

collaborations: teachers and artists

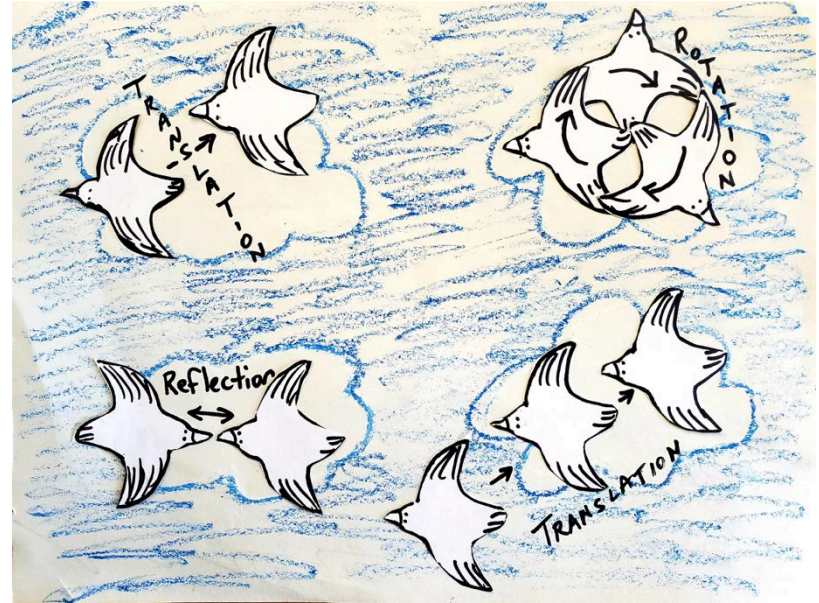
# TRANSFORMATIONS

**An Exploration of Translation,  
Rotation and Reflection**

**By Evie Mantone**

# Created to compliment the standard:

- **Geometry 8.6**  
**Understand congruence and similarity using physical models, transparencies or geometry software.**



# Goals/Objectives

- **Deepen understanding of transformations.**
- **Verify experimentally the properties of rotation, reflection and translation.**
- **Add an element of play and creativity into math/geometry.**
- **Enhance critical thinking skills.**

# Description

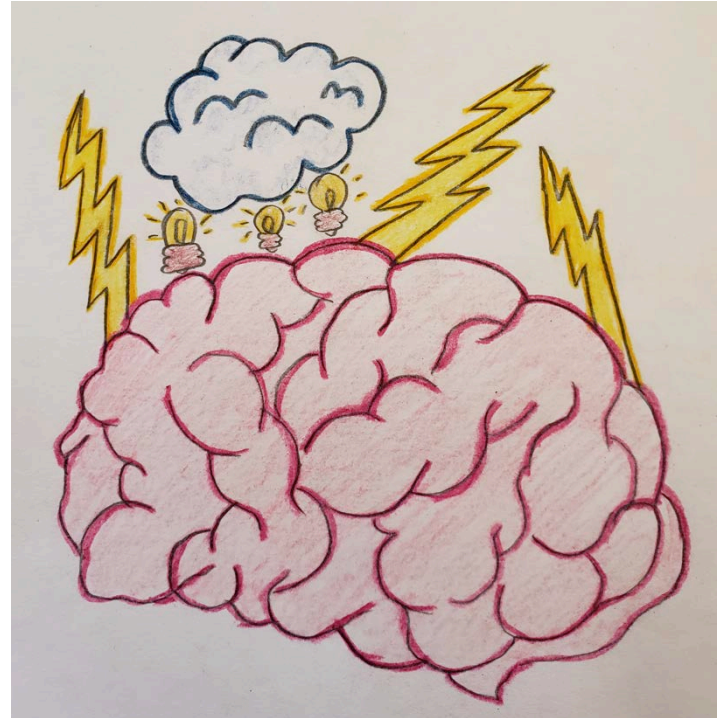
- **Students create a collage illustration that demonstrates/ models the understanding of the different transformations, including translation, rotation and reflection.**

# Materials

- **Construction paper (white)**
- **Glue**
- **Scissors**
- **Marker (dark color for labeling)**
- **Pencil**
- **Crayons or colored pencils  
(whatever you have to color with)**

