# LEARNING PLAN

## Exploratory Activities
**Guess My Rule**

## Concept Development Activities

**Concept**
Patterns and Functions
(Informally)

**Materials and Resources**

**TEXTEAMS Algebra I Institute**

- Line Graphs handout
- Rainbow Cubes
- Pattern Blocks
- Color Tiles
- Cuisenaire Rods
- Toothpicks
- Guess and Check Patterns

**Concepts in Algebra: A Technological Approach**

Neufeld & Associates:
*Understanding Math*

**Originality and Creativity**

**Student Products**

**Written**
Write a journal article defending the use of rainbow cube patterns in the algebra class.

**Verbal**
Design and conduct interviews concerning student feelings about investigating patterns.

**Kinesthetic**
Investigate (and share) patterns found in music.
Invent patterns using rainbow cubes, color tiles, or pattern blocks.

**Visual**
Design cartoons involving patterns in nature, politics, etc.

---

| Exploratory Activities | Concept
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Guess My Rule</td>
<td>Patterns and Functions (Informally)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Concept Development Activities</th>
<th>Materials and Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use the following from TEXTEAMS Algebra I Institute:</td>
<td>TEXTEAMS Algebra I Institute</td>
</tr>
<tr>
<td>- 1-124 Rainbow Cube Patterns A</td>
<td>Line Graphs handout</td>
</tr>
<tr>
<td>- 3-119 Rainbow Cube Patterns B</td>
<td>Rainbow Cubes</td>
</tr>
<tr>
<td>- 1-118 Rainbow Cube Patterns C</td>
<td>Pattern Blocks</td>
</tr>
<tr>
<td>- 1-119 Rainbow Cube Patterns D</td>
<td>Color Tiles</td>
</tr>
<tr>
<td>- 3-118 Rainbow Cube Patterns</td>
<td>Cuisenaire Rods</td>
</tr>
<tr>
<td>- 3-120 Rainbow Cube Patterns</td>
<td>Toothpicks</td>
</tr>
<tr>
<td>- 3-124 Circle Pattern</td>
<td>Guess and Check Patterns</td>
</tr>
<tr>
<td>- 1-138 to 1-143 Pattern Block Patterns</td>
<td>Concepts in Algebra: A Technological Approach</td>
</tr>
</tbody>
</table>

**Basic Facts and Standard Algorithms Formalized**

**Independent and dependent variables**

**From Understanding Math: Graphing**
- Generalize patterns
- Domain & range
- Find function values
- Representations: tabular, graphic, verbal, symbolic

**Algebra 1 Explorations and Applications**: p. 30 Exploration

Assign problems from Sec. 2.3, 2.5, 2.6, 3.4, 2.4, 4.1, 3.6

**Assessment**

**Demonstration**: "Building Bridges" with Cuisenaire Rods

**Written**: Concepts in Algebra: A Technological Approach Situation 3.2 (pp. 16-17)

**TEKS/EOC**

**Test Items from Algebra I EOC**
- **Spring 2000**: 3, 4, 9, 21, 27, 32, 35
- **Spring 2002**: 10

© 1999 by the Rice University School Mathematics Project