



Math + Art Lesson

Charley Harper's Symmetry

Goal: There are many connections between math, art, and nature, but perhaps the strongest is the shared concept of symmetry. While there are a few types of symmetry, this lesson will focus on reflection or bilateral symmetry.

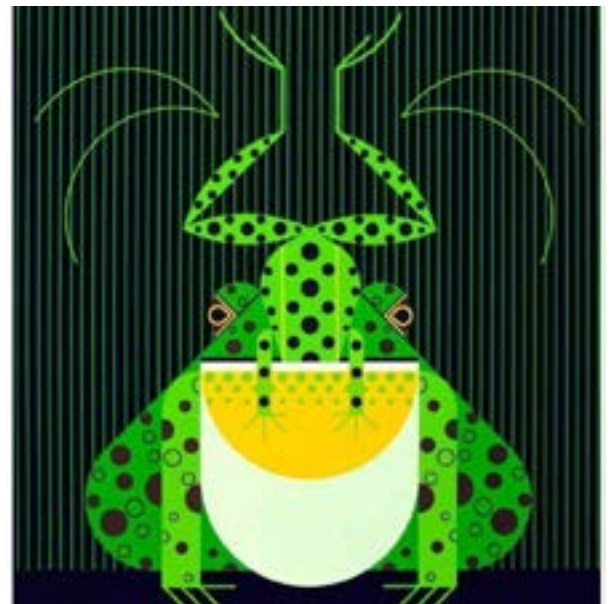
Materials: Paper, coloring materials

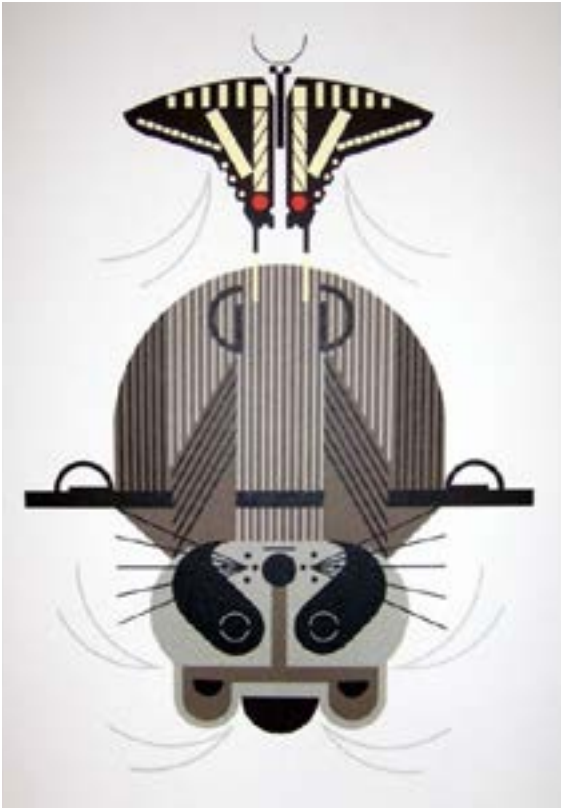
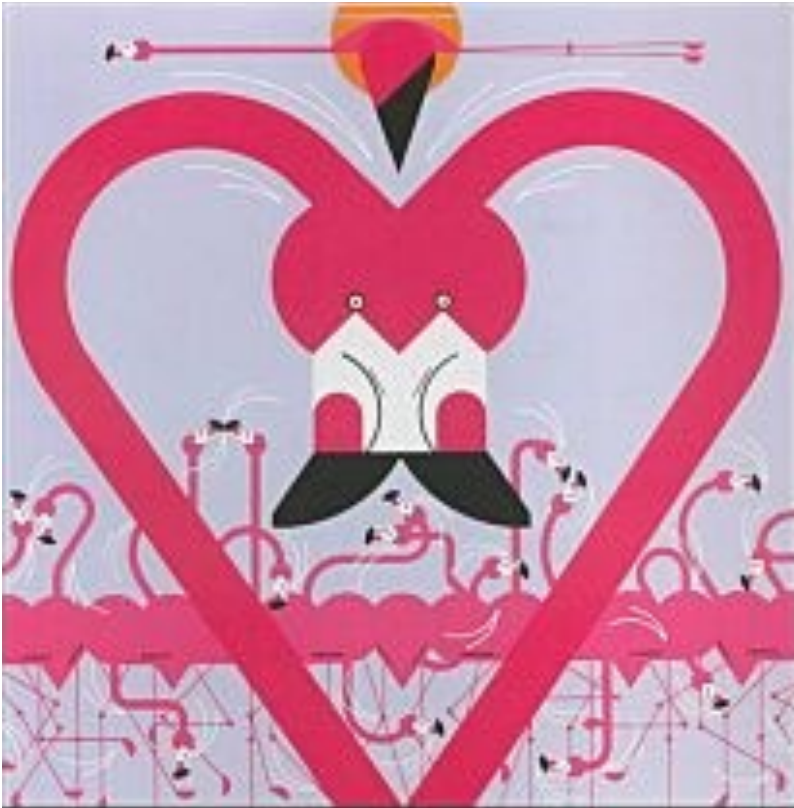
Lesson: Reflection symmetry is where one half is the reflection of the other half. The artist Charley Harper was a champion of symmetry. He simplified and balanced his designs taking hints from nature and imagining unique scenarios.

