

# **Getting Started**

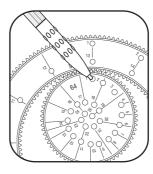
The reusable SPIRO-PUTTY holds the fixed position Spirograph® pieces securely in place on the paper. Making sure that the piece is locked in position will improve the accuracy of the finished design.

 Begin by tearing off a piece of SPIRO-PUTTY about the size of a pea and roll it into a ball between your fingers.

Press four
 balls of SPIRO-PUTTY
firmly onto the underside
of the RING and flatten
them against the surface.

Position and place the RING on the paper with the SPIRO-PUTTY pieces facing down. Press the RING firmly down onto the paper and twist slightly to help the SPIRO-PUTTY stick securely to the paper. Make sure that the edges of the RING are making contact with the paper surface so that the WHEELS will not slide underneath the RING.

 Place a WHEEL inside the RING and engage the teeth of both pieces so they interlock as shown.



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Place a PEN into one of the numbered holes on the WHEEL. NOTE: When using your pens for the first time, scribble for a few moments on a piece of scrap paper in order to get the ink flowing.

 With one hand gently holding the RING, position your pen so that it is upright at a 90 degree angle. Move the WHEEL carefully around the inside of the RING and continue until your line meets where you started. Always keep the WHEEL teeth in contact with the RING teeth while drawing and move the WHEEL slowly to avoid slipping of the gears.

NOTE: If you are using a WHEEL or WHEEL HOLE that you have never used before, it is a good idea to do a few test designs on a piece of scrap paper so you can become comfortable with the movement of the pieces.

> When you are finished with your design, remove the RING from your paper by gently twisting to release. Do not pull straight up as this might tear the paper. Gather up the remaining SPIRO-PUTTY and store for future use.

NOTE: To protect furniture, always place your paper on a placemat or other protective surface before creating your Spirograph® design. Ball point pens can leave marks on some surfaces.

# In Practice

• The markings on each Spirograph® piece have different meanings. Understanding these meanings will allow you to create even more amazing Spirograph® Designs.

• The large numbers engraved on the RINGS indicate how many teeth are on the RING. The top number is for the outside track and the

Your Spirograph<sup>®</sup>
DELUXE SET
comes with two RINGS:

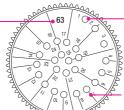
The POSITIONING LINES are used to determine the different starting points for your patterns. You can use the same WHEEL HOLE and achieve 2 different results by beginning your design from different POSITIONING LINES.

bottom number is for the

inside track.

 You can use your PEN in the numbered HOLES on the RING to create large designs by rotating the RING around a fixed WHEEL.

• The large numbers engraved on each of the WHEELS indicate the number of teeth.



 Each numbered WHEEL hole produces a slightly different pattern.

 The POSITIONING LINES are used to determine the different starting points for your patterns. • Below is a simple example of how changes in the number of teeth on the RING can result in drastically different Spirograph® Patterns.

