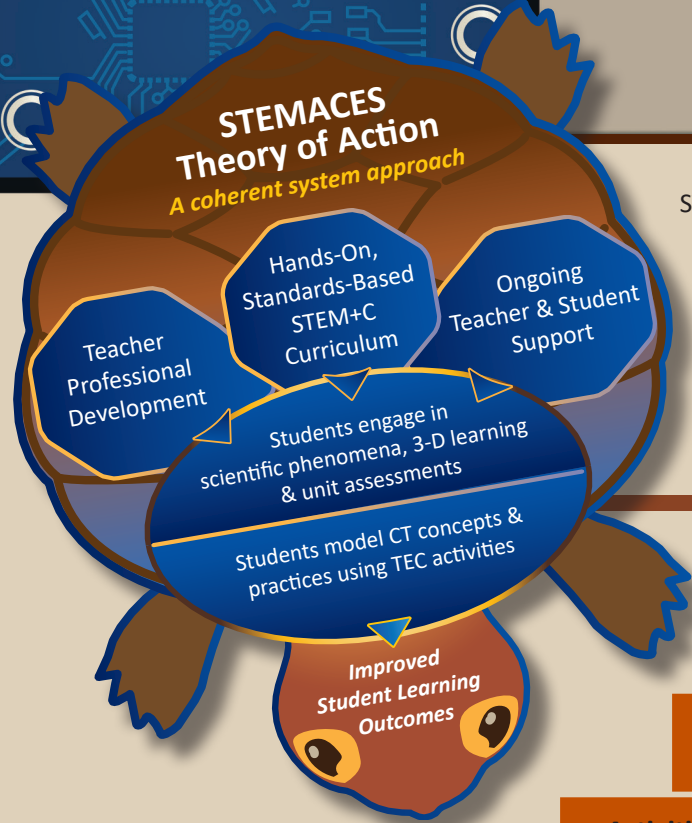


# STEMACES

For Improved Student Learning



STEM and Computing Education Support (STEMACES) presents a portfolio of Technology, Engineering, and Coding (TEC) activities that integrate well into any 8<sup>th</sup> grade science curriculum. STEMACES builds on a decade of publicly-funded development of a 9<sup>th</sup> grade science curriculum called Learning by Making (LbyM). STEMACES works with rural communities in California and Texas, prioritizing classes of 20 or more students.

STEMACES is implementing a randomized control study to test whether our theory of action (left) can benefit a wider audience. LbyM for 9<sup>th</sup> grade has been shown to improve grades in science and math (*Linlin 2018: STEM Success for Rural Schools*), and STEMACES was built on existing evidence that suggests it will improve students' science learning (*Scheider et al., 2022: Improving science achievement, Newman et al., 2012: Evaluation of AMSTI*).

• **Target Number of Schools:** 80 middle schools participate in cohorts 1 and 2.

• **Summer Professional Learning (PL) Opportunities:** Teachers are compensated for five days in CA or TX to learn six STEMACES activities and integrate them into their classrooms.

• **Teacher-Requested Supports:** Local coaches, a free call center, and a virtual teacher community with paid opportunities.

• **Activities, Technology, and Assessments in 8<sup>th</sup> Grade Science:** Classroom sets of STEMACES student kits to enable coding, engineering, and a focus on Computational Thinking (CT).

	2024			2025			2026			2027			2028			
	Tri. 1	Tri. 2	Tri. 3	Tri. 1	Tri. 2	Tri. 3	Tri. 1	Tri. 2	Tri. 3	Tri. 1	Tri. 2	Tri. 3	Tri. 1	Tri. 2	Tri. 3	
<b>Recruitment</b>	Pilot Cohort		Cohort 1, Cohort 2, and Equity Cohort 1					Equity				Sustain				
<b>Scale Model</b>																
Activities 1-6	Revise	Pilot	Revise	Teach			Teach			Teach						
PL Sessions	Plan	CA TX Pilot	Virtual Pilot	CA TX	Virtual	CA TX	Virtual	CA TX	Virtual	CA TX	Virtual	CA TX	Virtual	CA TX	Virtual	
Teacher Supports		Plan	Pilot	Revise	Engage		Engage			Engage			Engage			
<b>Study</b>																
CT in TEC Assessment	Plan	Revise		Pilot	Revise		Assess			Assess			Assess			
Study	Plan	Pilot Implementation			Implementation Cohort 1			Implementation Cohort 2			Equity Cohort			Sustain Model		
<b>Sustainability &amp; Dissemination</b>				Comms	Visits	Comms	Visits/ Conf.	Comms	Visits/ Conf.	Comms	Visits/ Conf.	Papers	Comms	Visits/ Conf.		

This schedule represents the plan for implementation.

