

cohesive  
collaborate  
comply  
concurrent  
contingent  
demeanor  
deplete  
derogatory  
disparity  
disseminate  
dissident  
distracted  
divert  
dormant  
egocentric  
elusive  
emulate  
equitable  
eradicate  
estrangle  
exacerbate  
expedite  
fabricate  
facilitate  
fortuitous  
fraudulent  
heinous  
hypothetical  
illicit  
imminent  
impetuous  
incongruous  
indigenous  
indiscriminate  
inherent  
jurisdiction  
lax  
meticulous  
negligent  
nonchalant  
oblivious  
obscure  
omnipotent  
opportune  
oppose  
panacea

perfunctory  
preposterous  
precarious  
precipitate  
preclude  
proficient  
propensity  
qualitative  
quantitative  
recalcitrant  
redeem  
rejuvenate  
relegate  
relinquish  
sanction  
spontaneous  
static  
stringent  
subordinate  
subsidize  
tenuous  
travesty  
tumult  
unilateral  
validate  
vindicate  
zealot

*Grades 11*

aberration  
abstract  
accolade  
accommodate  
aesthetic  
affinity  
altercation  
ameliorate  
amicable  
anarchy  
anomaly  
appall  
archaic  
arduous

articulate  
astute  
authoritarian  
aversion  
biased  
brevity  
cajole  
callous  
capitulate  
catalyst  
catharsis  
caustic  
censure  
chastise  
clamor  
coalesce  
cognizant  
commiserate  
composure  
conciliatory  
contract  
copious  
cordial  
debilitate  
decadence  
deference  
delineate  
deprecate  
despot  
deviance  
devious  
didactic  
disparage  
dissonance  
duplicity  
effervescent  
egregious  
elusive  
equivocal  
erroneous  
exemplary  
expedient  
extraneous  
formidable  
frivolous  
grueling

haphazard  
heretic  
hindrance  
hypocrisy  
iconoclast  
incessant  
incidental  
incite  
incorrigible  
indict  
indoctrinate  
insurgent  
intangible  
judicious  
lavish  
listless  
meager  
meander  
negligent  
obliterate  
ponderous  
preclude  
prerequisite  
proximity  
rectify  
rescind  
resolution  
rigorous  
scrutinize  
substantiate  
surmise  
tirade  
turbulence  
unimpeachable  
unobtrusive  
usurp  
vacillate  
whimsical

*Grades 12*

anachronistic  
abbreviate  
abdicate  
abstinence  
adulation  
adversity

amicable  
anonymous  
antagonist  
arid  
asylum  
benevolent  
camaraderie  
censure  
circuitous  
clairvoyant  
collaborate  
compassion  
compromise  
condescending  
conditional  
conformist  
congregation  
convergence  
deleterious  
demagogue  
digression  
diligent  
discredit  
disdain  
divergent  
empathy  
emulate  
enervating  
enhance  
ephemeral  
evanescent  
exasperation  
exemplary  
extenuating  
florid  
fortuitous  
frugal  
hackneyed  
haughty  
hedonist  
hypothesis  
impetuous  
impute  
incompatible  
inconsequential  
inevitable

integrity  
intrepid  
intuitive  
jubilation  
lobbyist  
longevity  
mundane  
novice  
opulent  
orator  
ostentatious  
parched  
perfidious  
precocious  
pretentious  
procrastinate  
prosaic  
provocative  
prudent  
querulous  
rancorous  
reclusive  
reconciliation  
renovation  
restrained  
reverence  
sagacity  
spontaneity  
spurious  
submissive  
substantiate  
subtle  
superficial  
superfluous  
suppress  
surreptitious  
tactful  
tenacious  
transient  
venerable  
vindicate  
wary



NEW HAVEN PUBLIC SCHOOLS

# Academics Instructional Frameworks

September 2021

*Please note that updates may be made after implementation and feedback.*



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advantage	lush	analysis	flashback	scene	diversion
argue	luxurious	anecdote	flat character	screenplay	elation
battered	master	antagonist	fluency	script	elicit
befuddled	meager	anthology	folktale	script format	escalate
billow	memento	argument	foreshadowing	second person point of view	evaluate
blow off steam	mobile	assonance	general idea	select	exacerbate
blunt	moist	atmosphere	genre	setting	excerpt
breathtaking	momentous	attribution	gradual release of responsibility model	simile	explicit
budge	moocher	audience	hero	situational irony	explosion
bundle	motionless	authority	historical fiction	skill	falter
calamity	mystify	author's craft	humor	speaker ( <i>poetry</i> )	feasible
cantankerous	negative	author's purpose	hyperbole	specialized vocabulary	feign
clamber	nourish	author's style	identify	specific idea	fluctuate
clamor	on pins and needles	autobiography	imagery	speech	formulate
clank	pandemonium	background	implication N ( <i>imply</i> <i>V</i> )	stage directions	generate
clash	peculiar	knowledge	inference N ( <i>infer V</i> )	stage technicians	gist
cluster	peer	bias	internal monologue	strategies	hypothetical
commit	picturesque	blog	interview	stanza	impartial
compel	plummet	bookmark	irony	static character	implausible
comply	pollute	book panel	journalist	strategic	implication
conspicuous	positive	discussion	line ( <i>poetry</i> )	stylized	imply
consume/consumer	prejudice	book review	literary analysis	speaking elements	incentive
contact	preposterous	cast of characters	literature circles	subtext	incoherent
contemplate	preteen	character	main idea	summary N ( <i>summarize V</i> )	indolent
contented	priority	development	memoir	supporting details	infamous
convert	procedure	character journal / diary entry	mentor text	symbol	infringe
cuisine	protest	character point of view	metaphor	symbolism	innovation
currently	quality	character profile / sketch	monologue	syntax	intercede
dab	reassure	character traits	mood	synthesis	interpret
during	regulate	characterization	moral	tall tale	intimidate
defenseless	resilient	character's voice	motivation	teleplay	isolate
delectable	resist	citation	mythology	text features	jeopardize
deliberately	restore	classroom	narratives	text highlighting	lucrative
dependent	restriction	community	narrator	text structure	mandatory
desert/deserter	reuse	climax	nonfiction	theme	mediate
desirable	reverie	compare	note-taking	third person point of view	mortify
deteriorate	rustle	connotation	onomatopoeia	tone	niche
device	scarce	cons ( <i>debate</i> )	opinion	topic	obscure
devour	scour	contemporary	opposing view- points	unbiased	obsolete
dignified	selfless	contrast	oral tradition	URL	pacify
dim	sequence	controversial topic	pace	valid arguments	perception
disadvantage	significant	conventions of print	parallel construc- tion/structure	validity	perspective
discontinue	sociable	counter-argument	paraphrase	values	pertinent
discourteous	solitary	criteria	persona	verbal irony	ponder
disposition	soothe	debate	personal narrative	visual media	prevalent
dissatisfied	spectacle	demonstrate	personification	voice	proponent
drastic	squander	denotation	persuasion	volume	punitive
dwelling	stamina	denouncement	pitch	web discussion	rapport
efficient	stroll	details	plagiarism	website	rational
emerge	stun	determine	play	writing point or purpose	redundant
engrossed	suit	dialect	play structure	writing territories	retaliate
envious	supporter	dialogue	plot	writing workshop	sabotage
establish	supreme	diction	poetic form	<i>Grades 9</i>	scrutiny
ethical	surge	director	poetic language	absolve	similar
exert	tattered	drama	point of view	alleviate	simulate
extend	thoughtful	dramatic irony	previews text	alternative	squander
fanciful	thoughtless	dramatic silence	printed media	ambivalent	succumb
get on board	through	dynamic character	production company	analyze	tangible
grimace	thrust	editorial	prologue	animosity	technique
grotesque	thunderous	elaboration	propaganda	appropriate	traumatic
hair-raising	towering	emotional appeal	pros ( <i>debate</i> )	arbitrary	turmoil
harbor	tranquil	emphasis	prose	attribute	valid
heartless	trickle	epilogue	protagonist	beneficial	verify
heave	typical	essay	purpose	comprehensive	viable
helter-skelter	uneasy	euphemism	questioning	connotation	vulnerable
heroine	unethical	evaluate	reading strategies	contrast	
hospitable	values	evidence	reading workshop	credible	
hunch	vary	exaggeration	reading/writing approaches	credulous	
hunger	vast	explanatory writing	reflective writing	cursor	
impact	vexed	exposition	reliable source	cynic	
indicate	vivid	exposition essay	resolution	death	
inefficient	wide-eyed	exposition text structure	revisions	deficient	
influence	widespread	expressive voice	rhythm	depict	
inform	wobbly	fable	rising action	derive	
injustice	<i>Grades 6-8</i>	fact	round character	detract	
insignificant	act	falling action		devastate	
interact	actions	feature article		digress	
international	active voice	fiction		dilemma	
intrigue	adaptation	figurative language		diligent	
knowledgeable	advertising	first person point of view		dissent	
loll	campaign			distort	
lose your nerve	alliteration				
lurch	allusion				
lurk					