Both of these designs were created using hole #1 of WHEEL No. 45

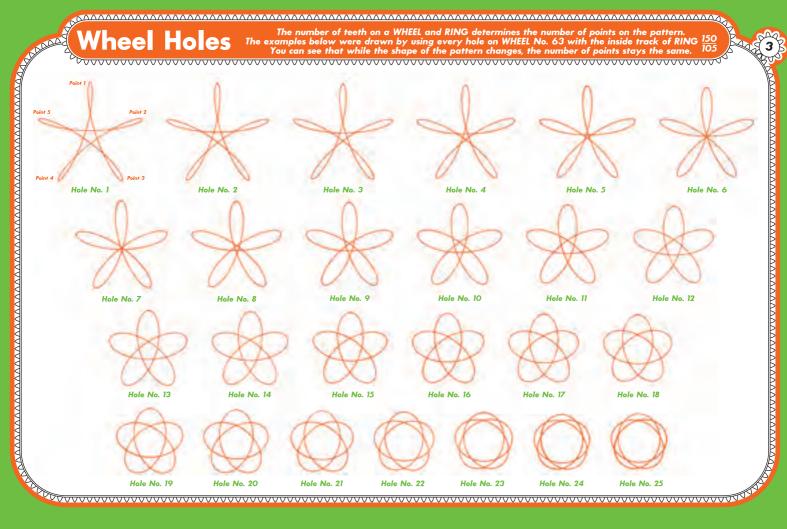


Using the inner track of the 144 RING



Using the inner track of the 150 RING



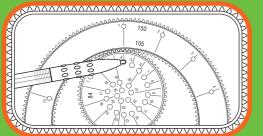


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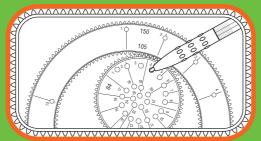
# Designs using the Positioning Lines



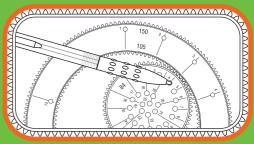
By using the POSITIONING LINES to begin your design at different starting points along the RING, you can create more complex patterns. The design below uses HOLE No. 4 on WHEEL No. 84 on the inside track of RING 150, using a different color pen for each different starting position.



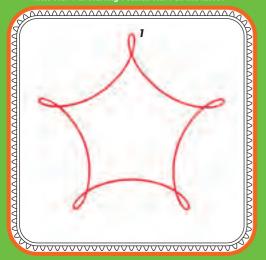
Hole No. 4 in Starting Position No. 1 on the RING.

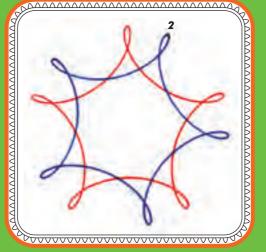


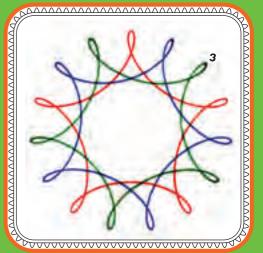
HOLE No. 4 in Starting Position No. 2 on the RING.



HOLE No. 4 in Starting Position No. 3 on the RING.





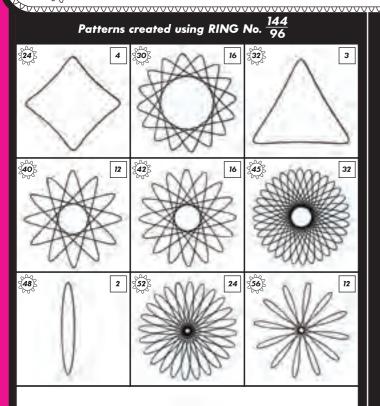


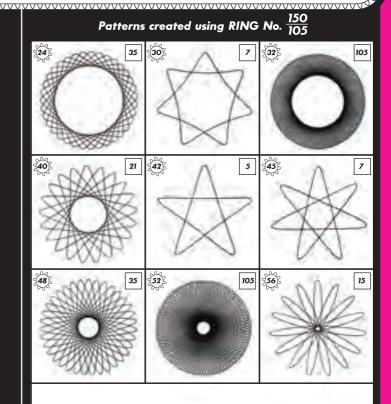
# Spirograph® Basic Pattern Guide

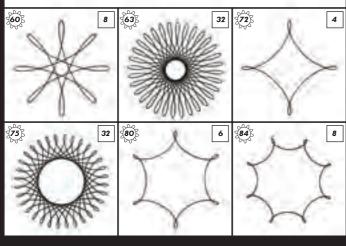
The patterns below were drawn with the pen in Hole No. 1 of each WHEEL.



