave is, the parts of a wave, and how it applies to both cooking and earthquakes and to literacy when students analyze data and explain the science behind what they observe.



Unit Planner: Food Chemistry Kitchen Science Gr. 8

Thursday, May 4, 2023, 11:38AM

Newtown Middle School / 2022-2023 / Grade 8 / Science / Kitchen Science
Gr. 8 (Pilot) / Week 4 - Week 20

Last Updated: Tuesday, May 2, 2023 by
Elizabeth Iacofano

Food Chemistry

Bradley, Nancy; Iacofano, Elizabeth

- [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: Change

Concepts: Structure, Process, Motion, Energy, Transformation, Growth, Function

G

Generalizations / Enduring Understandings

1. Adding energy to a system brings about a change in motion. Adding a sufficient amount of energy to a system leads to a change in the state of matter or a chemical transformation.

Guiding Questions

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

1a. What are the three states of matter? (F)

1b. What is an atom? (F)

1c. What is a molecule? (F)

1d. What is a solution? (F)

1e. What is a mixture? (F)

1f. What are the three main leavening gases in baked goods? (F)

1g. What is an emulsion? (F)

1h. What does it mean to sauté? (F)

1i. What is a roux? (F)

1j. What is a fat? (F)

1k. What are the different types of butter? (F)

1l. Why does dissolved sugar come out of solution when cooled? (C)

1m. Why do oil and water separate when in a mixture? (C)

1n. How does adding heat enhance the leavening process?(C)

1o. What is the difference between a saturated, unsaturated, polyunsaturated, and trans fatty acids? (C)

1p. How is butter made? (C)

1q. What is the difference between moisture and moistness? (C)

1r. Do different types of butter have an impact on cooking? (C)

1s. What is the function of butter in cooking? (C)

1t. How does the temperature of the butter affect its use in baking? (C)

1u. What is the difference between sauté and stir-fry? (C)

1v. Why is a roux used when cooking? (C)

1w. What is spherification and how is it used with food? (C)

1x. Does the use of nitrogen fixation in plants affect humans? (P)

1y. Are there benefits to sautéing? (P)

Standard(s)

Connecticut Core Standards / Content Standards

NGSS: Science Performance Expectations (2017)

NGSS: MS Physical Science

MS.Structure and Properties of Matter

Performance Expectations

MS-PS1-3. Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.

MS-PS1-4. Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.

MS.Chemical Reactions

Performance Expectations

MS-PS1-2. Analyze and interpret data on the properties of substances before and after the substances interact to

determine if a chemical reaction has occurred.

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

Critical Content & Skills

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

Generalization 1

Students will know that:

- the four states of matter are liquid, solid, gas, and plasma
- an atom is the smallest unit of matter that makes up an element
- a molecule is a group of atoms bonded together
- a mixture is made up of two or more different substances that are not chemically combined
- a solution is a mixture in which two or more substances are well mixed (homogeneous). Best known when a solute is dissolved in a solvent
- oil and water don't naturally mix. This is because water molecules prefer to stick with other water molecules and they move as far from the oil molecules as possible. The same is true for the oil molecules, which are hydrophobic. As a result, oil and water molecules are happiest when furthest from each other so they separate into layers when mixed together. The drops of oil separate from the water droplets and touch one another then merge to form a single drop of oil. This happens until the two liquids completely separate into two layers. The more dense water is at the bottom and oil is on the top. These fluids are called immiscible because they don't dissolve in one another.
- an emulsion is made when making a vinaigrette of oil and vinegar(vinegar is mostly water). Adding another ingredient, such as mustard, will help bind the oil and vinegar together by forming a buffer between the oil and water. The molecules that make up the mustard are amphiphilic: one half of each molecule is hydrophilic and likes to be in water and the other half is hydrophobic and likes to be in oil. We've formed an emulsion and the ingredients appear to be mixed but aren't at the molecular level. The oil is still separated from the water but the mustard binds it all together.
- cream is an emulsion in that fat molecules are dispersed in the main component, water. Whipping up cream, however, shakes the system enough to invert the emulsion. Fat molecules become the continuous phase with particles of water dispersed within, creating butter!
- a supersaturated solution of sugar is unstable as there is more solute than can stay in liquid form. When the solution cools, sugar molecules combine with each other and form crystals. As the solution continues to cool, more and more molecules combine making hard candy.
- the three main leavening gases in baked goods are air, steam, and carbon dioxide.
- leavening agents cause baked goods to rise providing lightness and volume. Heat causes the gases to expand making them larger. This causes the cell walls to stretch increasing the volume. This, in turn, creates a strong structure preventing baked goods from collapsing.
- a fat molecule consists of two main components: glycerol and fatty acids. Since fats consist of three fatty acids and a glycerol, they are also called triacylglycerols or triglycerides. Fats can be unsaturated or saturated.
- in a fatty acid chain, if there are only single bonds between neighboring carbons in the hydrocarbon chain, the fatty acid is said to be saturated. Saturated fatty acids are saturated with hydrogen since single bonds increase the number of hydrogens on each carbon. Stearic acid and palmitic acid, which are commonly found in meat, are examples of saturated fats.
- when the hydrocarbon chain contains a double bond, the fatty acid is said to be unsaturated. If there is only one double bond in the molecule, then it is known as a monounsaturated fat; e.g. olive oil. If there is more than one double bond, then it is known as a polyunsaturated fat; e.g. canola oil.
- unsaturated fatty acids have one or more double bonds. Each double bond may be in a cis or trans configuration.
In the cis configuration, both hydrogens are on the same side of the hydrocarbon chain. In the trans configuration, the hydrogens are on opposite sides. A cis double bond causes a kink in the chain.
- most unsaturated fats are liquid at room temperature and are called oils. Unsaturated fats help to lower blood

cholesterol levels whereas saturated fats contribute to plaque formation in the arteries. Unsaturated fats or oils are usually of plant origin.