sniffle  
solid  
steer-clear  
stream  
strenuous  
stuff  
stunned  
sturdy  
swirl  
teamwork  
terrible  
terrific  
tourist  
treat  
tumble  
unique  
unusual  
unwelcome  
usual  
valuable  
vanish  
variety  
whimper

*Sight Words*  
*(Trick Words)*

again  
against  
always  
America  
animal  
answer  
August  
away  
beautiful  
both  
bought  
breakfast  
bother  
brought  
carry  
change  
city  
country  
couple  
cousin  
daughter  
December  
different  
done  
early  
earth  
eight  
enough  
every  
family  
father  
favorite  
February  
full  
goes  
great  
head  
house  
January  
July  
knew  
know  
large  
laugh  
learn  
lose  
Monday  
mother  
move  
night  
ocean  
often  
once  
only  
picture  
piece  
place  
please  
pretty

pull  
ready  
right  
Saturday  
school  
shall  
something  
son  
special  
sure  
talk  
thought  
Thursday  
together  
tomorrow  
trouble  
Tuesday  
use  
used  
walk  
Wednesday  
whose  
won

*Grade 3*

abandon  
again  
adapt  
adjust  
adventure  
advise  
aggressive  
appetizing  
aroma  
astounding  
avoid  
ban  
barricade  
belongings  
bewildered  
blow your top  
boast  
brainstorm  
bustle  
caretaker  
celebration  
challenge  
cherish  
clatter  
clench  
cling  
clutch  
cluttered  
coax  
collaborate  
comfy  
command  
commiserate  
contentment  
convenient  
cross  
customary  
dazzle  
debris  
decline  
delirious  
depend  
defect  
determination  
devastate  
differ  
diligent  
disaster  
disorganized  
display  
disrupt  
distress  
diverse  
dodge  
doubtful  
durable  
ease  
energize  
evacuate  
exhilarated

faint  
fantasize  
fantastic  
fierce  
flabbergasted  
shall  
flick  
flimsy  
floppy  
flutter  
forbid  
fortunate  
frank  
fret  
fury  
generally  
ghastly  
graceful  
gruff  
handy  
hazardous  
headstrong  
heartbreaking  
horizontal  
immature  
immense  
impermissible  
improvise  
industrious  
intense  
joyful  
likely  
long  
lounge  
magnificent  
mature  
memorable  
motion  
nifty  
obstinate  
opportunity  
original  
overwhelmed  
particularly  
permissible  
permit  
persist  
plain  
plop  
prefer  
prowl  
quiver  
rap  
realize  
recall  
reconsider  
refreshing  
reluctant  
require  
retrieve  
reunite  
roam  
ruckus  
savory  
scan  
secure  
self-confident  
serve  
shuffle  
silky  
skill  
skillful  
slog  
slump  
snap  
snug  
sorrowful  
spectacular  
speechless  
speedy  
squirm  
strain  
stressful  
struggle  
successful

*Foundations*

*Word of the Day*

abandon  
actively  
actually  
atmosphere  
belief  
bonded  
bucket  
bundle  
can't  
catches  
chorus  
column  
concentrate  
confident  
confusion  
convincing  
copying  
create  
crucial  
crunch  
demonstrate  
dried  
duties  
enjoyable  
expansion  
extra  
grabbed  
hustle  
I'm  
inspiring  
instructor  
judge  
knock  
label  
luckiest  
medium  
minor  
mixed  
moisture  
neighbor  
patient  
pleasant  
pollen  
predict  
replace  
scold  
scrapped  
settlement  
settling  
shipment  
stable  
staring  
starring  
stretch  
study  
surrender  
survive  
trapped  
vein

swerve  
task  
texture  
threatened  
tip  
trample  
unaggressive  
unexpected  
unfortunate  
ungrateful  
unlikely  
unsuccessful  
unwind  
urgent  
utter  
valuable  
vertical  
volunteer  
well-organized  
whiz  
whoop  
whoosh

*Grade 4*

adequate  
adore  
alternative  
ambition  
amiable  
analyze  
apprehensive  
below  
bizarre  
bliss  
blotch  
blurt out  
boost  
ceremony  
circulate  
compromise  
conceal  
conditions  
consistent  
consistently  
creak  
critical  
crouch  
custom  
dazed  
deceive  
defy  
dejected  
dense  
desire  
desperate  
dissimilar  
dubious  
edible  
eerie  
effective  
elated  
eligible  
endure  
engage  
enraged  
ensure  
enthusiastic  
envision  
equitable  
exclusive  
experience  
feat  
flee  
focus  
formal  
fume  
function  
gleeful  
glum  
greedy  
harass  
hardship  
hazard  
hinder  
humane  
humble  
humdrum  
ideal  
imposing  
impressive  
imprudent  
in the blink  
inadequate  
inclusive  
inconsistent  
indignantly  
inedible  
ineffective  
ineligible  
informal  
inhumane  
initial

*Grades 5*

inspire  
integrate  
intimidate  
intricate  
jittery  
jubilant  
keen  
labor  
landscape  
launch  
lend  
lethal  
loathe  
luscious  
manually  
merit  
misfortune  
misjudge  
mysterious  
neglect  
nosing around  
obstacle  
offer  
optimistic  
pelt  
perilous  
permanent  
pessimistic  
plead  
plunge  
precarious  
precise  
prior to  
process  
proficient  
prudent  
pursue  
raise eyebrows  
recede  
reduce  
refuge  
rejoice  
reminisce  
reputation  
resemble  
revere  
rickety  
rove  
rowdier  
rowdy  
rubble  
rugged  
rummage  
safeguard  
sag  
sandwiched  
scrutinize  
secure  
seek  
segregate  
sensitive  
serene  
severe  
sidesplitting  
slight  
speculate  
stalk  
survey  
sustain  
temporary  
thoroughly  
tilt  
topple  
transform  
trend  
trim  
uniform  
unwise  
valiant  
vigilant  
wise  
yearn  
academic



**SY 2020-2024 Strategic Plan**

**Core Values**

We believe...