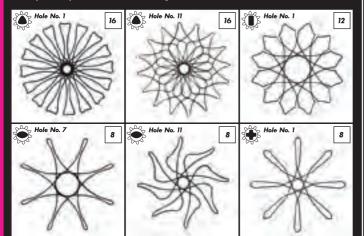
= Number of points in pattern

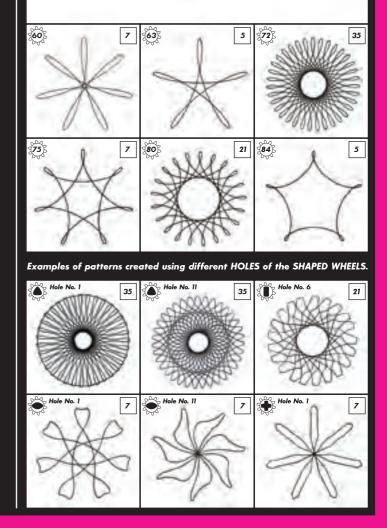






#### Examples of patterns created using different HOLES of the SHAPED WHEELS.





## Designs with Wheels Inside Rings

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# Design Key

HOLES: 1-6-16-21

**Indicates** the RING used

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Indicates the WHEEL used

Indicates the HOLE used on the WHEEL and the color of the PEN

 $\hat{\mathcal{O}}$ Use this Key to follow the instructions for creating any Spirograph® patterns.





Place WHEEL No. 56 so that Hole 1 lines up with POSITIONING LINE No. 1 on the RING.

With the Blue Pen in Hole 1, draw the first pattern until the line meets where it began.

Leaving the RING secured in place on the paper, reposition the WHEEL so that Hole 3 lines up with POSITIONING LINE No. 1 on the RING. Using the Blue Pen in Hole 3, draw the second pattern on top of the previous pattern. Repeat using the Blue Pen in Holes 5 and 7.



Place WHEEL No. 84 so that Hole 2 lines up with POSITIONING LINE No. 1 on the RING.

Draw nine patterns using the Red Pen in Holes 2 thru 10, moving your starting position one tooth to the right on the RING for each different Hole.

Align Hole 4 with POSITIONING LINE No. 1 on the RING and draw nine patterns using the Blue Pen in Holes 4 thru 12, moving your starting position one tooth to the right on the RING for each different Hole.



Place WHEEL No. 80 so that Hole 1 lines up with POSITIONING LINE No. 1 on the RING.

With the Red Pen in Hole 1, draw the first pattern until the line meets where it began.

Leaving the RING secured in place on the paper, reposition the WHEEL so that Hole 6 lines up with POSITIONING LINE No. 1 on the RING. Using the Blue Pen in Hole 6, draw the second pattern on top of the previous pattern. Repeat using the Red Pen in Hole 11. and the Green Pen in Holes 16 and 21.



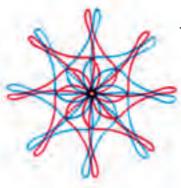
144 • HOLES: 10-10-10

Place the TRIANGLE WHEEL so that Hole 10 lines up with POSITIONING LINE No. 1 on the RING.

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With the Red Pen in Hole 10, draw the first pattern until the line meets where it beaan.

Leaving the RING secured in place on the paper, reposition the WHEEL one tooth to the right on the RING. Using the Green Pen in Hole 10, draw the second pattern on top of the previous pattern. Draw a third pattern using the Blue Pen in Hole 10, starting with the WHEEL one tooth to the right from the ending position of the previous pattern.



Place the OVAL WHEEL so that Hole 9 lines up with POSITIONING LINE No. 1 on the RING.

With the Blue Pen in Hole 9, draw the first pattern until the line meets where it began.

Leaving the RING secured in place on the paper, turn the WHEEL over so that the numbers are facing down. Line up HOLE 9 at POSITIONING LINE No. 1 on the RING and with the Red Pen in HOLE 9 draw the second pattern on top of the first.



150 • 63 • HOLES: 1-2-3-4-5-6-

Place WHEEL No. 63 so that Hole 1 lines up with POSITIONING LINE No. 1 on the RING.

With the Red Pen in Hole 1, draw a pattern until the line meets where it began.

Alian Hole 2 with the spot where the previous pattern ended and move the WHEEL one tooth to the right on the RING. Draw a pattern with the Red Pen in Hole 2. Repeat these steps with the Red Pen in Hole 3, the Blue Pen in Holes 4 thru 6, and the Green Pen in Holes 7 thru 9.

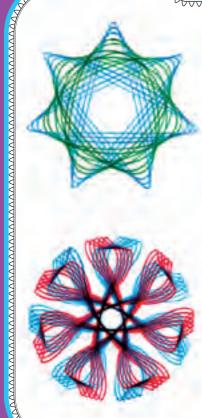


Place the TRIANGLE WHEEL so that Hole 9 lines up with POSITIONING LINE No. 1 on the RING.