- in the food industry, oils are artificially hydrogenated to make them semi-solid and of a consistency desirable for many processed food products. During this hydrogenation process, gas is bubbled through oils to solidify them, and the double bonds of the cis-conformation in the hydrocarbon chain may be converted to double bonds in the trans-conformation.
- essential fatty acids are fatty acids required for biological processes, but not synthesized by the human body so they must be ingested.
Omega-3 fatty acid, or alpha-linoleic acid (ALA), falls into this category and is one of only two fatty acids known to be essential for humans (the other being omega-6 fatty acid, or linoleic acid).
- salmon, trout, and tuna are good sources of omega-3 fatty acids.
- butter is a concentrated fat produced from churning cow's milk or cream. When milk is churned, meaning stirred or beat in high intensity, the solid and liquid components within it split. The solid part that you get as a result of this process, is butter, and the liquid that is left is called buttermilk. So butter is made by churning cream until it separates into liquids (buttermilk) and solids (butterfat).
- butter isn't completely fat. Commercial butter that is commonly used in baking generally has over 80% fat with the rest being water that's emulsified into the fat.
- contrary to the name, sweet cream butter has not been sweetened. In general, sweet cream butter is better for spreading on toast, while unsalted butter is better for baking. This is so the exact amount of salt added to recipes is controlled.
- Using unsalted butter allows the baker to control the overall salt content of a recipe.
- it's best to use unsalted butter in things like buttercream frosting as the salt in salted butter can end up making delicate, sweet pastries taste overly salty.
- in North America, commercially sold butter must contain at least 80 percent butterfat, while European butters typically contain at least 82 percent and up to about 85 percent. The remaining contents of the butter's makeup includes water and milk solids. The lower the butterfat content, the more liquid (and less fat) is being added to the recipe; the higher the butterfat content, the more fat (and less liquid).
- moisture refers to the liquid content while moistness refers to the fat. Nearly all recipes call for both, but for different reasons. In general, fat (including that in butter) tenderizes baked goods. Liquids (again, including that in butter) help hydrate proteins (found in flours and starches), bind ingredients together, and also aid in moistening.
- butter in baking adds flavor, adds softness, adds moisture, aids in leavening, lengthens shelf-life.
- butter itself has many chemical and physical properties that play roles in the baking process. Starch and protein in flour will toughen dough, while sugar tenderizes it. Butter is mostly fat, so it tenderizes dough, however it still possesses 16 percent water, which will act to strengthen dough. This principle is used to make puff pastry, where the layers of dough folded on top of each other use the steam that evaporates from butter chunks in the dough to become airy and flaky in the oven.
- moisture and flavor might be the most obvious reasons to use butter in baked goods, but there are several other roles butter is playing as well. In things like cakes, cookies, and muffins, butter coats the proteins and starches during the mixing step and results in a more delicate crumb.
- in many of these types of pastries, the butter is creamed with the sugar before being mixed with other ingredients. Through this process, the sugar granules actually cut into the softened butter and air is forced into the mixture, which ultimately helps to leaven the pastry.
- even in recipes that do not call for the creaming method, butter assists in leavening by creating steam when placed in a hot oven. The liquid portion of butter adds moisture (as opposed to the *moistness* added from the fat), and in baked goods like puff pastry and croissants, the liquid in the butter begins to evaporate and create steam, which lifts the pastry as it bakes.
- temperature is a key factor in how butter behaves within a recipe and how it mixes with other ingredients in a batter or dough. Rarely does a recipe list butter without noting if it should be cold from the fridge, softened to room temperature, or even melted.
- with softened butter, the fat can be easily creamed together with sugar, or used to coat flour particles. This creates a more even distribution of fat throughout the dough or batter, yielding a tender final product. Like using room-temperature eggs, room-temperature butter creates a more homogenous batter and prevents buttercream from "breaking."
- softened butter should still be cool, but malleable. It should be able to hold its shape and still firm enough that if you press your finger into it, the impression is clean. It should not be squishy, oily, or appear melted. Too-warm or melted butter loses its ability to cream and hold air when beaten. This is best for making cakes. Butter that is at this state emulsifies with sugar easily and allows air to be incorporated into the batter. The air bubbles in your butter help your baked goods expand when baked and keep your cakes light, tender and soft. It also ensures that cakes don't shrink too much after they leave the oven.

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- very cold butter is used in recipes where you *don't* want the butter to combine with the rest of the ingredients; you want it to stay cohesive. Pie dough, puff pastry, biscuits, and scones all typically call for very cold butter so it remains intact and unincorporated, which leads to distinct layers in the finished baked goods. When the little chunks of butter that are infused in your dough get exposed to heat, they melt and the water in the butter evaporates. As the water evaporates, it lifts the pastry, creates layers in the dough, and makes it flaky.
- melted butter doesn't have the ability to aerate so it makes baked goods more dense and chewy. This is often used in brownies.
- to sauté is to cook food quickly in a minimal amount of fat over relatively high heat. The word comes from the French verb sauter, which means "to jump," and describes not only how food reacts when placed in a hot pan but also the method of tossing the food in the pan. The term also refers to cooking tender cuts of meat (such as chicken breasts or filet mignon) in a small amount of fat over moderately high heat without frequent stirring—just flipping it over when one side is browned.
- the browning achieved by sautéing lends richness to meats and produce. And because the food is cooked quickly, the integrity of the flavor and texture remains intact; asparagus, for example, retains its slightly grassy punch, as well as a pleasing crisp-tender bite.
- it's important to use either a skillet (a wide pan with sloped sides) or sauté pan (a wide pan with straight sides) for this technique. Both have a large surface area, so food is less likely to become overcrowded. Choose a pan with a dense bottom that evenly distributes heat. Nonstick, anodized aluminum, and stainless steel options work well.
- sautéing is a basic cooking technique essential to many recipes. Soups and stews, for example, almost always begin with sautéed aromatics; sautéing browns the vegetables, which enhances the flavor of the soup. But it's also used to fully cook whole dishes—and do so quickly. Because it cooks food fast, sautéing keeps the flavors vivid. This is especially welcome with seasonal ingredients such as tender asparagus.
- whether it's meat or vegetables, time in the pan is brief, so it's important that the food be naturally tender. Cuts such as beef tenderloin, fish fillets, and chicken breasts are good candidates. Many tender vegetables, including baby artichokes, sugar snap peas, mushrooms, and bell peppers, lend themselves to this technique.
- cutting food to a uniform thickness and size ensures that it will cook evenly. Vegetables should be no larger than bite-sized, meat no larger than portion-sized.
- it's important to warm the pan over medium-high heat for a few minutes. It needs to be quite hot in order to cook the food properly. If the heat is too low, the food will end up releasing liquid and steaming rather than sautéing.
- fats such as butter, oil, or bacon fat are used to coat the food and prevent it from sticking to the pan, aid in browning, and add flavor. Once the pan is hot, add the fat, and swirl to coat the bottom of the pan. (Heating the fat with the pan may cause food to stick.) Heat the fat for 10 to 30 seconds—until oil shimmers or butter's foam subsides—and then add the food.
- in general, it's important to use fats that have a high smoke point—peanut oil, regular olive oil, canola oil, or rendered pork fat. Oils that have low smoke points, like extra-virgin olive oil and many nut and infused oils, lose their characteristic taste when heated to sautéing's high temperatures. It's OK to sauté with these oils—just remember that their flavor will not be as pungent.
- it's important to not overcrowd when sautéing: It's crucial that only one layer of food cooks in the pan at a time. When sautéing cuts of meat, there should be at least a half-inch between each piece. Food releases steam when cooking. If that steam doesn't have enough room to escape, it stays in the pan, and the food ends up steaming rather than sautéing and won't brown.
- when sautéing tender vegetables and bite-sized pieces of meat, it's important to stir frequently (but not constantly) to promote even browning and cooking.
- stir-frying and sautéing are techniques that share some similarities. Both methods cook food quickly in a small amount of fat. But stir-frying cooks food over intensely high heat, stirring constantly. Sautéing involves only moderately high heat, and the food is not in continuous motion.
- a roux is a cooked mixture of equal parts flour and fat. When flour is cooked in fat, the fat coats the flour's starch granules. This helps keep lumps from forming when the roux is combined with liquid such as milk or stock, yielding a silky-smooth, uniform sauce. Butter is commonly used as a fat, but other fats that may be used include oil, lard or rendered fat such as bacon, or pan drippings from a piece of roasted meat.
- there are several categories of roux: light roux (white and blonde roux), brown roux and dark roux. Different types of roux result depending on how long the flour and fat are cooked; the type of roux made depends on whether it will act more as a thickening agent or to impart flavor.
- white and blond roux are cooked for just enough time to eliminate the raw taste of the flour, but not so long that the roux starts to brown, about 3 to 5 minutes. White roux is used to thicken sauces such as béchamel, cheese sauces and white gravy, as well as creamy soups and chowders.
- brown and dark roux are cooked for longer and have more flavor. The longer the roux is cooked, the darker in color it gets and the more its toasty, nutty aromas and flavors will come out. A roux starts to brown after

about 6 or 7 minutes. Brown roux is classically used in perfect gravies. Dark roux is cooked longer, about 8 to 15 minutes, and is commonly used in Creole and Cajun cuisine to flavor dishes such as gumbo or jambalaya. Brown and dark roux are typically runnier in consistency and have less thickening properties than white or blond roux.