- 1** Equitable opportunities create the foundation necessary for every child to succeed
- 2** A culture of continuous improvement will ensure that all staff are learners and reflective practitioners
- 3** High expectations and standards are necessary to prepare students for college and career
- 4** Collaboration and partnerships with families and the New Haven community will enhance learning and achievement



**Mission**

To provide all students in New Haven Public Schools with personalized, authentic, and engaging learning experiences through creative, exploratory, innovation, critical thinking, problem-solving, and high quality instruction. To foster a culture of continuous improvement through collaborative partnerships with staff, families, and the New Haven community. To support students' growth and development by utilizing the Whole Child Framework.

**Vision**

Our vision is to be a premier urban school district that ensures access to equitable opportunities and successful outcomes for all students as they prepare for college, career, and life.

**Priority Areas for 2020-2024**

- 1** Academic Learning
- 2** Culture & Climate
- 3** Youth & Family Engagement
- 4** Talented Educators
- 5** Operational Efficiencies



## About this Document

This document is meant to improve instruction and student achievement across all content areas by providing the district with a common language for planning, implementing, and discussing student experiences in the classroom. It outlines research-based, student learning experiences that must occur in each content area in order for students to meet standards and access grade-level content.

First, it delineates **Common Guiding Principles** for instruction for all content areas, as well as *Considerations for Addressing the Academic Needs of Students with Special Needs* and *Considerations for Addressing the Academic Needs of English Learners* across content areas.

Then, it includes **Guiding Principles** and **Frameworks** for student experiences in each content area. Each content area Framework includes the following:

### Guiding Principles

The Guiding Principles for each content area are research-based, overarching principles of learning in that content area. These principles lay the foundation for the core practices on the page that follows.

### Core Practices and descriptions of Student Experiences

Each framework includes seven to ten **Core Practices**. Each **Core Practice** has a title and a description of **Student Experiences** in that **Core Practice**. These are active statements about what students should be doing in order to learn. They are observable as actions, but are not necessarily learning outcomes or student objectives.

The **Core Practices** are unlikely to occur all in one lesson; however, frequent experiences in each of the **Core Practices** is essential. The **Core Practices** listed should occur at all grade levels and courses for each content area; however, developmental variations will be necessary and appropriate.

Each Framework is meant to guide *planning and execution of effective instruction* over time. They are not

## Appendix A:

### New Haven Public Schools Sample Word Lists, K-12

The following lists, for grades K-12, are composed of words that students typically encounter in reading, use in their writing, and study during word work. The words include high frequency words, vocabulary words and content specific academic language. These lists are not inclusive of all the words students will study in the various grade levels. Rather, the list serves as samples of the types of words, with increasing complexity, that will be part of every student's language development.

#### Kindergarten

companion  
creature  
explore  
imitate  
drowsy  
snooze  
soar  
generous  
goosey  
passenger  
tangled  
delicious  
determine  
energetic  
furious  
excited  
lonely  
pedestrian  
allow  
container  
enormous  
greet  
invite  
comfortable  
cozy  
fit  
patient  
uncomfortable  
amusing  
crowded  
grin  
pleasant  
various  
collide  
concerned  
confident  
disappointed  
glance  
amusing  
complete  
frightened  
healthy  
weak  
active  
haul  
repair  
switch  
fluffy  
icy  
machine  
tasty  
warm  
assist  
communicate  
creep  
Pounce  
scramble  
face  
overhead  
release  
rough  
swiftly  
bright  
diet

face  
playful  
point

#### Sight Words (Trick Words)

a  
and  
are  
as  
be  
by  
do  
for  
from  
has  
have  
have  
he  
his  
I  
is  
me  
my  
of  
one  
or  
she  
the  
they  
to  
was  
we  
you

#### Grade 1

admire  
adult  
adventure  
affectionate  
amazing  
appetite  
arrange  
arrive  
astonished  
audible  
bad-tempered  
beam  
Bob  
bold  
chomp  
collapse  
commotion  
contents  
cooperate  
crabby  
crush  
curious  
dart  
delighted  
destination  
dine  
disappear  
discover  
disgusting  
dump

earsplitting  
essential  
evidence  
exclaim  
extraordinary  
faint  
feast  
ferocious  
firm  
flash  
fond  
frigid  
future  
gather  
gigantic  
glide  
glow  
gulp  
habitat  
hero  
hope  
hover  
howl  
humorous  
impolite  
inaudible  
independent  
inspect  
journey  
lunge  
match  
meadow  
memory  
migrate  
miserable  
moan  
munch  
mutter  
neighborhood  
neighborly  
nervous  
odd  
odor  
ordinary  
pack  
peaceful  
persevere  
pile  
popular  
possession  
pout  
powerful  
predator  
prey  
protect  
Quarrel  
rapidly  
relax  
remain  
rescue  
resent  
respect  
ridiculous  
rumble  
rush  
spot

squint  
stomp  
store  
study  
surroundings  
thrilling  
tidy  
timid  
track  
tremble  
trust  
tug  
twirl  
underground  
untidy  
vegetation  
wander  
wobble  
wonder  
wriggle

#### Sight Words (Trick Words)

about  
also  
another  
any  
as  
been  
being  
between  
called  
come  
could  
day  
do  
does  
down  
each  
first  
friend  
good  
has  
her  
here  
how  
into  
little  
look  
many  
may  
me  
month  
Mr.  
Mrs.  
new  
none  
nothing  
now  
number  
of  
one  
or  
other  
our  
out  
over

own  
people  
put  
said  
say  
says  
see  
she  
should  
some  
their  
there  
they  
too  
try  
two  
very  
want  
was  
water  
way  
we  
were  
what  
when  
where  
who  
why  
word  
work  
work  
write  
Yours

#### Grade 2

accompany  
annoy  
appreciate  
approach  
approve  
attach  
attract  
behave  
beneficial  
blob  
bulge  
chaos  
characteristic  
collect  
compassionate  
complex  
congratulate  
conserve  
consume  
content  
convince  
create  
damp  
dash  
decrease  
delightful  
disapprove  
discover  
disguise  
disobedient  
downcast

dull  
duplicate  
eavesdropper  
ecstatic  
embarrass  
encourage  
expand  
expert  
fabulous  
fade  
familiar  
fearful  
fearless  
fetch  
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flexible  
flop  
fragile  
fragrant  
fresh  
genius  
glare  
gleam  
gobble  
gratitude  
grip  
grumble  
guide  
hospitality  
host  
huddle  
hurt  
insist  
miniature  
misbehave  
murmur  
mushy  
necessary  
notorious  
numerous  
obedient  
occasionally  
optional  
overalls  
overjoyed  
pester  
picky  
plenty  
precaution  
predict  
prepare  
provide  
racket  
rarely  
recently  
recreation  
regularly  
routine  
rude  
scrunch  
shelter  
shimmer  
shriek  
sip  
slurp



meant to delineate student learning goals or be used as skills rubrics which can be found in each subject curricula, such as the NHPS Learning Competencies and Mastery Scoring Criteria.