With the Red Pen in Hole 9, draw six loops around the RING and stop when you get back to POSITIONING LINE No. 1. Carefully remove the Pen from the HOLE while leaving the WHEEL in place on the paper. Continue the pattern using the Blue Pen in Hole 9. drawing another six loops ground the RING. Repeat with the Green Pen in Hole 9 for six more loops to complete the design.

## Designs with Wheels Inside Rings

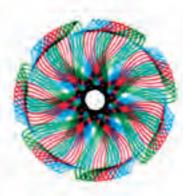




150 • 45 • HOLES: 1-4-7-10-13-16

Place WHEEL No. 45 so that Hole 1 lines up with POSITIONING LINE No. 1 on the RING.

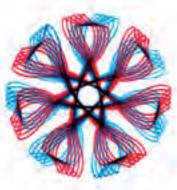
Draw patterns with the Blue Pen in Holes 1. 4 and 7, and with the Green Pen in Holes 10. 13 and 16. Make sure to line up each hole with POSITIONING LINE No. 1 on the RING to start each pattern.



, • HOLES: 13-13-13-13-13-13-13-13-13-13-13

Place the OVAL WHEEL so that Hole 13 lines up with POSITIONING LINE No. 1 on the RING.

With the Blue Pen in Hole 13, draw the first pattern until the line meets where it started. Move the WHEEL one tooth to the right on the RING and draw the second pattern on top of the first. Repeat with the Blue Pen two more times and then draw four patterns with the Red Pen and four patterns with the Green Pen.

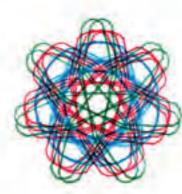


6 HOLES: 13-13-13-13-13-13-13-13-13

Place the OVAL WHEEL so that Hole 13 lines up with POSITIONING LINE No. 1 on the RING.

With the Blue Pen in Hole 13, draw the first pattern until the line meets where it started. Repeat 4 more times moving the WHEEL one tooth to the right on the RING before drawing each pattern.

Turn the WHEEL over so that the numbers are facing down and line up Hole 13 with POSITIONING LINE No. 1 on the RING. With the RED Pen in Hole 13, draw the first pattern until the line meets where it started. Repeat 4 more times moving the WHEEL one tooth to the left on the RING for each pattern.



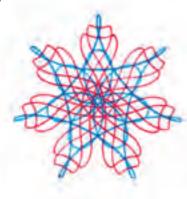
• HOLES: 4-4-4-4-3-3-3-2-2

Place the QUAD WHEEL so that Hole 4 lines up with POSITIONING LINE No. 1 on the RING.

Draw four patterns with the Blue Pen in Hole 4, moving the WHEEL two teeth to the right before drawing each pattern.

Place the WHEEL so that Hole 3 aligns with POSITIONING LINE No. 1 on the RING and draw 3 patterns with the Red Pen in Hole 3, moving the WHEEL two teeth to the right before drawing each pattern.

Place the WHEEL so that Hole 2 alians with POSITIONING LINE No. 1 on the RING and draw 2 patterns with the Green Pen in Hole 2, moving the WHEEL two teeth to the right before drawing each pattern.





• HOLES: 1-20

Place the OVAL WHEEL so that Hole 1 lines up with POSITIONING LINE No. 1 on the RING.

With the Red Pen in Hole 1, draw the first pattern until the line meets where it started. From the same starting position use the Red Pen in Hole 2 to draw the second pattern. Keeping the RING secured on the paper, remove the OVAL WHEEL and switch to WHEEL No. 75.

Place WHEEL No. 75 so that Hole 1 lines up two teeth to the left of POSITIONING LINE No. 1 on the RING. Draw a pattern with the Blue Pen in Hole 1.

Alian Hole 20 two teeth to the left of POSITIONING LINE No. 1 on the RING and draw a pattern with the Blue Pen in Hole 20.

