

# Math Content Training

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Day 1 8:00-6:00

- Intro/ get computer access
- **Hands-on:** Attribute blocks/Who Am I – logic activity  
(TEKS: G:2A,3A,3C,3D)
- Patty paper/geo reflector constructions  
(TEKS A:4A)
- Graffiti Equations/GCF  
(TEKS G:2A,2B)
- Boxing Basketballs - volume activity  
(TEKS: G:4,5D,6A,8D)
- Old Goose – vocab matching activity
- **Explore:**
  - The UT Dana Center website
  - Website of this week’s activities
- Hit or Miss – geometry parallel lines activity  
(TEKS G:9A)
- Lunch
- **Explore:**
  - Various files on website that will apply to teachers’ curriculum
- **Discussion:**
  - what makes a good lesson (hands-on; diverse methods; etc)
- Order of Operations card game  
(TEKS 6.2;7.2E)
- Derivative match
- Sort recipes – focus activity for order of operations
- Geometry vocab matching (“HJH Roos” activity)
- Solving one-step equations activity  
(TEKS 7.5A;8.5A;A:4A)
- Circle definition matching
- Coffee filters for circle activity  
(TEKS: 6:6A,6C;G:2A)
- **Hands-on:** Lickety Split Jalopies – scatterplot activity  
(TEKS: A:1A,1B,1C,1D,2B,2C,2D)
- Be an Angle Detective  
(TEKS G:5B)
- Straws Have It – Discovery lesson for geometry triangles  
(TEKS 7.6B)
- Circuits ([Teachers Pay Teachers](#))
- **Discussion:**
  - ELL Strategies
- **Analysis:**
  - The TEKS and TAKS (and EOCs)
- **Assessment:**
  - Teachers are to create an activity similar to ones practiced today that will apply to their subject/grade level
  - Develop a lesson plan that includes real-world/hands-on focus(warm-up); lesson; and how to diversify lesson (ELL/Sp.ed); and how to assess

- **Discussion:**
  - Go over homework of lesson plan/activity
- **Hands-on:** PlayDoh activity for vocabulary definitions  
(TEKS 4:11A,11C,11D;7.9)
- Intersecting planes model with index cards  
(TEKS G:3B,4)
- Identifying Patterns  
(TEKS A:3B;G:5A)
- Hey Cow/Zap Fun matching activities
- Dan Meyer blog/video
- **Discussion:**
  - Special education modifications
- Nets and surface area with polydron sets  
(TEKS 7.8B;G:6B)
- Directions game (team-building/cooperative activity)
- Estimating area  
(TEKS 6:8A;8G;7:9A)
- **Data collection:**  
(TEKS M2A;A:2D;A2:1B)
  - Circumference activity/scatterplot
  - Area of Circles Measurement Activity
  - Height vs. Arm Span Scatterplot/measurement activity
- **Discussion:**
  - Around the Room out of seat activity
- Lunch
- Changes in C Discovery Activity  
(TEKS A:6C)
- Matching written expressions to algebraic equations activity  
(TEKS A1:1C,1D)
- Exponent Matching Activity
- Human Number Line  
(TEKS 6.1A)
- Clinometers/Trig Activity
- **Discussion:**
  - Use shadows/similar triangles to find unknown height
- **Hands-on:** Marble roll scatterplot activity  
(TEKS M2A;A:2D;A2:1B)
- Factoring with the AC Method  
(TEKS A1:4A,11A;A2:2A)
- **Discussion:**
  - Creating flipchart books
- Solve Your Equations Activity  
(TEKS A1:A2:3A,3B,8A,8D,9F,10F,11F)
- **Discussion:**
  - Hands-on activities vs. Bookwork vs. Worksheets
- Geomo Angle Matching Activity
- **Discussion:**
  - Parent contact (notice of failure; emailing; progress reports)

- **Assessment:**
  - Create a data collection activity appropriate for teachers' grade level/subject
  - Lesson plan #2

**Day 3 8:00-6:00**

- **Discussion:**
  - Go over homework of data collection activity
  - Brainstorm other data collection activities
- **Hands-on:** Bungee Jumping Barbie activity  
(TEKS A:5A,6A,7A)
- **Explore:** Geometer's Sketchpad and/or Geogebra  
(TEKS: G:2A,2B,5C,9B,9C)
  - Triangle discovery
  - Vertical angles discovery
  - Parallel lines discovery
  - Perpendicular lines activity
  - Parallelograms discovery
  - Polygon interior angle sum discovery
  - Graphing equations of lines/parabolas of real world examples taken on the digital camera
- TI-CBR2 data collection example
- **Discussion:**
  - Other technologies available (including interactive white boards, TI-Navigator, TI-Nspire, etc)
  - WinPlot
  - Microsoft Equation Editor vs. Office 2007 Equations
- Lunch
- **Discussion:**
  - Advanced search engine techniques
- "I Will Derive" Youtube video
- **Hands-on:** Alka Seltzer Rockets Activity
- Bingo Assessment
- **Hands-on:** Gumdrop Measurement  
(TEKS 6.2A;7.8B)
- **Hands-on:** Gumdrop geometry  
(TEKS 4.8C;5.9;7.8B)
- Higher-level activities:
  - Calculus-slope fields matching
  - Calculus-match written description to graph of derivative
  - Calculus-match function to written description of derivative
  - Calculus-match rotations to volumes of solids
- **Assessment:**
  - Create a lesson plan that uses some sort of hands-on activity
  - Research math projects (for specific grade levels) that are available on the internet or have already been done through various examples like youtube.

- **Discussion:**
  - Go over homework of math projects ideas found on the internet
  - Brainstorm other math projects
- Video presentation of Marilyn Burns and cooperative learning in the math classroom
- **Hands-on:** Base 10 blocks activity to visualize concrete models for addition, subtraction, multiplication, and division
- **Discussion:**  
(TEKS A1:4A;A2:2A)
  - Using algebra tiles to multiply, factor, and complete the square
- **Explore:**  
(TEKS: G:8A,8C,8D,8E,8F)
  - Online manipulatives (educational java applets, other internet resources)
- Lunch
- Factor tables to help lead into factoring  
(TEKS A1:4A,11A;A2:2A)
- **Hands-on:** Pattern blocks  
(TEKS 5.7;6.3)
  - Tessellations
  - Used to represent fractional parts
- **Hands-on:** Tangrams  
(TEKS 3:9A,9B,9C;4:8A,8B,8C,9A,9B,9C;5:7A,7B)
  - Create/discuss various geometric (and other) shapes
  - Used to represent fractional parts
- Scrambled proofs (algebraic and geometric)  
(TEKS G:3B,3C,3E)
- Tic Tac Toe Proportions game  
(TEKS 6.2C;7.3B;A:6G)
- Matching graph to standard form equation to slope-intercept form equation activity
- Matching graph to slope and a point activity  
(TEKS A1:6A,6B,6C,6D,6E,6F)
- Matching geometric terms from parallel lines to the picture
- **Discussion:**
  - Ways to group students
  - Needs of GT students
- Random Run board game for various mathematical topics
- **Hands-on:** Area/perimeter activity with color tiles  
(TEKS G:8A,8E,11D)
- **Hands-on:** Building 3-D figures (volume activity)  
(TEKS: G9D,11D)
- **Discussion:**
  - Using blocks for spatial geometric perspectives
- Writing in mathematics activity: describe using mathematical terms how to draw a picture
- **Assessment:**
  - Collaborate together to create one interdisciplinary lesson plan
- Individualized/one-on-one tutoring for certification exams
- Class evaluations
- Present certificates