These frameworks are *different from* the NHPS TEVAL Classroom standards and instructional “Evidence of Learning Document” (Look-fors) in that those documents define teacher actions, whereas the Frameworks describe student experiences in the classroom.

This document could also be used for the following:

- a. Teachers to identify commonalities in student experiences across content areas.
- b. Teachers to ensure that instruction is purposeful, meaningful, and supportive.
- c. Teachers to engage in cross-district discussions within particular content areas.
- d. Administrators and teachers to plan and implement professional learning at the building or district level.

These Frameworks are modeled after the framework outlined in the “*Fountas and Pinnell Literacy Continuum*” (Fountas, I. C., & Pinnell, G. S. (2017). *The Fountas & Pinnell literacy continuum: A tool for assessment, planning, and teaching.*) The NHPS Academics Instructional Evidence of Teaching and Learning (Look-fors) Document as well as content specific curricula are posted here: <https://sites.google.com/a/nhps.net/new-haven-public-schools-curriculum/>





## Common Guiding Principles

The following principles are the foundational principles for instruction across all subject areas:

1. **Student achievement increases when students set their own goals.** Student goals should meet the student where they are and build the skill set needed to progress through their learning toward grade level expectations. Teachers assist students in setting goals, picking strategies to meet those goals, monitoring their progress, and giving feedback. Research has documented a strong, positive correlation between setting student achievement goals and student achievement.
2. **Students engage more fully with learning when they see real-world connections and relevance to their own lives.** Students' understanding of these connections happen when they engage in real-world applications of what they are learning. Teachers use culturally relevant pedagogy to establish high expectations for all students, engage students in critical analysis of what they are learning and prepare them to advocate for a social just world. There should also be purposeful attempts to make learning relevant to students' individual interests, cultures, and community. The more teachers get to know individual students, the more this is possible; however, teachers need not have in-depth knowledge of every aspect of the students in their classroom to create relevant lessons. It is most important that teachers create a space for students to express their perspectives, make their own connections to the learning, and appreciate that their classmates might think differently.
3. **Students learn by interacting with subject-specific texts.** The term "text" includes fiction and non-fiction texts as well as directions, forms, and all types of information visually displayed in graphs, charts, or maps, music, art, and digital sources on a range of topics. Students must interact with subject-specific texts, process the information included, make conclusions, and communicate their ideas with others in order to develop their learning. These interactions will also require the development of appropriate academic vocabulary in each subject area.
4. **Students learn by talking.** This is the important process of making their thinking visible, listening to others, and revising their understanding by reasoning out loud. Students learn from discourse with their peers around subject concepts, ideas and issues by explaining, critiquing and building common understanding. Discourse is one of the most effective ways for students to practice sense-making and decision-making, as they explain to others their evidence-based conclusions.

**target culture and language to their own.** Intercultural Communication skills require going beyond knowing facts *about* cultures, to learning how to effectively interact with people from different cultures, and developing an understanding of the concept of culture. *Authentic texts* (written for native speakers, by native speakers) and authentic experiences with native speakers are engaging for students, offer real-world language practice, and provide opportunities to notice, compare, and reflect on cultural similarities and differences.

5. **Students learn best through authentic contexts.** They build world-ready language skills and are more engaged when lessons are grounded in culture, subject area content, comparisons of languages and cultures, and interaction with native speakers in the local or global community. These contexts help students see the real-world application of language skills. Language lessons that are focused solely on language or grammar concepts without a relevant context are less likely to be impactful on learning and engagement.

Portions from: The American Council on the Teaching of Foreign Languages' Guiding Principles documents:

## World Languages Framework

	CORE PRACTICES	STUDENT EXPERIENCES
1	<b>Hearing the Language in Meaningful Contexts</b>	Students hear the target language spoken by the teacher, often with visual support, and participate by following directions, voting, completing a task, etc.
2	<b>Interacting with Authentic Texts</b>	Students listen to, view, or read authentic texts and demonstrate comprehension via a graphic organizer, questions, circling what they hear/saw, etc. Texts may include songs, infographics, schedules, menus, etc.
3	<b>Engaging in Spoken &amp; Written Conversations</b>	Students talk and negotiate meaning with others in spontaneous oral conversations. Novices may require visual (but not written) support. Students negotiate meaning in simple texting conversations with others.
4	<b>Speaking &amp; Writing for a Purpose</b>	Students speak or write in more drafted, formal ways for a particular audience and purpose. Novices may require visual cues or sentences starters.
5	<b>Learning Grammar in Context</b>	Students construct the meaning of new grammar for themselves through structured & scaffolded experiences with the grammar in authentic texts and conversations.
6	<b>Learning Language through Culture &amp; Culture through Language</b>	Students experience culture through age-appropriate experiences & texts. They use the language to participate in, investigate, and explain their learning. Students reflect on the relationship between the products, practices, and perspectives of the cultures studied.
7	<b>Comparing Languages &amp; Cultures</b>	Students use the language to investigate, explain, and reflect on the nature of language and culture through comparisons of the language and culture(s) studied and their own.
8	<b>Connecting to the Global and Local Target Language Community</b>	Students use the language both within and beyond the classroom to interact and collaborate in their local and global community.



## World Languages Framework

Many of these are derived from ACTFL's Guiding Principles documents, available at the link below.