# Brainstorm

- **Think of an environment, man-made or natural, as well as something that inhabits it.**
- **For example,**  
**Environment: the sky**
- **Inhabitant: birds**



# Create Your Environment

- **Using markers, crayons or colored pencils, create an illustration of the environment of your choice.**



# Create Your Inhabitants

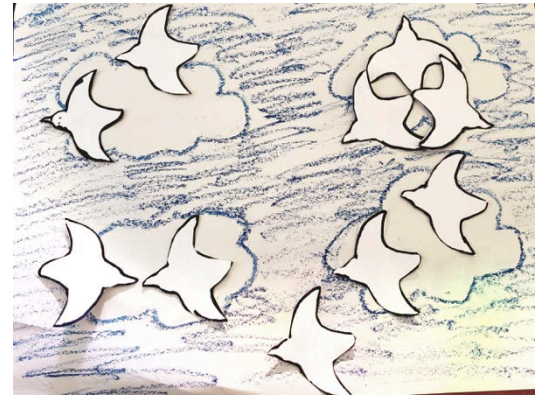
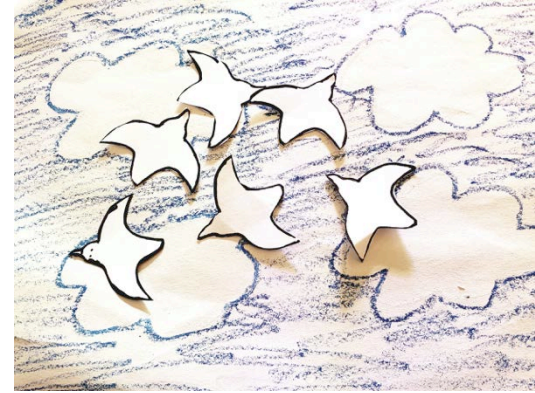
- **Draw and cut out your natural or man-made inhabitant.**
- **Use this cutout to trace and create identical replicas.**
- **Once traced, cut them out.**





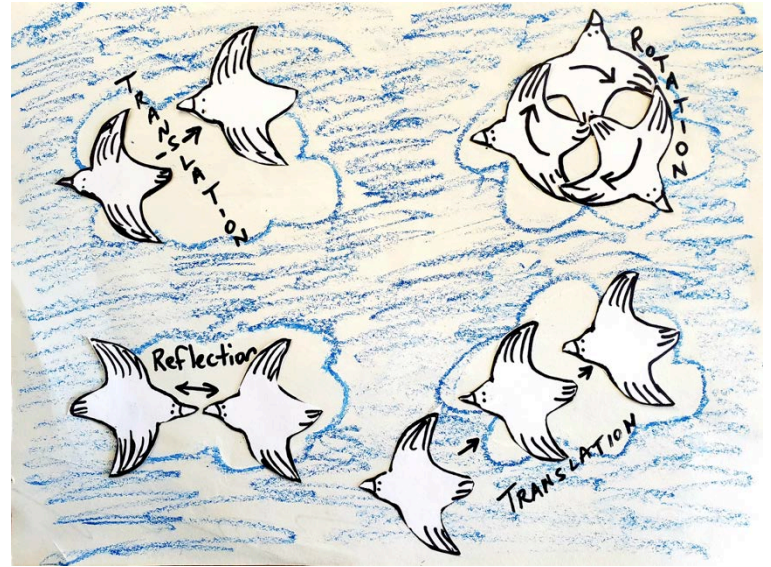
# Arrange Your Inhabitants in Their Environment

- **Arrange your inhabitants in a way that represents the different transformations, including translation, rotation and reflection.**
- **Once satisfied, glue the pieces into your environment illustration.**



# Add Details, Labels and Arrows

- Add details to your inhabitants like eyes, feathers, nose, fur, etc.
- Add labels that show the different transformations you created as well as arrows that depict how the transformations were formed.



# Reflection/Connection

- **How would you explain/describe the similarities and differences of the transformations to someone who knows nothing about them?**
- **Why did you choose your environment and inhabitant?**
- **How did creating a visual help to deepen your understanding of transformations?**