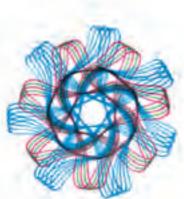
Place WHEEL No. 84 so that Hole 1 lines up with POSITIONING LINE No. 1 on the RING.

With the Blue Pen, draw patterns using Holes 1 thru 11. Move the WHEEL two teeth to the right on the RING before drawing each pattern.

Alian Hole 12 with POSITIONING LINE No. I on the RING. With the Green Pen, draw patterns using Holes 12 thru 22. Move the WHEEL two teeth to the right on the RING before drawing each pattern.



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R • HOLES: 10-14-20

Place the BAR so that Hole I lines up with POSITIONING LINE No. 1 on the RING.

Use the Green Pen in Hole 1 to draw the first pattern.

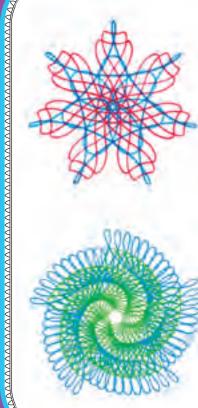
Leaving the RING secured in place on the paper, place WHEEL No. 56 so that Hole 10 lines up with POSITIONING LINE No. 1 on the RING.

Use the Red Pen in Holes 10 and 14 and the Blue Pen in Hole 20 to complete the design, starting each pattern with the new Hole aligned with POSITIONING LINE No. 1 on the RING.

Place the OVAL WHEEL so that Hole 9 lines up with POSITIONING LINE No. 1 on the RING.

Draw 5 patterns with the Blue Pen in Hole 9. moving the WHEEL one tooth to the right on the RING each time.

Switch to Hole 8 and draw 5 patterns alternating between the Red and Green Pens, moving the WHEEL one tooth to the right on the RING each time.



# Designs with Wheels Inside Rings



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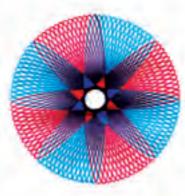
150 • 30 • HOLES: 1-2-3

45 • HOLES: 6-7-8

60 • HOLES: 11-12-13

75 • HOLES: 16-17-18

Begin each pattern by aligning the indicated WHEEL HOLE with POSITIONING LINE No. 1 on the RING.



150 • 52 • HOLES: 13x1 - 13x1-13x1

Place WHEEL No. 52 so that Hole 1 lines up with POSITIONING LINE No. 1 on the RING.

Draw 13 loops using the Red Pen in Hole 1. While keeping the WHEEL in place on the paper, change pens and draw 13 patterns using the Blue Pen in Hole 1. Repeat steps again using the Red Pen in Hole 1 and the Blue Pen in Hole 1.

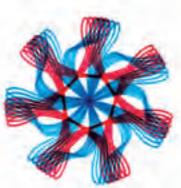


144 • 80 • HOLES: 6x1 - 6x1 - 6x20 - 3x20

Place WHEEL No. 80 so that Hole 1 lines up with POSITIONING LINE No. 1 on the RING.

Draw six patterns using the Blue Pen in Hole 1 and six patterns using the Green Pen in Hole 1, moving the WHEEL one tooth to the right on the RING for each pattern.

Align Hole 20 to POSITIONING LINE No. 1 on the RING and draw six patterns using the Green Pen in Hole 20 and then three patterns using the Blue Pen in Hole 20 moving the WHEEL one tooth to the right for each pattern.



150 • 75 • HOLES: 5-5-5-5-

• HOLES: 11-11-11-11

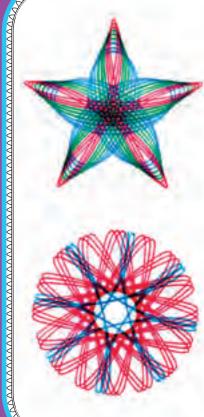
Place WHEEL No. 75 so that Hole 5 lines up with POSITIONING LINE No. 1 on the RING.

Draw five patterns using the Red Pen in Hole 5, moving the WHEEL one tooth to the right on the RING for each pattern.

Place the OVAL WHEEL so that Hole 11 lines up with POSITIONING LINE No. 1 on the RING.