- corn starch can be used as a substitute for flour in a roux.
- spherification is the process of creating a gel around a liquid forming a gelled sphere with a liquid center. The molecules typically used for this technique are calcium and potassium. The two types are direct and reverse spherification. Direct spherification involves the membrane being made of a flavored base so it has more pure flavor. The reverse process allows for a liquid center that will remain liquid for a longer period of time and the spheres are bigger.
- nitrogen fixation is the process plants undergo in order to make the nitrogen around them usable. They do this with the help of bacteria that are found in the roots. The bacteria synthesizes the nitrogen in the surrounding air into an organic form the plant can use. Nitrogen is a key component in proteins which means legumes, which can easily fix nitrogen because of their symbiotic relationship with bacteria, are a great source of protein. When humans eat the legumes, the protein is then transferred so the process of nitrogen fixation ultimately helps humans.

Students will be able to:

- explain the difference between an atom, molecule, mixture, and solution
- explain what an emulsion is and the importance of emulsifiers in cooking.
- explain what a fat is and the difference between unsaturated, saturated, trans, and polyunsaturated fats.
- explain what butter is, its function, the types, and what they are best used for in cooking and baking.
- explain what it means to sauté and the process of sautéing.
- explain what a roux is, the types of roux, and their function in cooking.
- explain the process of spherification and how it is used in cooking.
- explain the importance of nitrogen fixation in legumes.

Core Learning Activities

Generalization 1:

1. Mousse - leavening (air) and emulsion - investigating air as a leavening agent
2. Making fudge - investigating sugar
3. Making cotton candy - investigating sugar
4. Mac and Cheese Activity - observe the magic of a roux.
5. Making Fried Rice - saute technique
6. Making Soft Pretzels - investigation flour/gluten
7. Gluten and Dairy Free Brownies- gluten and dairy free
8. Making Toll House cookies- culminating activity

Assessments



[Assessments](#)

Resources

Professional & Student

[Lipid Molecules - Introduction](#)

[Biochemistry in the news: trans fatty acids](#)

[Baking School Day 6: All About Butter and Baking](#)

[What does butter do in baking?](#)

[The surprising science of butter](#)

[cooking class: sauteing](#)

[How to make a roux - Food Network](#)

Student Learning Expectation & 21st Century Skills

[Information Literacy](#)

[Critical Thinking](#)

[Spoken Communication](#)

[Written Performance](#)

Interdisciplinary Connections

This work has a connection to 6th grade curriculum as it involves discussion of atoms, molecules, mixtures, and solutions. It also connects to math when measuring and to literacy when students analyze data and explain the science behind what they observe.

In addition, there is a connection to the high school culinary courses in that the students are learning about the function of fat/butter in cooking and baking. This they will use if they take the culinary courses in high school.



Unit Planner: Food Preservation Kitchen Science Gr. 8

Unit Planner: Food Preservation
Kitchen Science Gr. 8

Newtown Middle School / 2022-2023 / Grade 8 / Science / Kitchen Science
Gr. 8 (Pilot) / Week 1 - Week 20

Last Updated: Tuesday, May 2, 2023 by
Elizabeth Iacofano

Food Preservation

Bradley, Nancy; Iacofano, Elizabeth

- [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: Change

Concepts: Structure, Process, Growth, Function, Health

G

Generalizations / Enduring Understandings

1. Following specific processes for preserving, storing, and cooking food reduces the likelihood of bacterial growth which helps maintain health.
2. Sterilization of equipment is a critical process used to prevent the growth of microorganisms when canning.

Guiding Questions

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

- 1a. What is the function of food preservation? (F)
- 1b. What are the most common ways to preserve food? (F)
- 1c. What is the purpose of pasteurization?(F)
- 1d. What happens to food when heated and how does this relate to prevention of illness from a microorganism? (C)
- 1e. Why is refrigeration/freezing important when safely storing food? (C)
- 1f. What is fermentation and how does it preserve food? (C)
- 1g. What is the purpose of salt or sugar curing?(C)
- 1h. How does irradiation preserve food? (C)
- 1i. What role do alcohol, olive oil, and vinegar play in food preservation? (C)
- 1j. Is bacteria good or bad? Why? (P)

- 2a. How does one safely can food? (F)
- 2b. Why is it important to properly can food? (C)

Standard(s)

Connecticut Core Standards / Content Standards

CCSS: Literacy in History/Social Studies, Science, & Technical Subjects 6-12

CCSS: Grades 6-8

Capacities of the Literate Individual

Students Who are College and Career Ready in Reading, Writing, Speaking, Listening, & Language

They demonstrate independence.

They build strong content knowledge.

They value evidence.

They use technology and digital media strategically and capably.

Reading: Science & Technical Subjects

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

RST.6-8.1. Cite specific textual evidence to support analysis of science and technical texts.

Writing

2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.

WHST.6-8.2e. Establish and maintain a formal style and objective tone.

Production and Distribution of Writing

4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WHST.6-8.4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Research to Build and Present Knowledge

7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

WHST.6-8.7. Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

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Critical Content & Skills

What students must KNOW and be able to DO

Generalization 1

Students will know that:

- the most common methods to preserve food are drying, refrigeration, fermentation, canning, pasteurization, freezing, irradiation, and the adding of chemicals (sugar/salt curing, alcohol, vinegar, olive oil). These all serve the function of reducing the growth of microorganisms. The principal objective of food preservation is to increase its shelf life retaining original nutritional values, color, texture, and flavor.
- before cooking food, it is filled with microorganisms (bacteria and fungi) that can be harmful if ingested. Small amounts of heat can cause the proteins within the microorganisms to malfunction and the organism dies. Most live and multiply in a temperature range of a few degrees above freezing to 122 degrees F. At cooler temperatures, it is too cold for microbes to survive and grow. This is why freezing and refrigeration are effective ways to preserve food.
- drying foods inhibits the growth of bacteria, yeasts, and mold through the removal of moisture content. Electric food dehydrators, ovens, and freeze-drying are now speeding up the process that was traditionally done by sun and air. Foods that dehydrate well are fruits, vegetables, legumes, spices, meat, and fish. Dry rice does not go bad but cooked rice does because it contains water and organisms grow in wet environments.
- cold food storage (refrigeration) is the simplest food preservation method. It occurs in refrigerators and cool, dark places such as root cellars, unheated basements, and pantries. Cooling preserves food by slowing down the growth of microorganisms that cause the food to spoil.
- fermentation is a process where food is produced with the help of microbes (yeast and some bacteria). Fermentation is widely spread across cultures and has been for a very long time. The reason is the preservative properties that can be achieved with the right microbes. In the time before refrigerators and freezers, fermentation was critical to ensuring a healthy food supply. Fermentation comes in two forms: alcohol production by yeast (examples: bread, wine) and lactic acid generation from bacteria (example: sauerkraut). In sauerkraut, salt is added to cabbage, mixed well, and tightly packed in a jar in order to get rid of all the air and make the environment free of oxygen. It's important to make sure the cabbage is covered by the brine (salt solution). The lactic acid bacteria present in the cabbage produce lactic acid, which is toxic to harmful bacteria but not to themselves. This makes them grow better which makes the environment even more acidic thereby killing more harmful bacteria. Slowly, the lactic acid bacteria have created an environment where they can dominate and hog the food source. As a result, harmful spoilage bacteria cannot grow.
- pasteurization involves adding just enough heat so the microbes die but the food remains unaltered. The higher the temperature, the shorter the time and vice versa.
- freezing foods uses little specialized equipment, while preserving fresh flavors and textures. Freezing slows the growth of microorganisms and enzymes that can cause food spoilage. For the best results, freeze room-temperature foods, remove all the air from the freezer bag, and consume within 6 months of freezing. Sealing frozen produce in vacuum-sealed bags prevents ice crystals from forming and can extend the shelf life of food. Freeze-drying is a low-temperature dehydration process that involves freezing food and removing the ice by sublimation—turning ice into vapor. This method can be done in a freezer (takes several weeks), on dry ice, or using a modern freeze-dryer unit, which can take less than 24 hours.
- food irradiation (the application of ionizing radiation to food) is a technology that improves the safety and extends the shelf life of foods by reducing or eliminating microorganisms and insects. Like pasteurizing milk and canning fruits and vegetables, irradiation can make food safer for the consumer. Irradiation does not make foods radioactive, compromise nutritional quality, or noticeably change the taste, texture, or appearance of food. In fact, any changes made by irradiation are so minimal that it is not easy to tell if a food has been irradiated.
- the purpose of irradiation is to effectively eliminate organisms that cause foodborne illness, such as *Salmonella* and *Escherichia coli* (*E. coli*), preservation – to destroy or inactivate organisms that cause spoilage and decomposition and extend the shelf life of foods, insect control - to destroy insects in or on tropical fruits imported into the United States. Irradiation also decreases the need for other pest-control practices that may harm the fruit, delay of sprouting and ripening – to inhibit sprouting (e.g., potatoes) and delay ripening of fruit to increase longevity.
- before industrial refrigeration, most foods were cured using sugar, salt, or a mixture of both. Salt and sugar reduce the water content and inhibits microbial growth in meats, fruits, and vegetables aiding in preservation. Common sugar-preserved foods are jams and jellies, while salt cod, salt pork, corned beef, and bacon are common foods preserved with salt.
- fruit has a long history of getting preserved in alcohol. During the eighteenth century in Europe, fruits like peaches, cherries, and apricots were submerged in brandy and served as dessert after a meal. Alcohol

