



STEM

nCASE proposes training the nation's Science, Technology, Engineering, and Mathematics (STEM) teacher workforce in an augmented Inquiry and Design (I&D) method of instruction. I&D, which is attracting interest among STEM educators nationwide, emulates the scientific method in the classroom. A student-centered approach, it emphasizes inquiry (science and mathematics) and design (engineering) elements. The teacher is cast in the role of a facilitator and co-researcher with scientists and engineers as mentors in a communal process of learning through inquiry and experimentation. The process shows considerable promise as a method for captivating and engaging students' inquiring minds.

DESIGNED TO

- Integrate **STEM** into curriculum
- Promote *discovery/inquiry and design* in learning
- Encourage real-world experiences using scientists and engineers in the **STEM** classroom
- Model a student-centered classroom using hands-on learning
- Mapped to the **Common Core State Standards**
- Promote assessment and evaluation

Forensics and Discovery Math I

CONTENT CURRICULUM CONNECTIONS

Pre-Algebra

- ◆ Measurement
- ◆ Estimation
- ◆ Ratio
- ◆ Proportion
- ◆ Scaling
- ◆ Formulas

Algebra I

- ◆ Graphing
- ◆ Line of Best Fit
- ◆ Linear Equations
- ◆ Variables

Geometry

- ◆ Angle Measurement
- ◆ Triangles
- ◆ Volume

Statistics

- ◆ Error
- ◆ Correlation Coefficient
- ◆ Mean
- ◆ Median
- ◆ Mode

PROCESS CURRICULUM CONNECTIONS

- ◆ Inquiry
- ◆ Design
- ◆ Problem Solving
- ◆ Communication
- ◆ Connections
- ◆ Representations

MODULE AT A GLANCE

- Activity One - Bone Length
- Activity Two - Sliding Shoe
- Activity Three - Play Doh PI
- Activity Four - Skid Marks
- Activity Five - Bite Marks
- Activity Six - Picture This
- Activity Seven - Texting Rate
- Problem Solving - Crime Scene Investigation

nCASE

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Forensics and Discovery Math II

CONTENT CURRICULUM CONNECTIONS

Pre-Algebra

- ◆ Measurement
- ◆ Estimation
- ◆ Ratio
- ◆ Proportion
- ◆ Scaling
- ◆ Formulas

Algebra I

- ◆ Graphing
- ◆ Rate
- ◆ Line of Best Fit
- ◆ Exponential Growth and Decay
- ◆ Linear Equations
- ◆ Variables

Geometry

- ◆ Angle Measurement
- ◆ Triangles
- ◆ Volume

Statistics

- ◆ Probability
- ◆ Data Collection
- ◆ Error
- ◆ Correlation Coefficient
- ◆ Mean/Median/Mode

PROCESS CURRICULUM CONNECTIONS

- ◆ Inquiry
- ◆ Design
- ◆ Problem Solving
- ◆ Communication
- ◆ Connections
- ◆ Representations

MODULE AT A GLANCE

Activity One - Ball Flinger

Activity Two - Contamination

Activity Three - Map It

Activity Four - Melting Ice Cubes

Activity Five - Race Cars

Activity Six - Strawberry DNA

Activity Seven - Flow Meter

Activity Eight - Stride

Problem Solving - Crime Scene Investigation