



Standards-based Teaching  
Renewing Educators  
Across Montana

## Navigate Montana's mathematics standards with a STREAM Guide!

### How does the Guide program work?

A cohort of teachers from the same school, district, or region may apply for the STREAM Guide program. Cohorts must agree to complete three online modules and participate in three school-based workshops:

- Launch Workshop (6 hours, held prior to starting online modules)
- Midyear Workshop (3 hours, held after at least one online module)
- End of Year Workshop (3 hours, held after all online modules are completed)

Cohort members agree to fully engage in module discussions and assignments, collaborate with peers during workshops, and create a strategic plan to implement what they've learned in their classrooms.

### What is the role of the Guide?

- Guides build relationships within the teacher cohort
- Guides facilitate deeper learning of mathematics content
- Guides help cohort members interpret and apply online module materials
- Guides create a sense of continuity and collaboration throughout the process
- Guides enhance the research-based effectiveness of STREAM professional development

### Who is eligible to be enrolled in the STREAM Guide program?

A cohort must include at least four teachers along with at least one participating administrator. Cohort configurations can vary – here are some examples:

- Teachers from rural districts in the same area
- A mix of teachers within a rural consortium
- A grade-band team from a single school
- Same-grade teachers from multiple schools

### If we're accepted, how do we get started?

- Your assigned Guide will work with your administrator or contact person to arrange the 6-hour Launch Workshop prior to beginning the online modules.
- Your first online module – Mathematical Practices – begins in either October or January.
- Select at least two additional content modules to be completed later in the year. Midyear and End-of-Year workshops will be scheduled to fit your school calendar.

**Interested in forming a cohort for the Guide program? Complete the online application here: <http://tinyurl.com/STREAMGuideapp2016>.**

*Preference will be given to teachers in rural or underserved Montana schools.*

## What can I expect in a STREAM online module?

Expect a **wide variety of experiences** as you:

- Read and reflect on articles
- Watch and react to classroom videos
- Solve math problems and discuss results
- Collaborate with other teachers
- Access high-quality nationwide resources
- Get feedback from STREAM Instructors

Expect a **focus on teaching** as you:

- Adapt and revise lessons
- Analyze lessons with colleagues
- Create lessons for specific standards
- Engage in structured observations
- Collect and analyze student work
- Try out activities in your classroom

Modules are asynchronous and delivered on OPI's Moodle-based Learning Hub

Each module includes 3 weeks of material, but remains open for 4 weeks

The estimated workload is 6 to 8 hours per week (5 is typical)

Each module is moderated by a knowledgeable instructor/facilitator

Assignments and activities are scored using a 4-point rubric scheme

**Interested in an individual STREAM online module? Read more about our offerings and register at our Web site: [www.STREAMmath.org](http://www.STREAMmath.org)**

<b>DATES 2016-17</b>	<b>COURSE TITLE &amp; GRADE BAND</b>	<b>REGISTRATION OPEN</b>
Oct 3 - Oct 21	Measurement (K-3) All about Fractions (3-5)	Sept 19 - Oct 7
Oct 31 - Nov 18	Mathematical Practices (K-8) Number Systems & Operations (K-3) Number Systems & Operations (4-7) <b>Mathematical Practices &amp; Modeling (HS)</b>	Oct 10 - Nov 4
Nov 28 – Dec 16	Geometric Thinking (K-3) Geometric Thinking (4-7) Movin' Around: Transformations (7-9) <b>Geometry: Transformations (HS)</b>	Nov 7 - Dec 2
Jan 30 - Feb 17	Mathematical Practices (K-8) Data & Statistics (4-7) - Newly revised	Jan 9 - Feb 3
Feb 27 – Mar 17	Algebraic Thinking (K-5) Algebraic Thinking (6-7) Straight Talk: Linearity (7-9) <b>Statistics: Inferences (HS)</b>	Feb 6 - Mar 3
Mar 27 – Apr 14	All about Fractions (3-5) Ratio & Proportion (6-7) It's All Right: Pythagoras (7-9) <b>Functions as Objects (HS)</b>	Mar 6 - Mar 31
Apr 24 – May 12	Number Systems & Operations (K-3) Number Systems & Operations (4-7) STEM-Centric Mathematics (K-8)	Apr 3 - Apr 28

# The STREAM Project



## Standards-based Teaching Renewing Educators Across Montana

Join **STREAM** and *increase your knowledge and skills* about **mathematics content and standards**; how to use **Mathematical Practices**; and how to **facilitate learning!**

The STREAM Project focuses on content knowledge and Mathematical Practices to help teachers move beyond basic *understanding* of the standards into taking *action* to implement the standards in ways that help students learn meaningful mathematics.