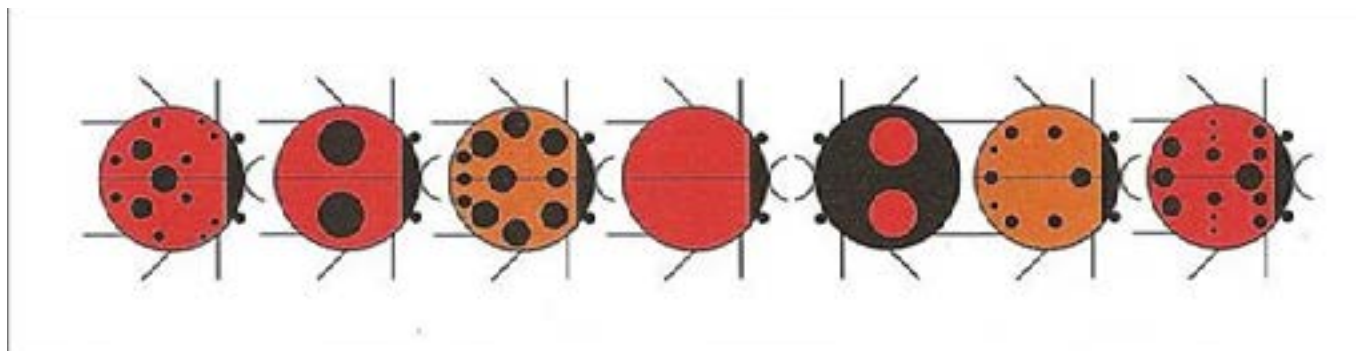
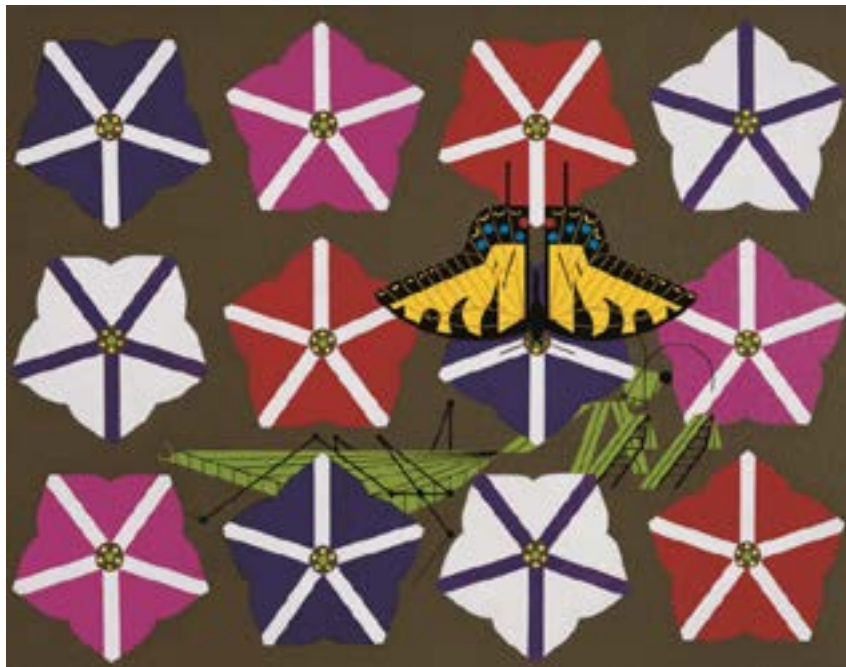
Place both of your hands, palm down, on a table, with your thumbs touching. Imagine a straight line drawn vertically between your two thumbs. Can you see how the image of your one hand is the mirror image of the image of your other hand on the other side of the line? This is reflection symmetry. Imagine that you could draw an imaginary line through a snowflake. If you could fold the snowflake in half and both halves match, then you have found the line of symmetry.