draws water out of food, similar to salt and sugar, inhibiting microbial growth.

- vinegar pickling creates a high acid environment that kills off microbes and causes food to change in flavor and texture. Vinegar, salt, and sugar are heated and added to fruit or vegetables to make pickles of cucumber, okra, apples, beets, peppers, carrots, onions, cauliflower, green beans, and plums.
- extra-virgin olive oil is a natural preservative that prevents spoilage by isolating food from air, providing a seal that can slow down oxidation and molding. It is used for preserving fresh herbs, vegetables, and fish. It's important to keep food safety in mind when storing vegetables such as garlic, mushrooms, chili peppers, or herbs in oil—these low-acid foods can be a source of bacteria and should be stored in the refrigerator as a precaution.

Students will be able to:

- identify the methods to preserve food
- explain the overall function of preserving food
- explain each method to preserve food and its specific purpose

Generalization 2

Students will know that:

- canning is the process involves placing foods in canning jars and heating them to a high temperature to destroy the microorganisms that cause food to spoil. During the heating process, air is pushed out of the jar, and as the cans cool, a vacuum seal forms. Canning in a bath of boiling water is ideal for high-acid foods, like fruits and fruit juice, pickled vegetables, salsa, chutneys, vinegars, and condiments. Water bath canning requires extended cooking time at a low temperature to destroys the mold, yeast, and enzymes that cause spoilage while making a vacuum seal for long-term storage. The second primary type of home canning, pressure canning uses high temperatures (240°F) and special equipment to preserve low-acid foods, like vegetables, dairy, meat and seafood, legumes, and soups.

Students will be able to:

- explain the purpose of canning safely

Core Learning Activities

Generalization 1 and 2: The way the students learn this content is by completing a long-term research assignment.

Research assignment:

food preservation research assignment - students are given a choice of product: can be done as a slide show or they can create a model.

Assessments

[8 Food Preservation Research Assignment](#)

Resources

Professional & Student

Books:

The Food Safety Book by Joe Kivett and Dr. Mark Tamplin with Dr. Gerald J. Kivett, Copywrite 2016

Websites:

[How to sterilize canning jars using boiling water](#)

[Natural Center for Food Preservation](#)

[Guide to Food Preservation](#)

[Food Irradiation: What You Need to Know.](#)

Student Learning Expectation & 21st Century Skills

[Information Literacy](#)

[Critical Thinking](#)

[Spoken Communication](#)

[Written Performance](#)

Interdisciplinary Connections

This unit connects to literacy when students explain the science behind what they observe and to health when discussing food preservation.

Connecticut State Department of Education

Office of Student Supports and Organizational Effectiveness

**Bureau of Health/Nutrition, Family Services and
Adult Education**

**Connecticut Primary Mental Health Grant Program
July 1, 2023- June 30, 2025**

**Grants must be in LEA Superintendent Approved status by 11:59 P.M.
by June 30, 2023, in the eGMS**

**The Primary Mental Health grant application must be completed on-line in
the eGMS. No paper applications are accepted.**

Purpose: To assist Connecticut school districts to better serve at-risk primary grade children through the availability of an early intervention mental health program for the detection and prevention of emotional, behavioral and learning problems.

This program is authorized pursuant to Sections 10-76t through 10-76w of the Connecticut General Statutes.

CONNECTICUT STATE DEPARTMENT OF EDUCATION



CONNECTICUT STATE
DEPARTMENT OF EDUCATION

Charlene Russell-Tucker
Commissioner of Education

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**THE CONNECTICUT STATE DEPARTMENT OF EDUCATION IS AN
AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER.**

General Information

Legal Authority

Sections 10-76t through 10-76w (inclusive) of the Connecticut General Statutes (C.G.S.) direct the Connecticut State Department of Education (CSDE) to establish a grant program to provide funds to local and regional boards of education for the establishment of a school-based Primary Mental Health Program (PMHP) for the detection and prevention of emotional, behavioral and learning problems in public school children in kindergarten through Grade 3.

In determining if a board of education shall be granted funds, the Commissioner of Education shall consider, but not be limited to, the following factors:

- availability in the school and community of professional, paraprofessional, and other program staff. Paraprofessional staff are selected on the basis of interpersonal and experiential qualities, rather than educational background;
- availability of space to accommodate the program in an elementary school building;
- demonstration of strong support by administrative personnel, teaching staff, pupil personnel staff, and local community mental health centers;
- reasonable evidence of future stability of the program (i.e., readiness of new districts and ongoing support for continuing districts); and
- the number of children enrolled in grades kindergarten through Grade 3 inclusive, in a school under the jurisdiction of such board of education experiencing behavioral, disciplinary, or early school adjustment difficulties.

Eligible Applicants

Local or regional boards of education may apply for these grants. A PMHP will be supported under the terms of this announcement must be school-based and focus on the provision of services to children kindergarten through Grade 3.

Applicants Should Take Special Note of the Following Criteria:

1. New applicants must operate the standard PMHP model hereafter called “Primary Project” (as outlined on pages 3–4).
2. If a school district has previously received state funding at any time to offer Primary Project (hereafter called “Continuing Districts”) the district may reapply if, and only if, the district offers Primary Project minimally at the previously funded level, and:
 - a. expands Primary Project to offer one or more additional schools; or
 - b. implements or continues a Complementary Mental Health Program Component (CMHPC) at the same school (as outlined on page 5).
3. The services provided by school-based mental health professionals must be provided as in-kind contribution by the school district and not included in the proposed budget.

Purpose

The focus of this grant is on the implementation of the general education, school-based early detection, and intervention programs, Primary Project that serves children in kindergarten through Grade 3. Research shows that early difficulties adjusting to school environments can lead to decrease academic and social-emotional functioning later in life. Young children who have difficulty adjusting to school may be withdrawn, show a lack of engagement, or struggle with peer and adult relationships. Primary Project's early intervention program aims to disrupt these outcomes by pairing young students with a trained Child Associate (CA) to provide one-on-one play-based support under the supervision of a school or community-based mental health professional. Continuing districts are encouraged to implement complementary mental health components to enhance the impact of the Primary Project.

