



**Inquiry Unit:** Constructing Thaumatrope: Optical Illusions that operate by switching between two images so rapidly that the images appear as one image. This unit will explore continuous streams of motion and illusions of motion.

**Unit Objective:** Students will understand that forces cause change and energy exists in many forms by investigating the phenomenon of persistence of vision. Create thaumatrope that go along with your unit or from the examples provided. Students will be able to do express motion animation through their self created art thaumatrope as an original artwork.

### **Creativity Component:**

**Inspiration:** Participants will be inspired by the history of thaumatropes and the optical illusions provided to show the relationship with force, motion and energy in creating their own thaumatrope.

**Iteration:** Participants evaluate their art in process and make any needed changes to improve their art and construction of the thaumatrope

**Innovation:** Participants will add their own personalization to make a unique thaumatrope inspired by the thaumatrope examples provided in the lesson plan.

**Materials Needed:** 8.5 x 11 cardstock paper cut in fourths/Index cards (4' x 6), markers, transparent tape, hole punches, glue/tapes rubber bands, wood dowel/skewers, straws and string. Optional: Small stickers, confetti, buttons, rubber stamps, magazines and or colors can be used to create the optical illusions.

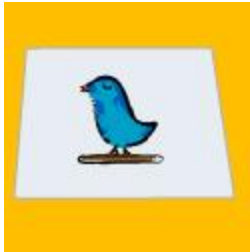
**Differentiation Activities:** Participants will be lead through the activity with consideration given to age and abilities. Younger audiences will have a sample of artwork provided for creating the thaumatrope. Participants that require additional assistance will be guided through the building process. Depth can be added by adding more medium selection such as pastels and acrylic paints.

**Assessment of Unit Objective:** Participants will practice their thaumatropes designs and success of creativing the optical illusions and perceived animation.

### **Grade Levels Supported:**

| Science TEK                | FA TEKS                    |
|----------------------------|----------------------------|
| 3 <sup>rd</sup> Grade: 3.6 | 3 <sup>rd</sup> Grade: 3.2 |
| 4 <sup>th</sup> Grade: 4.6 | 4 <sup>th</sup> Grade: 4.2 |
| 5th Grade: 5.6             | 5th Grade: 5.2             |
| 6th Grade: 6.8             | 6th Grade 6.2              |
| 7th Grade: 7.7             | 7th Grade 7.2              |
| 8th Grade: 8.6             | 8th Grade 8.2              |

**Reflection/Take Home Learning Ideas:** Continue to learn about different optical illusions to create thaumatropes and find resources at home or in the classroom to make the other thaumatrope artwork.

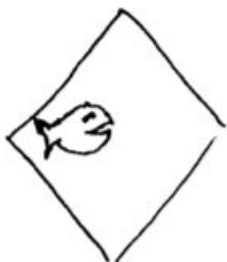


## Example of a bird in cage

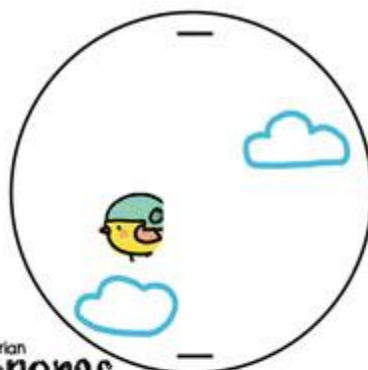
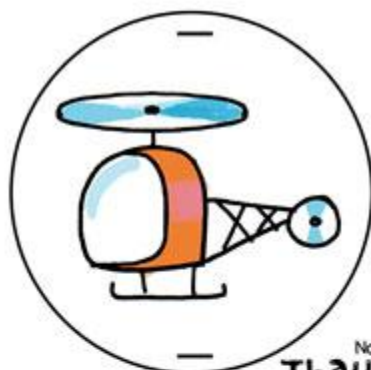
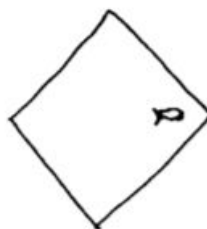
Spin the disc, and the images on each side merge; a bird and a cage, for example, become a caged bird



Large  
Shark



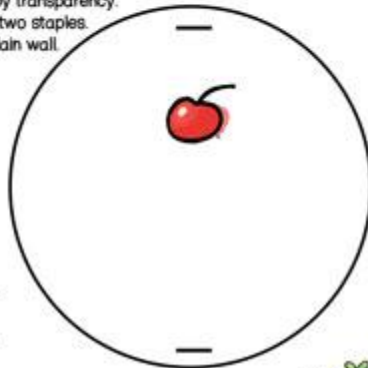
Small  
Fish



Not so Victorian  
**Thaumatrope**  
to cut out and paste.



Flatten a side of a straw.  
Glue each side on the straw, using  
the marks to place them by transparency.  
secure the straw with two staples.  
Get in front of a plain wall.



And play!