Draw five patterns using the Blue Pen in Hole 11, moving the WHEEL one tooth to the right on the RING for each pattern.

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150 • 63 • HOLES: 1-3-5-7-9-11-13-15-17

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Place WHEEL No. 63 so that Hole 1 lines up with POSITIONING LINE No. 1 on the RING.

Using the Red Pen, draw patterns with Holes 3 and 5 making sure to begin with each Hole at POSITIONING LINE No. 1 on the RING.

Using the Green Pen, draw patterns with Holes 7, 9 and 11 making sure to begin with each Hole at POSITIONING LINE No. 1 on the RING.

Using the Blue Pen, draw patterns with Holes 13. 15 and 17 making sure to begin with each Hole at POSITIONING LINE No. 1 on the RING.



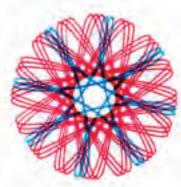


Place the QUAD WHEEL so that Hole 1 lines up with POSITIONING LINE No. 1 on the RING.

Draw four patterns using the Green Pen in Hole I, moving the WHEEL one tooth to the right for each pattern.

Draw four patterns using the Red Pen in Hole I, moving the WHEEL one tooth to the right for each pattern.

Draw four patterns using the Blue Pen in Hole I, moving the WHEEL one tooth to the right for each pattern.



Place WHEEL No. 42 so that Hole 1 lines up with POSITIONING LINE No. 1 on the RING.

Draw three patterns using the Red Pen in Hole 1, moving the WHEEL one tooth to the right for each pattern.

Align Hole 1 on WHEEL No. 60 with POSITIONING LINE No. 12 on the RING. Draw a pattern using the Blue Pen in Hole 1, then move the WHEEL one tooth to the left and draw another pattern with the Blue Pen in Hole I to complete the design.



Place WHEEL No. 30 so that Hole 1 lines up with POSITIONING LINE No. 1 on the RING.

Using the Blue Pen, draw patterns with Holes 1, 3 and 5 making sure to align each Hole with POSITIONING LINE No. 1 on the RING.

Using WHEEL No. 45, draw patterns with the Green Pen in Holes 1, 3 and 5, making sure to alian each Hole with POSITIONING LINE No. 1 on the RING.

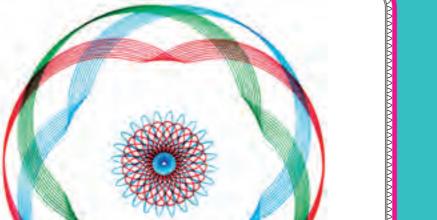
Using WHEEL No. 60, draw patterns with the Red Pen in Holes 1, 3, and 5 making sure to alian each Hole with POSITIONING LINE No. 1 on the RING.

# Big Designs Using the Outside of Rings

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**FOR OUTSIDE OF RING** 

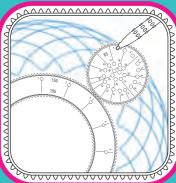
144 • 72 • HOLES: 9x9 - 9x9 - 9x9

Secure the RING to the paper with SPIRO-PUTTY and align Hole 9 on WHEEL No. 72 with POSITIONING LINE No. 1 on the RING. Use a Red Pen in Hole 9 to draw nine patterns, moving the starting position one tooth to the right on the RING for each pattern. Repeat steps with a Green Pen at position 3 on the RING and a Blue Pen at position 5.

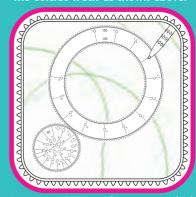
FOR INSIDE OF RING



Leave the RING locked in position on the paper with the SPIRO-PUTTY and align Hole I on WHEEL 52 with POSITIONING LINE No. I on the inside track of the RING. Draw a pattern with the Blue Pen in Hole I. Align Hole IO with POSITIONING LINE No.1 on the RING and draw a pattern with the Red Pen in Hole IO.



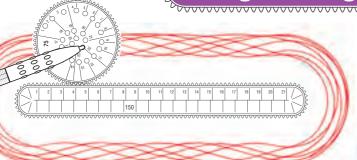
 Secure a RING to the paper with the SPIRO-PUTTY and revolve a WHEEL around the outside track as shown above.