Application Priorities

Preference will be granted according to the following criteria:

1. Applicants who have never before been awarded funding to support PMHP activities will receive a bonus of five points in the proposal scoring.
2. Districts that indicate in their proposal how Primary Project will create opportunities for parent involvement and support components that exceed the minimum requirements may receive up to a bonus of five points in the proposal scoring.
3. Districts that provide evidence of future stability of the program and its personnel through a continuation plan that includes explicit school board support for the continued implementation of Primary Project will receive a bonus of five points in the proposal scoring.
4. Priority School Districts that apply will be awarded a five-point bonus in the proposal scoring.
5. Alliance School Districts that apply will be awarded a five-point bonus in the proposal scoring.

Application Requirements

All applications submitted become the property of the CSDE and become part of the public domain. The CSDE reserves the right to make necessary policy and programmatic changes after proposals are submitted and to negotiate awards with potential recipients.

Review Process and Criteria

The CSDE will convene a panel to review all completed applications received by the due date. Grant awards will be negotiated and accepted with modifications, if necessary, in time for final award notification by late August, 2023. Each application will be rated according to the criteria provided within the scoring rubric.

The CSDE will notify applicants in writing of the acceptance or rejection of their proposals. If a proposal is selected for funding, the Bureau of Health/Nutrition, Family Services and Adult Education will initiate a grant award letter. The level of funding and effective dates of the projects will be set forth in the notification of the grant award. All grant awards are subject to availability of state funds. Grants are not final until award letters are executed.

Technical Assistance and Management

Agnes Quinones, CSDE Education Consultant, is the Program Manager. Questions regarding this RFP may be directed to her at 860-807-2126 or by email at agnes.quinones@ct.gov. The CSDE reserves the right to monitor program progress at least annually, including examination and approval of all reports and data collection.

Grant Awards

The estimated funding available statewide for the PMHP grant for Fiscal Year (FY) 2024 is \$345,288. There is no minimum grant award. The maximum grant award for both new and continuing districts is \$20,000. Continuing districts must apply a *minimum* of 80 percent of state funds to Primary Project. Therefore, a *maximum* of 20 percent of state funds may be designated to the CMHC.

The amount designated for the CMHPC should be recorded on the PMHP Budget Worksheet for Continuing Districts.

The grant is funded for two years: fiscal years 2023-2024 and 2024-2025. Funding for each year is subject to the state budget appropriations. Grantees will be required to submit an End-of-Year Report (EYR) for year 1 and a budget for year 2 prior to receiving year two funding. The second year of funding is also contingent upon adequate progress toward program goals and use of funds in the first year.

Management Control of the Program

The grantee has complete management responsibility for this grant. While the CSDE staff may be consulted for their expertise, they will not be directly responsible for the selection of sub-grantees or vendors, nor will they be directly involved in the expenditure and payment of funds.

For continuing applicants, the school district must contribute at least \$5,000.

Salaries of school personnel (e.g., administrators and school mental health professionals) **may not** be included as part of the school district's contribution.

Grant funds may not be used to support staff work beyond Primary Project activities as indicated in the approved district's grant proposal, nor may funds be used for student field placement stipends.

The CSDE reserves the right to make awards under this program without discussion with the applicants. Therefore, applications should represent the best effort from both a technical and cost standpoint.

Primary Mental Health Grant Program Description

Description – Primary Project

Primary Project is a Tier 2 school-based program for children displaying school adjustment problems in the mild or moderate range (for instance, withdrawal or shy behaviors, mild acting out behaviors, and potential learning difficulties). It is not a program for children who have severe social, emotional, or behavioral difficulties. Primary Project aims at enhancing social, emotional, behavioral, and learning skills while reducing social, emotional, and school adjustment difficulties in kindergarten through 3rd grade children. Targeted outcomes for these children include increased task orientation, behavior control, assertiveness, and peer social skills.

General Requirements

1. Demonstrated support among a school's administrative, instructional, and pupil services staff.
2. For continuing districts, the implementation of a CMHPC (enhancing program support and stability through opportunities for improving pro-social behavior, school adjustment, early detection and/or screening and family support for education) or expansion to an additional school.
3. Availability of space to accommodate the program (i.e., playroom).
4. Employment of a CA - a caring, responsible person with proven ability to relate well to children and provide direct services to children, as described in the following section.
5. Availability of one or more school mental health professionals to supervise the acceptance of children into the program (i.e., school psychologist, school social worker, and school counselor).
6. Availability of mental health professionals to select, train, and supervise paraprofessionals in program implementation. The mental health professional will provide the paraprofessional with a minimum of one hour of direct supervision per week at a designated time in addition to consultation on an "as needed" basis.
7. Commitment to staff development for the CA through attendance at state level training. Attendance by the CA and program supervisor at two full-day trainings, as well as other trainings and technical assistance convening's that may be planned in the future.
8. Commitment to staff development for mental health professionals (who provide supervision to the CA) through attendance at state level training (contingent upon annual appropriations and availability of such training).
9. Systematic screening to identify children experiencing early school adjustment problems, supervised by the Mental Health Professional, using the Teacher-Child Rating Scale (T-CRS) (a nationally normed 32-item measure specifically designed for use by teachers to assess children's school and social behaviors), or other comparable measure as deemed appropriate by the CSDE.
10. Establish specific goals for individual children that evolve from the areas in which the child is identified to have difficulties.
11. Provision of individually focused child-centered play and the promotion of social development, improved self-concept, and adjustment to school.
12. Evaluation of student outcomes through the use of data collection measures identified by the CSDE (e.g., office referral and suspensions and academic performance).
13. Timely submission of four program updates (two per semester) and an end-of-year report following the formats provided by the CSDE.
14. Monitoring of student progress towards goal achievement through informal parent/teacher conferences and formal progress and termination conferences.
15. A plan designed to ensure parent involvement that includes:
 - a. Signed permission for student participation; and
 - b. Parent participation in program progress, termination conferences and evaluation to learn about their child's development and their needs.
16. Coordination of services with, and referrals of children to, community agencies that provide child and family services.
17. Linkages with other school-based prevention, early intervention programs, and supports including referrals for children not meeting the requirements for direct services through this program.
18. Evidence of future program sustainability.

19. Secure necessary signed releases/permission from the parents and/or legal guardians of student participants to allow the CSDE program manager and/or the CSDE designee to observe student(s) engaged in Primary Project activities/sessions during site visits.
20. Secure necessary releases/permission signed by parents and/or legal guardian(s) of student participants to allow the CSDE access to all Primary Project pre- and post-measure data (electronic and hard copy formats) gathered and maintained via the COMET Data Collection and Management System or DESSA.

Direct Services Provided by Child Associates

Research has shown that Primary Project has a positive effect on children's adjustment to school and sense of well-being. Essential to this model is the establishment of a personal relationship with the student who comes to trust and feel accepted by the CA. This relationship is established as:

- each child is seen on an individual basis;
- each child meets with the CA on a weekly basis outside of the classroom;
- each child engages in self-directed expressive play; and
- each child is provided direct services for at least 12-15 weeks.

Some latitude in the service delivery model is permissible. Acceptable practices are:

- following a child-centered therapeutic approach, children are allowed to choose their activities during play sessions;
- some children (i.e., those who will benefit) transition from individual to small group/play pair sessions. These sessions are initiated by the team and delivered after 12-15 individual sessions;
- the CA occasionally visits classrooms to become known to students and to become part of the school community; and
- the CA is familiar with the child led play skills/practices and uses these skills consistently during sessions.

Programs that engage in the following unacceptable practices, **which are contrary to the program's core concepts, will not be funded**:

- the service model regularly involves classroom-based instruction or coaching
- each child's weekly sessions may be cancelled as a punishment; and
- the CA is used for general duties, disciplinary activities, academic instruction, office assistance, or other activities unrelated to the program.

