



National Catholic Educational Association

Leadership. Direction. Service.

FROM STEM TO STEAM TO STREAM EDUCATING FOR OUR CHURCH AND AMERICA'S FUTURE TODAY

One of the first and most critical components of STEM education is the interaction and cross curricular content. This allows students of all ages to understand the relationship of the “core” subjects they study. Typical STEM curriculum involves five basic concepts.

1. The purpose which sets the stage for student learning.
2. Essential questions involving the “big ideas” that students will need to master.
3. Student delivery- which describes student outcomes.
4. Assessment- which will be the rubrics for student evaluation.
5. Curriculum outlining- the plan that organizes and structures student performance.

The benefits of STEM education are undisputed. It sets the stage for student problem solving and includes hands-on exploration, demonstration, and experimentation. It moves away from teacher-centered instruction to inquiry-based learning.

STEM is good, STEAM is better.

STEAM brings a variety of visual, classical, and performing arts into the STEM curriculum. STEAM allows Catholic schools to build on their traditional liberal arts foundation. STEAM is a contextual curriculum where core subjects are coordinated to co-support each other under a formal educational structure of how science, technology, engineering, mathematics, and the broad spectrum of all the arts are interrelated. The STEAM structure demonstrates how all the divisions of education, faith, and life work together. Shifting to a STEAM perspective means understanding learning contextually.

S-T-E-M with an “A”:

1. Shares the knowledge of communication and language arts.
2. Creates religious, cultural, and aesthetic appreciation through fine arts and musical arts.
3. Helps create an understanding of the psychological and sociological world through liberal arts, faith formation, and student based inquiry.

If STEM is good, and STEAM is better, STREAM is the best.

STREAM incorporates all of the basic elements of STEM and STEAM while incorporating authentic Catholic teaching as an intrinsic and key element in a standards-based, exploratory, and inquiry-based learning environment.

The STREAM school is one that allows each student to explore the history, traditions, and tenets of our Catholic faith as an integral and interwoven part of their core curriculum. STREAM addresses the whole learner. It has a living and evolving curriculum structure that develops a child’s appreciation of God as the creator and inspiration of every area of learning. STREAM allows a student to explore the history of the Church with its rich traditions, the doctrines and dogmas which direct the life of the Church, as well as to participate in the ministries of social justice through hands-on projects.

Contact:

Heather Gossart
Director, STREAM Initiative
(240) 304-8255
hgossart@gmail.com

Kathy P. Mears
Executive Director, Elementary Schools Department
(571) 451-2885
kmears@ncea.org

Charles M. Russell
Executive Director, Secondary Schools Department
(571) 451-2887
mrussell@ncea.org