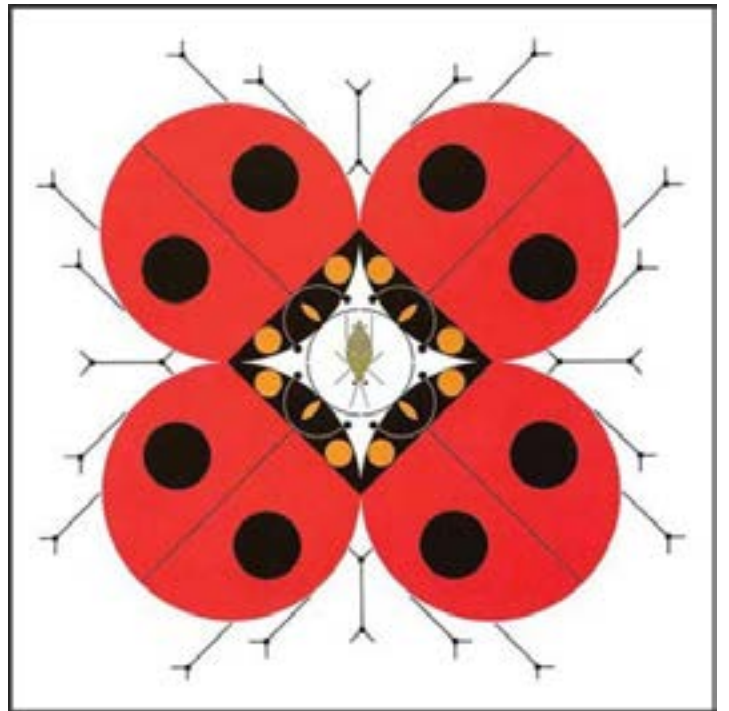
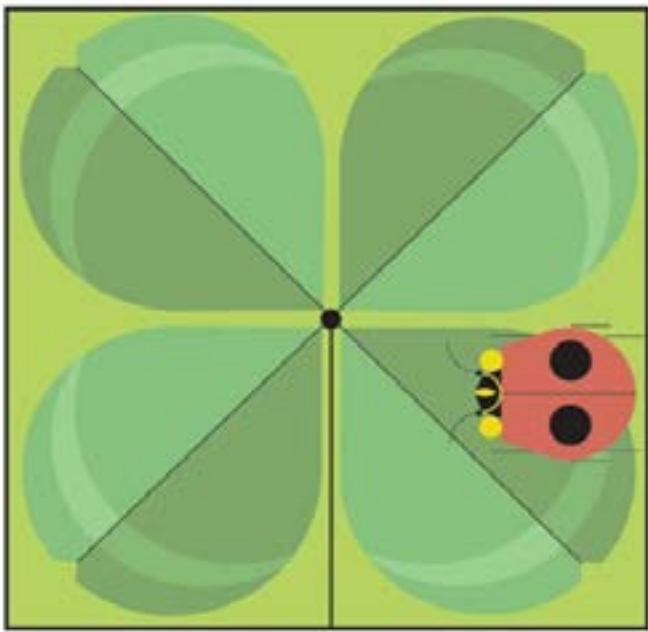
Instructions: Explore symmetry in Harper's art and take a chance creating your own!

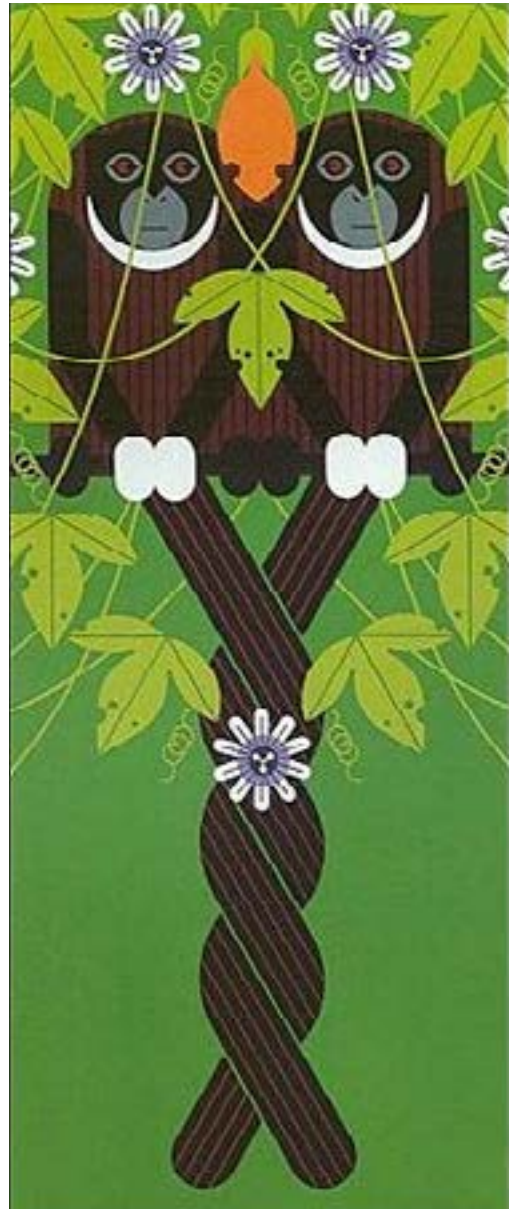
- Draw the line of symmetry on Harper's images. Even if the entire artwork is not symmetrical, there may be individual components that are. Can you find any?
- Find more examples of symmetry in nature.
- Create your own symmetrical artwork! Try using graph paper or folding a piece of paper in half to create the line of symmetry.













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