Complementary Mental Health Program Component (CMHPC)

Continuing districts may apply for PMHP funding only if the district continues to offer Primary Project at a comparable level and either expands to one or more additional schools or implements (or continues) a CMHPC at the same school. A CMHPC is an extension of Primary Project and provides services such as positive behavioral supports and early detection and intervention services (i.e., for students at elevated risk and primarily in kindergarten through Grade 3) that enhance the benefits of Primary Project through opportunities for improving pro-social behavior, school adjustment, early detection, and/or screening and family support for education.

Examples include early detection and/or screening activities and one or more of the following:

- collaboration to develop and/or increase the availability of community-based resources¹;
- classroom and schoolwide positive behavioral interventions;
- curriculum for teaching social skills or promoting social-emotional development;
- teaching self-control strategies;
- parent education/support to promote pro-social behavior and development;
- parent-to-parent mentoring/outreach program; and
- programmatic approaches to promoting a positive, supportive school environment.

Selecting more than one of the above programs will not improve the chances of being funded. More importantly, ensure that the program can be effectively designed and delivered with the resources available.

Minimum Requirements

1. The CMHPC must be an extension of Primary Project and support its overarching goals and objectives and have additional capacity beyond any CMHPC in previous years.
2. For continuing applicants, the school district must contribute at least \$5,000.
3. The district must meet the requirement of providing a CMHPC by continuing to offer activities that meet the description above.
4. The district must provide evidence that the CMHPC uses an approach and/or practices that are known to be evidence-based or research-based.
5. The school(s) should have a building-based team or committee to coordinate and monitor Primary Project and related programs. Ideally, this should be an existing team.

BUDGET

Budget

Enter state funds budget using eGMS Budget Details. In addition to the budget detail narratives, use the Personnel Costs page to specify the time commitment for all project staff, including those not paid for by the grant. All continuing districts must complete the Local Contribution Budget page, specifying the local contribution. Line items in budget category 100 are to be itemized on a per diem basis for each individual.

Budget Detail Narratives

Provide a detailed description of the proposed use of funds for each budget detail. Wherever applicable, cite local policy and/or contractual basis for amounts requested. Examples:

¹ One recommended means of developing community resources is through the local Community Collaborative. For more information, see Connecting to Care CT at: <https://www.connectingtocarect.org/collaboratives/>

1. "The salary amount is projected at the first step of the Education Aides salary range established in the local education agency's collective bargaining agreement."
2. "Line 322 represents the contracted services of a workshop presenter who will be paid x dollars per day for y days."

Please respond to this task with as much detail as possible in order to avoid requests for more information, which may delay the granting process.

BUDGET OBJECT CODES

This list is a description of the object codes in the budget. The list is provided to help you in designing your budget for the program.

- 100 **Personal Services - Salaries.** Amounts paid to both permanent and temporary grantee employees, including personnel substituting for those in permanent positions. This includes gross salary for personal services rendered while on the payroll of the grantees.
- 200 **Personal Services - Employee Benefits.** Amounts paid by the grantee on behalf of the employees whose salaries are reported in line 100. These amounts are not included in the gross salary but are in addition to that amount. Such payments are fringe benefit payments and, while not paid directly to employees, nevertheless are part of the cost of personal services. Included are the employer's cost of group insurance, social security contribution, retirement contribution, tuition reimbursement, unemployment compensation and workmen's compensation insurance.
- 322 **In-service.** (Instructional Program Improvement Services). Payments for services performed by persons qualified to assist program personnel and/or teachers to enhance program quality or effectiveness. This category includes curriculum consultants, in-service training specialists, etc., who are not on the grantee payroll.
- 325 **Parent Activities.** Expenditures related to services for parenting including workshop presenters, counseling services, baby-sitting services, and overall seminar/workshop costs.
- 500 **Other Purchased Services.** Amounts paid for services rendered by organizations or personnel not on the payroll of the grantee (separate from Professional and Technical Services or Property Services). While a product may or may not result from the transaction, the primary reason for the purchase is the service provided.
- 600 **Supplies.** Amounts paid for items that are consumed, worn out, or deteriorated through use, or items that lose their identity through fabrication or incorporation into different or more complex units or substances.
- 700 **Property.** Expenditures for acquiring fixed assets, including land or existing buildings, improvements of grounds, initial equipment, additional equipment, and replacement of equipment.

In accordance with the Connecticut State Comptroller's definition equipment, included in this category are all items of equipment (machinery, tools, furniture, vehicles, apparatus,

etc.) with a value of over \$5,000.00 and the useful life of more than one year and data processing equipment that has unit price under \$5,000.00 and a useful life of not less than five years

Other Application Requirements

A. Obligations of Grantees

All bidders are hereby notified that the grant to be awarded is subject to contract compliance requirements as set forth in Sections 4a-60 and 60a of the C.G.S. and Sections 46a-68j-23 et seq. of the Regulations of Connecticut State Agencies (R.C.S.A.).

Furthermore, the grantee must submit periodic reports of its employment and sub-contracting practices in such form, in such manner, and in such time as may be prescribed by the Commission on Human Rights and Opportunities (CHRO).

B. Freedom of Information Act

All of the information contained in a proposal submitted in response to this RFP is subject to the provisions of the Freedom of Information Act (FOIA) Sections 1-200 et seq. The FOIA, declares that except as provided by federal law or state statute, records maintained or kept on file by any public agency (as defined in the statute) are public records and every person has the right to inspect such records and receive a copy of such records.

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

Minutes of the Board of Education meeting held on June 1, 2023, at 7:00 p.m. in the Newtown High School auditorium.

D. Zukowski, Chair	C. Melillo
J. Vouros, Vice Chair	A. Uberti
D. Ramsey, Secretary (absent)	T. Vadas (absent)
D. Cruson	50 Staff
A. Plante	160 Public
A. Plante	7 Press
K. Kunzweiler (absent)	
D. Godino (absent)	

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

Item 1 – Pledge of Allegiance

Item 2 – Public Participation

Ms. Zukowski said public participation would be limited to 30 minutes and those who have not yet addressed the Board would be allowed to speak first.

Please click [here](#) to view the public participation.

Kate Shirk spoke about book challenges.

Insa Oldach, spoke about book challenges.

Naiya Amin spoke about book challenges.

Jess Powers, 11 Whitewood Road, spoke about book challenges

Jennifer Wheeler, 13 Gopher Road, spoke about book challenges.

Jenifer Killin, 71 Sugar Lane, spoke about book challenges.

Ray Horvath, 1 Crabapple Lane, spoke about book challenges.

Alison Powers spoke about book challenges.

Joseph Crosby spoke about book challenges.

Treasa O’Sullivan spoke about book challenges.

El Glassman spoke about book challenges.

Dan Grossman, 62 Pine Tree Hill Road, spoke about book challenges.

Dan Evans, 21 Georges Hill Road, spoke about book challenges.

Evelyn Weinberger, 17 Sweetbriar Lane, spoke about book challenges.

Jennifer Nicoletti, Pilgrims Trail, spoke about book challenges.

Timothy Stan, 6 Monitor Hill Road, spoke book challenges.

Kris Powers, 76 High Rock Road, spoke about book challenges.

MOTION: Mrs. Plante moved that the Board of Education accept the recommendation of the Special Review Committee that *Flamer* and *Blankets* remain in circulation in the Newtown High School library provided that the administration develop a process to address individual parent or guardian concerns related to their child(ren). Mr. Ramsey seconded.

