Basic Pattern Instruction

- The Holder is used to position Rings, Rack and Shapes while you draw the designs.
- Lay the Holder under a sheet of paper.
- Press down on the paper to punch the pegs through it.
- Select a Ring and put the indicated holes in the Ring onto the pegs.
- Be sure the Holder does not interfere with your design.
- Each Ring is numbered.
- The number near the outside edge indicates the number of the outside Gear Teeth; the number near the inside of the Ring indicates the number of inside Gear Teeth.
- Note: Before doing your design, rub the point of the Ball Point Pen on a piece of scratch paper until the ink flows smoothly.
- Put the Pen (only) into one of the numbered holes of the Wheel. With two fingers hold the Ring down. With the other hand, hold the Pen upright and carefully move the Wheel around the inside of the Ring.
- Always keep the Teeth of the Wheel and Ring in contact with each other while drawing your designs.
- Start at hole number 1 on the Ring and continue until your line meets where you started.
- Now you are ready to draw millions of fascinating patterns!

Designs Drawn With Wheels or Gears Inside Rings

- Use Square Ring Shape
- Use Wheel No. 60 with Pen in Hole 1 draw 15 times around to complete the pattern.
- Use Ring No. 150/105
- Use Wheel No. 52 line up Hole 1 with Mark 1. With Pen draw loops until you complete the design.
- Use Ring No. 144/96
- Use Wheel No. 84, line up Hole 2 with Mark 1 on Ring.
- With Pen draw patterns using Holes 2 through 10, moving Wheel 2 Teeth to the left for each pattern.
- Line up Hole 4 with Mark 1 and draw pattern using Holes 4 through 12 moving Wheel 2 Teeth to the left for each pattern.
- Use Ring No. 150/105
- Use Wheel No. 52, line up Hole 1 with Mark 1 on Ring. Using Pen draw ten loops.
- Use Wheel No. 63, line up Hole 16 with Mark 1 on Ring. Draw 3 loops. Line up Hole 16 with Mark 11 on Ring. Draw 3 loops.

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Creating Designs With the Square Ring Shape

- Use Square Ring Shape.
- Use Wheel No. 60 with Pen in Hole 1 draw 9 times around the outside of the Square Ring shape for the first pattern.
- Move Wheel two Teeth left of starting point. Use Pen in Hole 1 and draw 9 times around to complete second pattern.
- Frame your favorite photo (no larger than 4 inches by 5 inches) using the Square Ring Shape designs.

Creating Designs With the Propeller Shape

- Use Wheel No. 52. position Wheel and Hole 6 at highest point on top Arm.
- With Pen in hole 6 draw 8 times around for first pattern.
- Reposition Wheel by skipping two Teeth to the right of starting position.
- With Pen in Hole 6 draw 8 times around to complete second pattern.

Designs Drawn Using More Than One Ring

- Use Ring No. 150/105
- Ring No. 150/105
- Use Wheel No. 80. line up Hole 9 with Mark 1. With Pen, draw pattern.
- Line up Hole 23 with Mark 1 draw pattern.
- Ring No. 144/96
- Use Wheel No. 63. line up Hole 11 with Mark 1. Use Pen, draw pattern.

Designs Drawn Using Wheels Outside of Rings

- Use Ring No. 144/96
  **Outside Design**
  - Use Wheel No. 72. line up Hole 1 with Mark 1 on outside edge of Ring.
  - With Pen draw eighteen patterns moving wheel one Tooth right for each pattern.
  - Line up Hole 1 with Mark 4 of the Ring and draw eighteen patterns moving wheel one Tooth right for each pattern.

  **Inside Design**
  - Leave Ring in place.
  - Use Wheel No. 52. Hole 1 draw one complete pattern. Use Hole 10, draw one complete pattern.
  - Remove Ring No. 144/96
  - Use Ring No. 150/105
  - Use Wheel No. 24. Hole 1, draw one complete pattern.

Viewing Designs In Your Spiroscope™

1. Pull to remove the end section of the Spiroscope™ view tube.
2. Draw a circle using the view tube. Select the whole design or part of a design to view.
3. Have an adult cut out section of the design you want to use.
4. Place the cutout design facing you in the end section of the viewing tube.
5. Replace the end section.
6. Hold the Spiroscope™ up to a light or turn end section to view.