### Guiding Principles

1. **Students develop proficiency in a target language-rich classroom.** Students should hear the target language 90% or more of class time and be surrounded by target-language materials and texts. The target language used by the teacher must be supported by strong contexts, visuals, gestures, and modeling so that students always know what they are supposed to *do* in the class, even though they will not and should not understand every word they hear or read. In a supported target language environment, students learn to stay calm and use contextual clues to construct meaning for themselves; this is an essential skill that they can take to any “foreign situation” and apply to continued language learning in the future.
2. **Students learn through both input (listening, reading) and output (speaking, writing).** *Input is essential:* students must have heard words and expressions used in context before they can be expected to utter them appropriately; they must read words and expressions before they can be expected to write them with accuracy. A variety of listening, viewing and reading experiences help students internalize the structure, vocabulary, cadence, and culture of the language. *Output is also essential:* students must have opportunities to *use the language themselves* to have conversations, accomplish tasks, negotiate meaning, and speak/write for a purpose in order to build confidence, fluency, and accuracy.
3. **Students learn by practicing all three Modes of Communication: Interpretive, Interpersonal, and Presentational.** In daily life, a proficient speaker is able to seamlessly move between reading a news article, discussing it with colleagues, and writing an email response to the author.; these are different *modes of communication*. Students must learn the skills particular to each mode of communication, such as accuracy in writing or use of voice inflection when conversing. Through practicing in each mode, students have multiple access points to internalize the vocabulary and structures of the language, as they develop well-rounded proficiency skills.
4. **Students develop Intercultural Communication skills when they interact with authentic texts, notice products and practices, interact with native speakers of the language, and make comparisons of the**



## Considerations for Addressing the Academic Needs of Students with Special Needs

### Purpose of Special Education

To ensure that students with disabilities develop intellectually, physically, emotionally, socially, and vocationally through the provision of an appropriate individualized education program in the least restrictive environment. The design and delivery of specially designed instruction is the core of special education. Specially designed instruction is the vehicle by which students with disabilities receive high-quality instruction and services that will result in mastery of academic and functional standards, graduation, and meaningful post-secondary outcomes.

### Guiding Principles

1. **Students with disabilities are always general education students.** Which means that there is one curriculum that incorporates the needs of all students; considering what is essential in accordance with a child's individualized education plan (IEP).
2. **Special education is a service-not a place-and is always available within differentiated core, supplemental and intensive supports.** Special education services can be delivered within the general education setting given general educators as service implementers. Students with disabilities need multiple pathways by which to access the curriculum. Most needs could be met through an intentional focus on differentiated instruction by which accommodations could be made.
3. **Effective integration between general education and special education yields the best learning of academic, functional, behavioral, and social emotional skills for students with disabilities.** Students with disabilities benefit most when they are taught by both general education and special education teachers who effectively communicate, plan, and share responsibility for both the academic and social emotional

outcomes for students. This shared responsibility could be created by the sharing of routines, creating mutual planning time, development of shared lessons, and the co facilitation of instruction.

4. **Utilizing universal design principles creates classrooms accessible to all learners; including students with disabilities.** Universal design for learning offers a frame that every student be provided an equal opportunity to learn, based on the idea that every child has their own unique and individual learning style. UDL would provide multiple pathways for students that align to interest, considers learning style and ability, as well as to provide multiple means of demonstration of mastery.

**High Leverage Instructional Strategies**

- a. Direct, explicit instruction
- b. Utilizing a multi-sensory approach.
- c. Scaffolding-break learning into small steps;
- d. Administer Probes
- e. Supply regular, quality feedback
- f. Use diagrams, graphics and pictures to augment what they say in words
- g. Provide ample independent, well-designed intensive practice
- h. Model instructional practices that they want students to follow;
- i. Provide prompts of strategies to use
- j. Assess and monitor progress

*\*adapted from Learning Disabilities Association, 2019*



5. **Students will recognize the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.** Students will use physical activity as a positive opportunity for social interaction and development of leadership skills. Individuals will realize physical activity and challenges present opportunities for personal growth.

Many of these are derived from Connecticut’s “Healthy Balanced Living Curriculum,” located on the link below <https://portal.ct.gov/-/media/SDE/Health-Education/Exemplary-SHE/Standards/healthybalancedliving.pdf>

*Physical Education / Health Framework*

	CORE PRACTICES	STUDENT EXPERIENCES
1	<b>Self-Management of Healthy Behaviors</b>	Students will practice health-enhancing behaviors to avoid and reduce health risks, such as diabetes, high blood pressure and heart disease.
2	<b>Analyzing Internal and External Influences</b>	Students will analyze the influence of family, peers, culture, media, technology, and other factors on health.
3	<b>Decision-Making Skills</b>	Students will have the opportunity to practice decision-making skills such as in volleyball; Decision making is knowing whether to dig, set or spike and knowing when and where to move to hit the ball coming towards you. Decision-making can also be regarded as a problem-solving activity terminated by a solution deemed to be satisfactory. Decision Making is controlled by your frontal lobe in your brain. This part of the brain regulates decision making, problem solving and controls of purposeful behaviors consciousness and emotion.
4	<b>Motor Skill Performance (PE ONLY)</b>	Students are practicing a variety of individual movement patterns. Examples are Walking; running, stretching, bending, catching, and throwing are all motor skills. They are the building blocks of all games and activities in physical education class, sports, and daily life. Enhancing the quality of students' motor skills can enhance the quality of the activities in a physical education program and the daily lives of students.
5	<b>Engaging in Physical Activity</b>	Students are physically active the majority of the time. The goal is for students to have an MPA (Meaningful Physical Activity) of at least 50% of the class time.
6	<b>Physical Fitness</b>	Students will incorporate fitness and wellness concepts to achieve and maintain a health-enhancing level of physical fitness.
7	<b>Benefits of Physical Activity</b>	Students will be able to explain physical activity for health, enjoyment, challenge, self-expression, and/or social interaction to sustain a physically active lifestyle.





## *Physical Education / Health Framework*

Physical education teaches students about the importance and value of a physically active lifestyle. There are a variety of benefits gained through physical education. Personal health, social skills, self-esteem, motor skills, and knowledge base are areas that can be positively impacted. The philosophy of the physical education academic content standards is to ensure all New Haven students understand and use the acquired knowledge from physical education and apply it to daily life to:

### *Guiding Principles:*

- 1. Students will demonstrate competency in a variety of motor skills and movement patterns.** In order for students to enjoy physical and recreational activities, they must become competent movers. Students PreK thru 12 have a list of non-loco motor and locomotor movements rubrics they must meet at each level. Middle school and high school have more skill related benchmarks to meet.
- 2. Students will apply knowledge of concepts, principles, strategies and tactics related to movement and performance.** Once students will use skills learned to enjoy recreational activities.
- 3. Students will demonstrate the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.** One of the main assessment tools is the Connecticut Physical Fitness Test. It is given to 4<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup> and once in high school. Pre-tests are given in the preceding grades. This tests the students Muscular Strength, Muscular Endurance, Cardiovascular Endurance, and Flexibility.
- 4. Students will demonstrate Teamwork, Sportsmanship and Cooperation.** Physical education allows children to experience healthy social interactions, teaching cooperation through group activities, and encouraging teamwork through identification as one part of a team. These social skills stay with children throughout their lives, increasing the chance that they'll become involved in their communities, take leadership roles, and build lasting relationships. Social skills develop confidence, contributing to academic performance and mental health. Most Physical Education lessons will have a social emotional component to it.



