Metallurgy, Biology, Engineering

While learning sculpture, kids experiment with materials: discovering what bends easily, what holds weight, what falls apart when wet. They figure out why you choose one material over another and can back up their answers with amazing insight. With all this knowledge, they eagerly create copper tubing garden sculptures of real or imaginary critters then show off their biology skills by explaining the essential elements of their critter’s environment.

Migration

Creating small and large scale butterfly and bird puppets give kids hands on experiences where they see for themselves how different shapes and sizes of beaks and wings work for different species. Lots of problem solving happens as they recreate birds and butterflies out of recycled materials.

Botany, Urban Forestry

There are amazing things in our own backyards, or next door empty lots, if we just stop and take a look. Working with a trained botanist and screen printer, kids learn to identify trees and leaves, understand why some trees keep their leaves and others don’t, and much more. Patterns are recognized in leaves and then leaves are used to create patterns on paper or fabric, turning math into beauty and fun.

Science of Sound

Music composition pulls teens into the exploration of sound. Individual sounds — a guitar strum, a beat, a trumpet blast — are captured, analyzed, transformed through technology, then layered together to create original music.

Water, Ecology

Creative non-fiction based on personal reflection about, and research into, our local waters stretches students to see the ordinary world around them in a new way. Field trips to enhance observation and research opportunities make a great addition to this residency.

The arts teach and encourage innovation. Practitioners both expert and novice must employ analogies, models, structures, techniques, methods, and knowledge.
Technology
Creating absent narratives with digital cameras and movie making and sound effect software in this digital storytelling program brings kids’ use of technology way beyond the video game. Youth explore the voices of under-represented communities (e.g. those not included in history books or the student’s own story) then challenges them to create a fully developed short film. The results: spectacular.

Science of sound, math
Students learn to play composed & improvised music on instruments they create. Students make a mouth bow, one-stringed dulcimer or whistle, complete with measuring, cutting, figuring out fractions, and putting the instrument together. Playing jazz and favorites like “Smoke on the Water” teaches patterns, reading notes, ensemble playing, and the science of sound.

Flexible subjects:
Other art forms such as songwriting and bookmaking lend themselves to many different STEM topics. For example, students write & perform original songs about a science topic (determined with the teacher to tie into curriculum). This engages multiple modes of learning as youth create musical patterns (lyrics and melody) about scientific processes.
Another example is book binding and illustration. Students observe the natural world, learn visual journaling and illustration techniques and deepen learning in geology, biology, or other topic.

Each year COMPAS extends its reach to 50,000 youth; engaging them in arts-driven education; turning up their creativity and leading them to discover their best.

Recognized for excellence from organizations like the NEA, the Minnesota Department of Education, and the President’s Committee on the Arts and Humanities, COMPAS leads the way in creative, art-filled learning.

This activity is made possible by the voters of Minnesota through a grant from the Minnesota State Arts Board, thanks to a legislative appropriation from the arts and cultural heritage fund.

COMPAS.org