



DAKOTA STEAM

STEAM Guide



THE DSL WAY

SCIENCE PROCESS

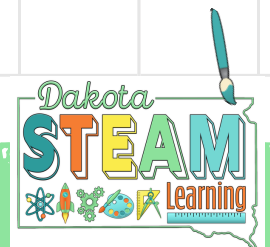
ART PROCESS

&

ENGINEERING PROCESS



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DAKOTA STEAM

How Can We Help?



At Dakota STEAM, we are thrilled to introduce our STEAM Guide for STEAM enthusiasts! Our STEAM products cover so many important concepts that facilitators need to connect with the kids they teach.

We don't want to make an activity just for the sake of an activity. At Dakota STEAM, we value standard connections, real-world examples and experiences, and the teamwork and communication skills that every participant needs to acquire for career readiness.

How can Dakota STEAM help you? We offer digital lesson plans and resources unlike any you've seen before! Our lessons are packed with information for students and videos to follow along with; the only prep a teacher needs is to provide the materials!

See the next pages for more information about our digital lessons!



FOSTERING CREATIVITY



HANDS-ON LEARNING



DIVERSE MATERIALS



CREATING CONFIDENCE



SCIENCE STANDARDS



COMMUNITY



STEAM SPECIALISTS



ONE-OF-A-KIND STEAM

STRESS-FREE STEAM STARTS HERE!

STEAM Guide



Science Process

Building Understanding Through Investigation and Exploration

Our science lessons are intentionally differentiated between science experiments and science activities because each approach serves a different purpose in students' scientific learning.

Science experiments use the scientific process to investigate questions, test ideas, collect observations, and draw evidence-based conclusions.

Science activities, on the other hand, may provide a more guided experience that helps students explore a concept, observe a phenomenon, or deepen their understanding of scientific ideas without conducting a formal experiment.

Both formats offer valuable opportunities for discovery and ensure that students engage with science in meaningful, developmentally appropriate ways. Throughout every experience, students are encouraged to ask questions, think critically, communicate their observations, and collaborate as they make sense of the world around them.

By offering a range of high-quality science experiences, STEAM learning helps children build both scientific understanding and the essential skills needed to investigate, reflect, and learn with purpose.

Through our science process, participants communicate their reasoning and conclusions with scientific data.

STEAM

Think like a STEAMer!

Science Process

STEP #1: Inspire

STEP #2: Question

STEP #3: Research

STEP #4: Hypothesize

STEP #5: Experiment

STEP #6: Conclude

STEP #7: Communicate

STEP #8: Reflect

Science Learning Targets

Be careful and follow our directions to be successful.

Find the STEAM inside the project and use our inspiration to be creators.

Make a hypothesis based on our question and test our predictions.



STEAM Guide



Art Process

Using Creativity to Deepen STEAM Learning

Our art lessons go beyond traditional art instruction by using the creative process to strengthen both essential skills and understanding of meaningful STEAM concepts.

Each experience is designed around two connected goals: helping students develop the 21st-century skills of creativity, collaboration, communication, and critical thinking, and providing an artistic pathway to explore science, technology, engineering, or mathematics. Rather than completing a craft simply for the sake of a finished product, children use art to investigate ideas, make connections, communicate their understanding, and express learning in original ways.

These cross-curricular, standards-inspired experiences invite students to think deeply about the concepts they are exploring while making purposeful creative decisions. By combining art with STEAM learning, students build skills that extend beyond the classroom and prepare them to become capable, confident problem-solvers in the real world.

Through our art process, participants identify the STEAM elements involved and how those STEAM elements connect to the process.

STEAM

Think like a STEAMer!

Art Process

STEP #1: Inspiration

STEP #2: Inquiry

STEP #3: Connect

STEP #4: Create

STEP #5: Finalize

STEP #6: Reflect

Art Learning Targets

Be presented with a new artistic challenge.

Find the STEAM inside the project and use our inspiration to be creators.

Persevere when a challenge gets hard.



STEAM Guide



Engineering Process

Our Goals

Preparing Children to Thrive in an Unknown Future

Our goal is not for every child who participates in a STEAM experience to become an engineer, scientist, artist, or technology professional. Our aim is to help children develop the skills and confidence they need to succeed in whatever future they choose.

Through STEAM, students become problem-solvers who approach challenges like engineers, creative risk-takers who think like artists, thoughtful communicators who share their ideas with purpose, and collaborative team members who learn from others' perspectives. These are the abilities that help children adapt, grow, and persevere when the path ahead is unfamiliar.

Technology continues to reshape the world at a rapid pace, making it impossible to predict exactly what opportunities, challenges, and careers today's children will encounter. Current workforce research also identifies analytical thinking, creativity, resilience, flexibility, collaboration, and technological literacy as increasingly important skills for the years ahead. Rather than preparing students only for the world as it exists today, STEAM helps them build a foundation of curiosity, confidence, and adaptable thinking that can serve them in any future circumstance.

When children believe they can imagine ideas, solve problems, learn from setbacks, and work successfully with others, they are equipped to become capable and unstoppable forces in an ever-changing world.

Create Confident Learners

S.T.E.A.M

Think like a STEAMer!

Engineering Process

STEP #1: Ask

STEP #2: Imagine

STEP #3: Analyze

STEP #4: Plan

STEP #5: Create

STEP #6: Adapt

STEP #7: Evaluate

STEP #8: Share

Engineering Learning Targets

Be presented with a big question
and try and solve it.

Use our schema and new
information to create prototypes
that solve the problem.

Persevere when a challenge
gets hard.



GET IN TOUCH

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START YOUR STEAM JOURNEY TODAY!



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