Mrs. Plante spoke to her motion and reported that our attorney advised us that Robert’s Rules and Board policy prevented the identical motion made at the May 16 meeting from being made tonight. This solution does not put the district at risk for litigation and asks the administration to implement a process that will support the choices of individual parents and guardians to make individual choices for their own children by charging our administrators with designing and implementing a more robust process. She is confident they will make this work. This solution supports our educators and is a vote of confidence for the Special Review Committee. It also

supports Mrs. Uberti and Mr. Melillo who have engaged in this process with thoughtfulness, open-mindedness, and patience that is to be commended. We are lucky to have them leading the district. This solution also supports the Board of Education because it shows we follow our own policies, respects our experts and serves all of our constituents. This solution leaves the operational authority where it belongs which is with our administrators. She is hopeful the Board will support this motion.

Mr. Cruson said it was not the motion he wanted, but understands the legal judgement. There's a link to the retention of the books with coming up with a procedure and is concerned if it's not done in a timely manner the books would be removed.

Mrs. Plante noted that we discussed that with Board counsel who said these books will remain on the shelf if we don't have a process in place.

Mr. Cruson preferred that it was an operational decision and not a Board decision. He knows they will come up with a procedure.

Mr. Vouros thanked Mr. Melillo and Mrs. Uberti and a concerned parent who spoke to Mrs. Uberti. Charging this motion to the administration will make parents know this will be addressed. He asked everyone to focus energies on summer with their children.

Mr. Ramsey appreciated the passion tonight as well as letters to the Board. This is a complex issue and appreciated going into middle and high school libraries to see what goes on during the day. He appreciates the motion and will vote in favor of it.

Ms. Zukowski thanked Mr. SanAngelo and Ms. Zandonella for the time she spent in their libraries. She knows the value that books bring and the trauma that books may bring to others. This motion deals with both. She thanked Mrs. Plante for this motion.

Mr. Cruson said this has been his personal position and is not political.

Motion passes unanimously.

Mr. Cruson stated the student engagement was positive through this and he appreciates that.

Mr. Ramsey said parents should have an active interest in their children's education. This issue could have been handled at the lowest level. Students should initiate the communication and be open and parents be receptive to their students.

Mrs. Plante thanked the educators in this process, the library media specialists, and members of the Special Review Committee.

Mr. Melillo thanked everyone who supported and didn't support the recommendation of the Special Review Committee because it was important to hear both sides and perspectives. He thanked the students and reached out to the Newtown community that we need to come together and ensure we are better together and there is no room for disparaging opinions that we don't like and to respect everyone's opinion.

Mrs. Uberti stated that all of us always tries to listen to students and parents and always try to do work with families to do what is best for students. To our students, you live in a different world compared to your elders. Maybe we need to be clearer why books are there. We want to

heal and she sees this as a place to move forward and reunite the community. She hopes they support the Board in their efforts.

Ms. Zukowski spoke about the history of this issue, the results of the Special Review Committee, and the difference of opinions on the Board. She thanked the Board for their care for our students. She also visited both libraries and felt she had enough information to move forward with the book challenge. We need to come together in the spirit of nicer in Newtown.

Item 4 – Public Participation

Kate McGrady, 26 Philo Curtis Road, spoke about the book challenges and referred to the Board meeting October 12, 2022 regarding the discussion of roles of Board members.

Linda O’Sullivan, 11 Farmery Lane, spoke about her daughter.

MOTION: Mr. Vouros moved to adjourn. Mrs. Plante seconded. Motion passes unanimously.

Item 5 – Adjournment

The meeting adjourned at 8:21 p.m.

Respectfully submitted:

Donald Ramsey
Secretary

**Board of Education
Newtown, Connecticut**

Minutes of the Board of Education meeting held on June 6, 2023 at 6:30 p.m. in the Reed Intermediate School Library.

D. Zukowski, Chair	C. Melillo
J. Vouros, Vice Chair	A. Uberti
D. Ramsey, Secretary	T. Vadas (8:00 p.m.)
D. Cruson	40 Staff
A. Plante	50 Public
K. Kunzweiler	1 Press
D. Godino	

Mr. Vouros called the meeting to order at 6:05 p.m.

MOTION: Mrs. Plante moved that the Board of Education go into executive session for a discussion and possible action on the appointment of the Newtown High School Assistant Principal and invited Mr. Melillo. Mr. Ramsey seconded. Motion passes unanimously.

Item 1 – Executive Session

The Board met regarding the Newtown High School Assistant Principal position.

Item 2 – Pledge of Allegiance

Item 3 – Appointment of Newtown High School Assistant Principal

MOTION: Mrs. Plante moved that the Board of Education accept the recommendation of the Superintendent and appoint Paul Ribeiro Assistant Principal of Newtown High School with a start date on or about July 3, 2023. Mr. Cruson seconded. Motion passes unanimously.

Mr. Melillo said there were 107 applicants for this position. It was a rigorous process but Paul rose to the top. He currently is assistant principal at Darien High School and comes to us with a lot of experience. He lives in Newtown and we are lucky to have him. Congratulations and he looks forward to working with him.

Item 4 – Celebration of Excellence

Top 5% of the Newtown High School 2023 Graduating Class:

Dr. Longobucco introduced the following students who are in the top 5% of the 2023 graduating class. Those honored include Logan Akbas, Paige Armstrong, Connor Dullinger, Jennifer Dushi, Daniel Godino, Olivia Guizzo, Brooke Kinsey, Anna Ochs, Kate Shirk, Madison Singlak, Andrew Sposato, Nicholas Tetreault, Connor Troy, Siddarth Vakacherla, Lauren Jacobs, the Salutatorian, and Kirtana Kunzweiler the Valedictorian. Shreyas Potnuru was unable to attend.

CABE Student Leadership Awards:

Mr. Melillo spoke about the CABE Student Leadership Awards, which are presented to two students from the middle school and two from the high school who exhibit exemplary leadership skills. From Newtown Middle School Maria Souza and Alexia Young and from Newtown High School Ella Featherstone and Miguel Gutierrez received this award.

Retiree Recognition:

Mr. Melillo introduced the retirees, which included Maryann Bisson, special education teacher at Newtown Middle School, Bonita Cartoun, third grade teacher at Head O'Meadow School, Karen King, sixth grade teacher at Reed Intermediate School, Dana Manning, Assistant Principal at Newtown High School, Kathleen Papp, special education teacher at Reed Intermediate School,

Nancy Scallon, reading teacher at Reed Intermediate School, Kathleen Swift, English teacher at Newtown High School, and Tim Tallcouch, chemistry teacher at Newtown High School.

Item 5 – Consent Agenda

MOTION: Mrs. Plante moved that the Board of Education approve the consent agenda which includes the correspondence report. Mr. Cruson seconded.

Mr. Ramsey thanked Mr. Cruson for compiling this report.

Motion passes unanimously.

Item 6 – Public Participation

Item 7 – Reports

There was no chair report.

Superintendent's Report: Mr. Melillo attended the Middle Gate Author's Tea with first grade students. He is looking forward to the high school graduation on June 13 at 5:00 p.m. and the middle school moving-up ceremonies June 12 at 3:00 and 5:00 p.m.

Committee Reports:

Mr. Cruson said the Policy Committee met June 4 and continues with the employee policies and the administration of medicine policy. Two policies for a second read are on tonight's agenda.

Mrs. Plante reported that the DEI Committee met June 1 with presentations from Kellen Nixon and his colleagues and the Students Advocating for Diversity and Equity from the high school.

Mr. Ramsey visited the middle school art show in the library which was very impressive.

Mr. Vouros was invited to be a book buddy with the middle school orange cluster which was a beautiful experience for parents and students.

Student Reports:

Mr. Godino reported that seniors have enjoyed the end of year festivities with a trip to Six Flags and a school carnival. Leo's Club had a dinner to recognize students for their dedication to volunteerism in the community. Sports continued to finish their seasons strong with both softball and girls lacrosse coming out on top for their SWC titles.