• Secure a WHEEL to the paper with the SPIRO-PUTTY and revolve a RING around the outside of the WHEEL as shown above.

## Designs Using the Rack

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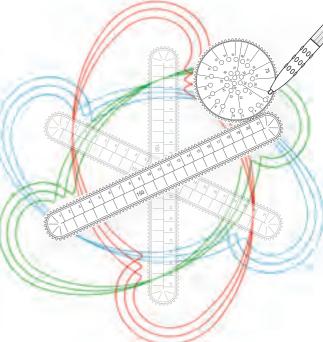


 Secure the RACK to the paper with SPIRO-PUTTY and rotate WHEELS and RINGS around the outside to create unique shaped Spirograph<sup>®</sup> designs.



Using Hole 1 on WHEEL No. 45, draw three Blue patterns starting at POSITIONING

LINES 1, 2, and 20 on the RACK. Then use the Green Pen in Hole 1 to draw 2
patterns starting at POSITIONING LINES 3 and 4.

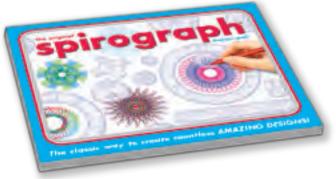


 Rotate and move the RACK into different positions to create design variations and interesting duplications of patterns.

Note: The small corners of the RACK can be tricky, so be sure to keep the teeth engaged securely as you rotate the WHEELS.

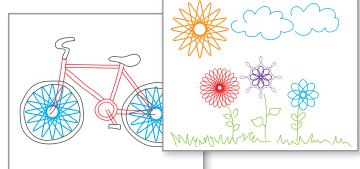


## **Design Pad & Stickers**



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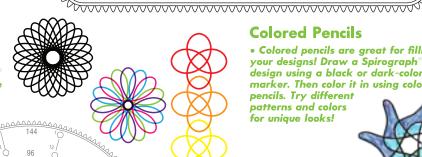


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#### **Markers**

• Use markers to draw bolder, thicker Spirograph designs or to create Spiro designs in a rainbow of colors.

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### **Colored Pencils**

• Colored pencils are great for filling in your designs! Draw a Spirograph® design using a black or dark-colored marker. Then color it in using colored pencils. Try different patterns and colors for unique looks!









## **Project Ideas**

### **Greeting Cards**

• Fold a piece of colored paper in half to make a card.



• Draw a Spirograph® design on plain paper, cut it out and glue it on the front of the card.



• Use your stamp and stickers to decorate the inside of the card. Write a message with markers, pens or pencils.

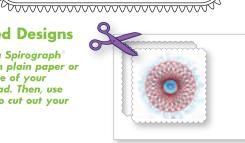


• Tip: you can also cut and give strips of other papers to add borders and stripes to your cards.



### **Framed Designs**

• Draw a Spirograph® design on plain paper or on a page of your design pad. Then, use scissors to cut out your design.

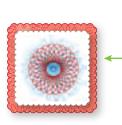


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• Use the glue stick to glue your design to a piece of colored paper.



• Then cut evenly around the edges leaving a border for the frame.





### Spiro-Mask

 To make a mask, draw two Spirograph<sup>®</sup> designs on plain paper and cut them out.

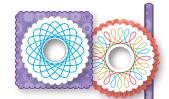


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• Glue each design to a piece of colored paper, then cut around the design in any shape you wish.



 Have an adult help you cut holes in the center of each piece for the eyes.
 Glue or tape the two pieces together. Then tape a tightly rolled up piece of paper on one side of the mask to use as a handle.



Tip: Grasp the handle and hold the mask up to your eyes for a Spiro-disguise!

### Spiro-Wreath

• Cut out several circles using your pattern scissors and colored paper. Don't worry if they aren't perfect circles, your wreath will still look great. Arrange them in a wreath shape and glue them together.



 Next, draw and cut out several
 Spirograph<sup>®</sup> designs and glue them on top of the colored paper. Allow the glue to dry and then display your
 Spiro-wreath!