## Consideration for *Addressing the Academic Needs of English Learners*

- 1. All teachers are teachers of English Learners (EL) and need to plan accordingly** by designing and delivering instruction that is culturally and linguistically appropriate for all diverse learners, including those with Individualized Educational Programs (IEP). In order to do so, they provide integrated language and content instruction to support language development through language-focused scaffolds while collaborating with school support personnel and community-based human resources.
- 2. All school leadership teams, and district/school leaders, are responsible for ensuring that the academic, linguistic, social, and emotional needs of ELs are addressed.** Leaders provide a clear vision for student success that includes high expectations for EL student achievement and socio-emotional development. They ensure that high-quality instruction for ELs is ongoing in a safe and inclusive learning environment that recognizes and respects the languages and cultures of all students. In addition, they safeguard high-quality instructional and support services to ELs with disabilities in alignment with their IEPs and current policies.
- 3. District and schools engage all English Learners in instruction that is grade- appropriate, academically rigorous, and aligned with the Connecticut English Language Proficiency (CELP) standards.** They meaningfully integrate specific content and language objectives; use academic language and content-area supports to strategically move ELs along the language development continuum utilizing CELP standards and provide opportunities for students to discuss content and problem-solve with peers.
- 4. District and schools recognize that bilingualism and biliteracy are assets,** and provide opportunities for all students to earn a Seal of Biliteracy upon obtaining a high school diploma by providing all students with opportunities to participate in language learning or language support programs that lead to proficiency in English and other languages.
- 5. District and school communities leverage English Learners' home languages, cultural assets, and prior knowledge** by regarding home languages as instructional assets and using them in bridging prior knowledge to new knowledge while ensuring that content is meaningful and comprehensible. They make use of home languages and cultures of ELs to promote diversity.

6. **District and schools use diagnostic tools and formative assessment practices in order to measure ELs' content knowledge** as well as new and home language development to inform instruction by using State assessments in conjunction with formative assessments. They use State language proficiency data (LAS Links) to understand where ELs are along the continuum of language development, and how to provide appropriate scaffolds for them according to their proficiency level. They use appropriate tools to assess the needs and progress of ELs with disabilities.

\*Adapted from NY SDE <http://www.nysed.gov/news/2015/sed-releases-blueprint-english-language-learners-success>



of key inquiry and historical thinking, social studies teachers structure assignments and guide students in writing tasks that activate prior knowledge, categorization of information, and offer support for historical interpretation and argument. The writing process is promoted daily through a variety of writing genres. Response journaling, persuasive writing, the five paragraph & argumentative essay, current event analysis and document-based questions allow students to define skills and demonstrate an understanding of concepts along the grade level continuum.

6. **Students learn by researching information to solve problems.** In a social studies setting, experiences help students identify areas of interest, learn information-seeking strategies, and develop skills in organizing and sharing information with others. As students work through topics for investigation, reading, writing, collecting data, graphing, illustration and content vocabulary are strengthened. (BigSix)

## Social Studies Framework

	CORE PRACTICES	STUDENT EXPERIENCES
1	<b>Student-driven Investigations</b>	Students explore real social problems, issues and ideas behind compelling and supporting questions that spark individual interest.
2	<b>Integration of Content &amp; Skills</b>	Students build academic vocabulary and content knowledge in economics, geography, civics and other related disciplines to support learning.
3	<b>Student Discourse</b>	Students apply knowledge and build arguments based on evidence accessed through structured academic controversies, classroom discussions and/or debates.
4	<b>Writing</b>	Students extend their understanding of text and build critical thinking skills through a variety of writing genres and illustrations.
5	<b>Historical Thinking</b>	Students evaluate and analyze primary source documents to construct meaningful accounts of the past.
6	<b>Visual Literacy</b>	Students access information by examining closely diverse visual text. Text types may range from non-fiction, textbooks, artifacts, pictures, photographs, film and non-te
7	<b>Digital Literacy</b>	Students use technology and resources independently to conduct research, access information and communicate findings.
8	<b>Informational Literacy</b>	Students locate, evaluate and use researched information effectively.



## Literacy Framework

### Guiding Principles:

1. **Students learn by talking.** Talking is a representation of a student's thinking. Engaging students in conversation that is grounded in a variety of authentic texts- where they read, hear read aloud, or write expand their ability to comprehend ideas and use language to share thinking. This interaction is how the learner constructs ideas.
2. **Students need to process a large amount of written language.** Daily opportunities for students to read books of their choice independently, to read more challenging material with support, and to hear teacher-selected and grade appropriate texts with their teacher and/or other students.
3. **Students' ability to read and comprehend complex text is expanded through talking and writing.** Students need to acquire a wide range of ways to write about their reading and also to talk about texts with the teacher and other students.
4. **Students deepen their learning when they engage in reading, talking, and writing about texts across many different instructional contexts.** Each mode of communication provides a new way to process the ideas learned from oral and written texts and from each other.
5. **Students learn in a continual evolving process: it is a progression of learning.** This progression are stages or steps that most students go through as they master skills.
6. **Students' cultural references should be grounded in all aspects of learning.** Culturally responsive teaching appreciates the importance of including students' cultural references in all aspects of learning, enriching classroom experiences and keeping students engaged.

# Literacy Framework

	CORE PRACTICES	STUDENT EXPERIENCES
1	<b>Interactive Read Aloud and Literature Discussion</b>	Students engage in discussion about a text they are reading independently or have had read to them.
2	<b>Independent Reading</b>	Students apply skills and strategies taught while maintaining a high volume of reading.
3	<b>Shared and Performance Reading</b>	Students read together and take roles when reading a shared text.
4	<b>Writing About Reading</b>	Students extend their understanding of a text through a variety of writing genres, sometimes illustrations.
5	<b>Writing</b>	Students compose and write their own examples of a variety of genres, written for varying purposes and audiences.
6	<b>Conventions of Grammar and Usage</b>	Students write using grade level conventions of usage, conventions of punctuation and sentence structure.
7	<b>Phonics, Spelling and Word Study</b>	Students learn about the relationships of letters to sounds as well as the structure and meaning of words to help them read and spell. See Appendix A.
8	<b>Small Group</b>	Students read teacher selected material in a small group; students receive explicit teaching and support for reading increasingly complex text.
9	<b>Oral and Visual Communication</b>	Students present their ideas through oral discussion and presentation.
10	<b>Technological Communication</b>	Students communicate and search through technology; students think critically about information.

Portions from Fountas, I. C., & Pinnell, G. S. (2017). *The Fountas & Pinnell literacy continuum: A tool for assessment, planning, and teaching.*



## Social Studies & History Department

### Guiding Principles:

- Students learn the value of good citizenship.** Citizenship is a primary characteristic of 21st century learning. In Social Studies classrooms, all students are provided with opportunities to learn the value of being a good citizen. Students are taught the history of our democracy connecting its principles to their lives on a level of true understanding. Through simulated democratic processes, social studies teachers promote student independence, empathy and civic responsibility.
- Students' cultural references should be grounded in all aspects of learning.** Social Studies teachers use information regarding student interests, backgrounds, family histories, culture and traditions to promote relationships that enhance the potential for meaningful and effective social studies instruction. There is particular attention to how each student develops an identity responsive to diverse human and group behavior.
- Students develop historical thinking skills.** Building reading comprehension through close reading & analysis of documents is an expected outcome when implementing social studies standards. Students are provided with guidance and various reading strategies in order to evaluate different points of view, make historical claims based on documented evidence and use the content learned to solve problems and make decisions. (SHEG)
- Students apply disciplinary tools and concepts.** In social studies classrooms, students are presented with opportunities to examine historical periods, issues and trends, beliefs and ideas with focus on human interaction and its implications. Expected learning outcomes focus on both content and process while supporting an open-minded approach to interpreting perspectives on diverse issues. Suggested instructional strategies **both enhance academic vocabulary and engage** students in thoughtfully generating, applying, and assessing ideas about the world. (Marzano's Strategies)
- Students exhibit writing and effective communication skills.** With a strong emphasis on the cultivation