Ms. Kunzweiler said the annual awards ceremony was held. AP French and Spanish students ended the year with field trips and first year social studies students took part in an event in honor of Holocaust Remembrance Day. The students thanked the Board for welcoming them this year and were grateful for this opportunity.

Mr. Godino introduced Gabe Petertonjes and Isabel Khazadian who will be the new student representative next year.

Mr. Vouros gave the students a parting gift and thanked them for their reporting of high school events this year.

Item 8 – Presentations

Grade 7 and 8 Kitchen Science Curriculum:

Beth Iacofano, who teaches this course, spoke about the curriculum.

Mr. Vouros thanked Mrs. Uberti and Mr. Ross for keeping that program alive.

DEI Update:

Mr. Melillo introduced Kellen Nixon and Jana Briggs who provided an update on their work.

Mr. Nixon said their mission is to provide innovative solutions to the community, non-profit organizations and Pre-K to 16 education sectors that promote a stronger sense of a diverse, human-centered culture and organizational purpose.

Ms. Briggs shared the work they have been doing since February. They created a 60-day needs assessment through meeting with diverse groups of people including Board members, students and staff to get an idea of how the Newtown Public Schools currently functions. After the culmination of their 60-day assessment, they developed four goals and objectives which is their DEI work plan to be spread over three years.

Mrs. Plant was looking forward to beginning this work with them.

Mr. Cruson appreciates them being here tonight and taking time to meet with the Board members.

Mr. Ramsey appreciated the discussion they had on classroom instruction and the responsive classroom. He asked if this presentation was at the schools also.

Mr. Nixon said they have not presented to the schools yet.

Mrs. Uberti said the first step is to share this with the administrators which we expect to do at the retreat this summer. There will also be planning at the school level.

Strategic Plan Update:

Mr. Melillo introduced Richard Lemons who we have been working with and this draft proposal was coming to the Board so they can provide feedback. Mr. Lemons reviewed the draft proposal of the strategic plan which included the process, the portrait of the Newtown graduate, core values of the community, diversity, equity and inclusion statement, strategic priorities and the continuous improvement process.

Mr. Ramsey asked if Mr. Melillo and Mrs. Uberti how they felt about the plan on a practical level to communicate with everyone.

Mr. Melillo said we were waiting for this information and are now creating a plan we will work around to be sure students get what they need. We will have a strategic plan in each school which will connect to the district plan. He likes the plan and we will bring students to a higher level with this plan. It will also connect with school level plans. Item 4 is around family engagement but we want families to have a voice. There was a bit of a disconnect since the pandemic. We have a Parent Advocacy Council which is in each school with parents coming together to meet with teachers and administrators.

Item 9 – Old Business

MOTION: Mrs. Plante moved that the Board of Education rescind Policy 4-301 Appointment and Duties of School Medical Advisor. Mr. Cruson seconded. Motion passes unanimously.

MOTION: Mrs. Plante moved that the Board of Education approve Policy 4215.1 Evaluation of School Nurses. Mr. Cruson seconded. Motion passes unanimously.

Item 10 – New Business

Newtown Federation of Educational Personnel Contract:

MOTION: Mrs. Plante moved that the Board of Education approve the ratified Newtown Federation of Educational Personnel Contract July 1, 2023 to June 30, 2026. Mr. Cruson seconded. Motion passes unanimously.

Custodians and Maintenance Association Contract:

MOTION: Mrs. Plante moved that the Board of Education approve the ratified Newtown Schools Custodians and Maintenance Association Contract July 1, 2023 to June 30, 2026. Mr. Ramsey seconded. Motion passes unanimously.

Healthy Food Certification:

MOTION: Mrs. Plante moved that pursuant to C.G.S. Section 10-215f, the Board of Education or governing authority certifies that all food items offered for sale to students in the schools under its jurisdiction, and not exempted from the Connecticut Nutrition Standards published by the Connecticut State Department of Education, will comply with the Connecticut Nutrition Standards during the period of July 1, 2023, through June 30, 2024. This certification shall include all food offered for sale to students separately from reimbursable meals at all times and from all sources, including but not limited to school stores, vending machines, school cafeterias, culinary programs, and any fundraising activities on school premises sponsored by the school or non-school organizations and groups. Mr. Cruson seconded. Motion passes unanimously.

MOTION: Mrs. Plante moved that the Board of Education or governing authority will allow the sale to students of food items that do not meet the Connecticut Nutrition Standards and beverages not listed in Section 10-221q of the Connecticut General Statutes provided that the following conditions are met: 1) the sale is in connection with an event occurring after the end of the regular school day or on the weekend; 2) the sale is at the location of the event; and 3) the food and beverage items are not sold from a vending machine or school store. An "event" is an occurrence that involves more than just a regularly scheduled practice, meeting, or extracurricular activity. For example, soccer games, school plays, and interscholastic debates are events but soccer practices, play rehearsals, and debate team meetings are not. The "regular school day" is the period from midnight before to 30 minutes after the end of the official school day. "Location" means where the event is being held and must be the same place as the food and beverage sales. Mr. Cruson seconded. Motion passes unanimously.

Action on Minutes:

MOTION: Mrs. Plante moved that the Board of Education approve the minutes of May 16, 2023. Mr. Cruson seconded. Motion passes unanimously.

MOTION: Mrs. Plante moved that the Board of Education approve the minutes of May 23, 2023. Mr. Cruson seconded. Motion passes unanimously.

Item 11 – Public Participation

MOTION: Mrs. Plante moved that the Board of Education go into executive session for a discussion and possible action on non-union salary increases and a personnel request and invite Mr. Melillo and Mrs. Vadas. Mr. Cruson seconded. Motion passes unanimously.

Item 12 – Executive Session

The Board went into executive session at 8:30 p.m.

Item 13 – Public Session for Action on Executive Session items.

MOTION: Mrs. Plante moved that the Board of Education approve the salary adjustments for all non-union employees for 2023-2024 as per the Superintendent's recommendation. Mr. Cruson seconded. Motion passes unanimously.

MOTION: Mrs. Plante moved that the Board of Education, in accordance with the provisions of Section 10-151 of the Connecticut General Statutes, terminate the contract of employment of

Cheryl Stewart-McCaffrey effective June 30, 2023, as a result of the elimination of the position to which Ms. Stewart-McCaffrey was appointed, and the lack of any position to which Ms. Stewart-McCaffrey can be appointed, and moved further that the Superintendent of Schools is directed to advise Ms. Stewart-McCaffrey in writing of this action. Mr. Cruson seconded. Motion passes unanimously.

MOTION: Mr. Cruson moved to adjourn. Mr. Ramsey seconded. Motion passes unanimously.

Item 14 - Adjournment

The meeting adjourned at 9:33 p.m.

Respectfully submitted:

Donald Ramsey
Secretary

Please Note: These minutes are pending Board approval.

**Board of Education
Newtown, Connecticut**

Minutes of the special Board of Education meeting held on June 8, 2023, at 6:30 p.m. in the Board of Education conference room, 3 Primrose Street.

D. Zukowski, Chair
J. Vouros, Vice Chair
D. Ramsey, Secretary
D. Cruson
A. Plante

C. Melillo

Item 1 – Call to Order

Ms. Zukowski called the meeting to order at 6:30 p.m.

MOTION: Mrs. Plante moved that the Board of Education go into executive session regarding the evaluation of the Superintendent and invite Mr. Melillo. Mr. Cruson seconded. Motion passes unanimously.

Item 2 – Executive Session

The Board discussed the evaluation of the Superintendent.

MOTION: Mr. Vouros moved to adjourn. Mr. Ramsey seconded. Motion passes unanimously.

Item 4 – Adjournment

The meeting adjourned at 7:17 p.m.

Respectfully submitted:

Donald Ramsey
Secretary