### Benefits for Teachers

- **Increased content knowledge** in four important conceptual categories for HS
- **Understanding of Mathematical Practices** and strategies for engaging students
- **School-embedded experiences** applying Montana's standards in the classroom
- **Collaborative learning** with college faculty and teachers from across Montana
- **Opportunity to earn OPI Renewal Units** or graduate credit through MSU-Bozeman
- **A \$900 stipend and free materials** to support your learning throughout the year
- **Substitute pay, travel, per diem, and materials** expenses covered by the project

### Expectations for Teachers

1. Attend a 2-day **Launch Workshop** (October 14-15)
2. Attend 2-day **Midyear Workshop** (February 17-18)
3. Complete four **online modules** (Oct 31-Nov 18, Nov 28-Dec 16, Feb 27-Mar 17, Mar 27-Apr 14)
4. Collaborate with a team to teach a modeling activity (spring semester)
5. Attend a 4-day **Summer Academy** (June 19-22)

### Professional Development Content

#### Theme 1: Mathematical Practices/Modeling

- Encouraging students' use of *mathematical practices*; introducing *modeling* to enhance all mathematics content; exploring real-world applications.

#### Theme 2: Geometry

- Advanced application of *transformational geometry* to the study of congruence, similarity, and proof

#### Theme 3: Statistics:

- Application of statistical models, methods, and representations for *interpreting* data, making *inferences*, and *justifying* conclusions.

#### Theme 4: Functions

- Conceptual understanding of *functions* as objects that can be analyzed, manipulated, interpreted, and used to solve problems

### Professional Development Components

1. The Launch and Midyear Workshops allow teachers to establish common goals; deepen their understanding of Montana's mathematics standards; build a sustainable learning community; and engage in hands-on activities exploring our four content themes.
2. The series of online learning modules allows teachers to continue exploring mathematics content through the lenses of Mathematical Practices, lesson design, and classroom implementation.

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3. The Summer Academy allows teachers to extend their study of mathematics content and practice. Teachers will also develop individual or district Strategic Plans for implementation.

You will enjoy a **wide variety of experiences**:

- Solving math problems and discuss results
- Watching and reacting to classroom videos
- Reading and reflecting on articles
- Collaborating with other teachers
- Accessing high-quality nationwide resources
- Getting feedback from STREAM Instructors

You will **focus on teaching** as you:

- Adapt and revise lessons
- Analyze lessons with colleagues
- Create lessons for specific standards
- Engage in structured observations
- Collect and analyze student work
- Try out activities in your classroom

**STREAM Project Objectives:**

- **Common Core Content Knowledge:** High school teachers will increase their content knowledge of significant topics related to *geometry, statistics, and functions*.
- **Modeling and Mathematical Practices:** High school teachers will experience and demonstrate how to embed the MCCSM *Mathematical Practices* and mathematical modeling in daily instruction.
- **Teacher Learning and Leadership:** High school teachers will be prepared to *articulate* what they learn about content, practices, and standards and *demonstrate* exemplary standards-based instruction in their schools.

**What is a STREAM Online Module?**

- Modules are asynchronous and delivered on OPI's Moodle-based Learning Hub
- Each module is designed to last 3 weeks, but remains open for 4 weeks
- Estimated workload: 6 to 8 hours per week
- Modules are self-paced on a weekly basis, with due dates for assignments and discussions
- Each module is moderated by a knowledgeable instructor/facilitator
- Assignments and activities are scored using a 4-point rubric scheme
- Tasks include readings, videos, reflections, discussions, or lesson design
  - Many tasks come from excellent Web-based resources you can continue to use!
  - Some tasks provide opportunities to try new ideas right in your classroom!

**Have questions?** Email the STREAM Leadership Team. We hope you'll join us!

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