7. **Students acquire comprehensive artistic literacy through Arts instruction.** Artistic literacy is the knowledge and understanding required to participate authentically in the Arts. Students should be able to think, create and respond like artists using specific symbols, vocabulary and metaphoric forms that are unique to each Art. They should be able to transfer Arts knowledge, skills and capacities to other subjects, settings and concepts. Artistically literate citizens have knowledge of to all five Arts disciplines: *Visual Art, Dance, Theater, Music, and Media Art.*

Summarized from National Core Arts Standards: A Conceptual Framework for Arts Learning [www.nationalartsstandards.org](http://www.nationalartsstandards.org)

## Performing & Visual Arts Framework

	CORE PRACTICES	STUDENT EXPERIENCES
1	<b>Create</b>	Students revise, arrange or generate original works of Art. They imagine, investigate, construct and reflect either individually or in a collaborative community.
2	<b>Perform</b>	Students select, analyze, interpret, re-create and convey meaning through an existing work. Individually and in a group, they realize artistic ideas and work through presentation, performing work for an audience.
3	<b>Present</b>	Students communicate purpose and meaning through artist statements. They elect work for exhibition and determine method of presentation, and they articulate thoughts and ideas using written, oral or non-verbal communication.
4	<b>Produce</b>	Students produce and present meaningful work of art through various media and technologies. Individually or in a group, they create and present artistic ideas and work.
5	<b>Respond</b>	Describe, interpret and analyze the artistic intent of others through discourse, movement, writing or presentation
6	<b>Reflect</b>	Students make and support artistic decisions using evidence. They think creatively: analyzing, evaluating, reasoning and evidencing meta-cognition.
7	<b>Connect</b>	Students relate artistic ideas and work with personal meaning, history, cultures, other Arts, and other content areas.
8	<b>Artistic Literacy</b>	Students read and interpret unique symbols, authentic text, and metaphors of Arts disciplines – the language of the art form. They think, speak, reflect and create with an artist’s mind and vocabulary. Synthesize and transfer Arts knowledge to other experiences.



## Mathematics Framework

### Guiding Principles:

#### STRATEGIES FOR INCREASING STUDENT ACHIEVEMENT IN MATHEMATICS

- 1. Call attention to a void in students’ knowledge:**  
Revealing to students a gap in their understanding capitalizes on their desire to learn more. For instance, you may present a few simple exercises involving familiar situations, followed by exercises involving unfamiliar situations on the same topic. The more dramatically you reveal the gap in understanding, the more effective the motivation.
- 2. Show a sequential achievement:**  
Closely related to the preceding technique is having students appreciate a logical sequence of concepts. This differs from the previous method in that it depends on students’ desire to increase, not complete, their knowledge. One example of a sequential process is how special quadrilaterals lead from one to another, from the point of view of their properties.
- 3. Discover a pattern:**  
Setting up a contrived situation that leads students to discover a pattern can often be quite motivating, as they take pleasure in finding and then owning an idea. An example could be adding the numbers from 1 to 100. Rather than adding the numbers in sequence, students add the first and last ( $1 + 100 = 101$ ), and then the second and next-to-last ( $2 + 99 = 101$ ), and so on. Then all they have to do to get the required sum is solve  $50 \times 101 = 5,050$ . The exercise will give students an enlightening experience with a truly lasting effect. There are patterns that can be motivating, especially if they are discovered by the student—of course, being guided by the teacher.
- 4. Present a challenge:**  
When students are challenged intellectually, they react with enthusiasm. Great care must be taken in select-

ing the challenge. The problem (if that is the type of challenge) must definitely lead into the lesson and be within reach of the students' abilities. Care should be taken so that the challenge does not detract from the lesson but in fact leads to it.

**5. Entice the class with a “gee whiz” mathematical result:**

There are many examples in the mathematics realm that are often counterintuitive. These ideas by their very nature can be motivating. For example, to motivate basic belief in probability, a very effective motivation is a class discussion of the famous **birthday problem**, which gives the unexpectedly high probability of birthday matches in relatively small groups. It's amazing—even unbelievable—result will leave the class in awe.

**6. Indicate the usefulness of a topic:**

Introduce a practical application of genuine interest to the class at the beginning of a lesson. For example, in high school geometry, a student could be asked to find the diameter of a plate where all the information he or she has is a section of the plate that is smaller than a semicircle. The applications chosen should be brief and uncomplicated to motivate the lesson rather than detract from it.

**7. Use recreational mathematics:**

Recreational motivation involves **puzzles**, games, **paradoxes**, or the school building or other nearby structures. In addition to being selected for their specific motivational gain, these devices must be brief and simple. An effective execution of this technique will allow students to complete the recreation without much effort. Once again, the fun that these recreational examples generate should be carefully handled, so as not to detract from the ensuing lesson.

**8. Tell a pertinent story:**

A story of a historical event (for example, the story of how Carl Friedrich Gauss added the numbers from 1 to 100 within one minute when he was a 10-year-old in 1787) or a contrived situation can motivate students. Teachers should not rush while telling the story—a hurried presentation minimizes the potential motivation of the strategy.

**9. Get students actively involved in justifying mathematical curiosities:**

One of the more effective techniques for motivating students is to ask them to justify one of many pertinent **mathematical curiosities**, like the fact that when the sum of the digits of a number is divisible by 9, the original number is also divisible by 9. The students should be familiar and comfortable with the mathematical curiosity before you challenge them to defend it.

Teachers of mathematics must understand the basic motives already present in their learners. The teacher can then play on these motivations to maximize engagement and enhance the effectiveness of the teaching process.

Exploiting student motivations and affinities can lead to the development of artificial mathematical problems and situations. But if such methods generate genuine interest in a topic, the techniques are eminently fair and desirable.

Posamentier, Alfred. Strategies for Motivating Students in Mathematics. Edutopia June 20, 2017.



## *Performing and Visual Arts Framework*

### *Guiding Principles:*

- 1. Students communicate through the Arts.** In today's society, the Arts provide a powerful and essential means of communication, especially through the media. They provide unique symbols and metaphors that convey emotion, express ideas, and inform life experiences.
- 2. Students uncover creative, personal realization through the Arts.** The Arts help us discover who we are. Participation in the Arts as creators, performers, presenters and audience members enables individuals to discover and develop their own imagination and ingenuity.
- 3. Students connect to culture and history, science and mathematics through Arts experiences.** The Arts are essential for individuals and communities to express their ideas, experiences, beliefs, and feelings. Understanding artwork of various content and genres provides insight into one's own culture and society as well as other periods and cultures. Through learning the Arts, students develop an appreciation of diverse forms and genres of artwork and its enduring significance. The Arts provide opportunities to access, express and integrate meaning across other content.
- 4. Arts students experience a means to their social and emotional wellbeing.** Participation in the Arts as creators, performers, presenters, and consumers enhances one's intellectual, physical and emotional wellbeing. Those who actively create and/or respond to the Arts find joy, peace, inspiration, intellectual stimulation, understanding and other positive life qualities through their participation.
- 5. Students learn how to be vital participants in the community when involved in the Arts.** The Arts provide opportunities for people to collaborate and connect with others in an enjoyable, inclusive environment as they create, prepare, present and support artwork, bringing communities together.
- 6. Students Create, Perform, Present, Produce, Respond and Connect as artists.** The Arts are a doing subject. True understanding and appreciation of the Arts requires authentic, active engagement in the artistic processes. The Arts operate in an active “hands-on” and “minds-on” capacity.

