### Programming CORE:
Complete these activities to build strong foundations for programming BOLT

<table>
<thead>
<tr>
<th>Draw</th>
<th>Beginning Block</th>
<th>Intermediate Block</th>
<th>Advanced Block</th>
<th>Beginning Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual Movement, Distance, Direction, Speed, &amp; Color</td>
<td>Roll, Delay, Sound, Speak, &amp; Main LED</td>
<td>Simple Controls (Loops), Sensors, Speed, &amp; Color &amp; Comments</td>
<td>Functions, Variables, Complex Controls (If Then), &amp; Comparators</td>
<td>JavaScript Movements, Lights, &amp; Sounds</td>
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<tr>
<td>• Draw 1: Shapes</td>
<td>• Blocks 1: Roll Block Squares</td>
<td>• Blocks 4: On Collision Event Pong</td>
<td>• Blocks 7: Flashlight Function Tug o' War</td>
<td>• Text 1: Hello World</td>
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<tr>
<td></td>
<td>• Blocks 2: Light &amp; Sound Stories</td>
<td>• Blocks 5: If Then Animal Toss</td>
<td>• Blocks 8: Hot BOLTatoes &amp; Variables</td>
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<td>• Blocks 3: Matrix Emotions</td>
<td>• Blocks 6: Sensor Storytelling Sidekick</td>
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</tbody>
</table>

### Subject Area Activities:
Choose and adapt activities to fit your classroom and grade level needs

#### Science
- Planetary Motion
- El Corazon/The Heart
- Circuit Coding Challenge
- Costa Rican Turtles
- Acceleration Equations
- Hydro Hypothesis
- Atom Tracks
- Helmets for the Win
- Organ Quiz

#### Technology
- The Ethics of Computing (Cyber)
- How the Internet Works (Cyber)
- Intro to Cryptography (Cyber)
- Types of Hackers (Cyber)
- Stopping Cyberbullying (Cyber)
- The Powers of 2 (AP CSP)
- Variables (AP CSP)
- Morse Code/Data Structures

#### Engineering
- Tractor Pull
- Chariot Challenge
- Bridge Challenge
- Sphero City
- Swim Meet
- Jousting Tournament

#### Art
- Light Painting
- Art for Social Justice
- Holographic Projections
- American Art

#### Math
- Draw 3: Perimeter
- Geometric Transformation
- Area of a Rectangle
- Mathematical Darts
- Linear Relationships
- Fun Fun Functions

#### Language Arts & Social Studies
- Draw 2: Spelling
- Programming the Nile
- What a Character
- Avoid the Minotaur