# Science Framework

	CORE PRACTICES	STUDENT EXPERIENCES
1	<b>Engaging &amp; Exploring Authentic Phenomena</b>	Students observe, engage and explore phenomena, make connections to prior knowledge, and start to organize thinking towards learning outcomes.
2	<b>Asking Questions while uncovering preconceptions</b>	Students generate their own questions or problems, based on prior thinking that can be used to explore possibilities and lead to understanding in an organized fashion.
3	<b>Designing &amp; Conducting Careful Investigations and Experiments</b>	Students plan and carry out investigations with hypotheses, "fair tests", independent/dependent experimental designs (or construct solutions following the engineering process), including using appropriate equipment, collecting sophisticated data, and following ethical guidelines.
4	<b>Analyzing Data Using Mathematics and Modeling</b>	Students analyze data and measurements from investigations through graphs, statistics, and algorithms, as well as use mathematics and data to model scientific interactions.
5	<b>Constructing Explanations, Models &amp; Sense-Making</b>	Students make sense of the world by constructing their own explanations about a scientific concept or principle, that is based in evidence and can be communicated with a model or detailed conclusion.
6	<b>Using discourse to discuss science and argumentation to defend claims with evidence and reasoning</b>	Students talk about science to each other and construct, present and critique scientific arguments that support/refute claims based on scientific reasoning and evidence, while using discourse techniques of listening, questioning, and talk moves.
7	<b>Connecting science to real world experiences and issues</b>	Students encounter, investigate, make sense of and delve into scientific concepts and ideas that may impact their life, their future, and society in general.
8	<b>Making connections across the major cross cutting themes of science and with other subjects</b>	Students connect the scientific concepts to major themes across scientific disciplines (such as scale, patterns, energy flow, etc..) and relate the science to works in literature, art, events in history, cultures and other disciplines.

# Mathematics Framework

	CORE PRACTICES	STUDENT EXPERIENCES
1	<b>Connecticut State Standards: Standards of Mathematical Practice</b>	Students engage in the standards of mathematical practice as they master the content standards in their grades. The Standards for Mathematical Practice describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.
2	<b>Singapore Mathematics Strategies</b>	Students learn through this scientifically-researched method based on the national mathematics curriculum used for kindergarten through sixth grade in Singapore. The term was coined in the United States to describe an approach originally developed in Singapore to teach students to learn and master fewer mathematical concepts at greater detail beginning with concrete, moving to pictorial and finally in the abstract.
3	<b>Rigor</b>	Students become career and college ready by engaging in a universally accepted 3-tiered approach. Rigor in math teaching means focusing with equal intensity on students' conceptual understanding, procedural fluency, and ability to apply what they know to real-world, problem-solving situations.
4	<b>Workshop Model in Mathematics</b>	Students are actively engaged in their learning and participating and varied levels of discourse through the Workshop Model. Also known as Guided Math, the Math Workshop model combines direct instruction with hands-on and student-centered learning opportunities.
5	<b>Technology-enriched Instructional Practice</b>	Students become highly engaged in the learning of mathematics when technology is integrated into teaching and learning. Technology-rich instruction provides educators with a valuable tool to reinforce lessons, but the technology in itself does not facilitate student learning.
6	<b>Culturally Responsive Classroom</b>	Students want to work hard to learn and please when their teachers create an environment of cultural connections. Culturally Responsive Teaching is a pedagogy that recognizes the importance of including students cultural references in all aspects of learning.
7	<b>Homework as Additional Practice</b>	Students learn math by doing math. This means that they must practice at home. Mathematics homework provides students with additional practice of required skills and concepts. Research supports that students in an incremental mathematics curriculum retain concepts better when homework is a classroom routine.
8	<b>Assessments</b>	Students gain feedback into their learning through a variety of formative and summative assessments. Assessments are formal and informal measurements of knowledge that provide teacher and students with data and feedback about what has been learned in comparison to what should have been learned.



## Science Framework

### Guiding Principles

Students learn science best through the following principles:

Following a learning cycle (such as the 5Es), that allows them to have experiences with phenomena and the world before coming up with their own explanations and converging on common terms and understandings:

**Engagement:** stimulate students' interest, curiosity, and preconceptions.

**Exploration:** first-hand experiences with concepts without direct instruction.

**Explanation:** students' explanations followed by introduction of formal terms and clarifications.

**Elaboration:** applying knowledge to solve a problem. Students frequently develop and complete their own well-designed investigations.

**Evaluation:** students and teachers reflect on change in conceptual understanding and identify ideas still "under development."

1. **Transition from Guided Inquiry to Open Ended Inquiry:** Guided Inquiry into teacher posed questions by students leads to students investigating their own questions, testing their own hypotheses, analyzing data, and drawing conclusions.
2. **Experiential, Manipulation and Hands on Learning:** Students are given the opportunity to experience science directly. Class Activities are designed to teach students science lab skills, and provide experience with authentic lab tools, experimentation, and data analysis
3. **Focus on science practices.** Students are trying to make sense of the world and phenomena through the practices of questioning, modeling, investigating, analyzing, solving, explaining, arguing and communicating
4. **Assess their own Prior Knowledge/Misconceptions:** Students have to construct their internal model of

science concepts and reconcile it with previous experience, often leading to adjusting of hard to overcome misconceptions.

5. **Students learn by talk and engage in Peer Discourse -Self-Explanation/Discussion:** Students given the opportunity to explain and discuss ideas are better able to connect prior and new knowledge and experiences. The whole class is designed around making their thinking visible. Teachers use talk moves and guide this collaborative discourse.
6. **Use Academic Language** Students are able to use academic language, not simply memorize vocabulary, by constructing the meaning behind scientific words by regular experience with their use, including comparisons, graphic organizers, and talk alouds, and use words after they have experienced the science. Students can move from oral explanation to written explanation through careful guidance/practice, including both expository and persuasive writing in science.
7. **Non-Linguistic Representations:** Models, drawings, and pictures all can help understand science.
8. **Examine Science, Technology and Society (STS),** issues, and other items relevant to students' lives. These interdisciplinary learning activities engage students in the applications of science using their critical thinking skills and knowledge. They afford students the opportunity to examine ideas and data related to historical, technological, and/or social aspects of science concepts and content. Teachers also actively promote STEM careers.

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