

# Open-Ended Template

**Names:** Judith Gantz, Yvonne Hughes, and Lerlean West

**Grade Level:** 2<sup>nd</sup> Grade

**Content Area:** Algebra

**PA Standard(s) addressed:** To recognize, describe, extend, create and replicate a variety of patterns including attribute, activity, number and geometric patterns.

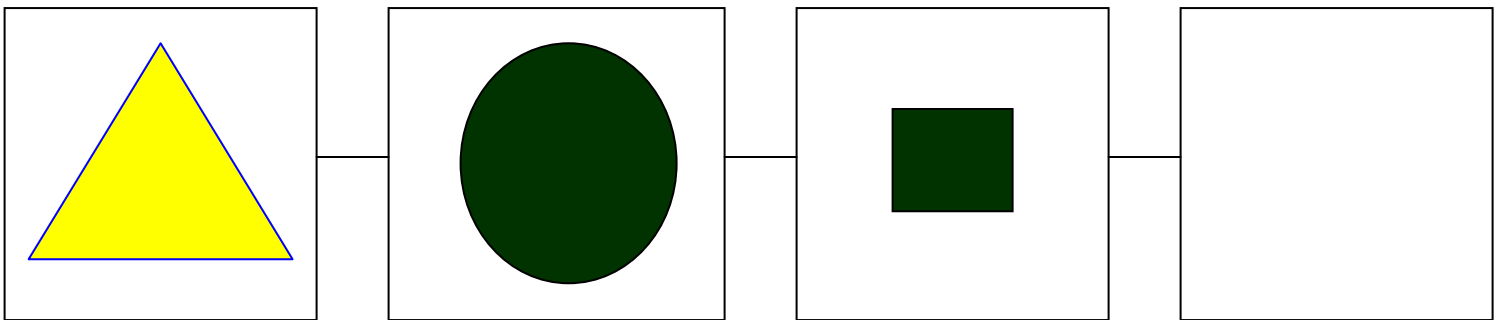
**NCTM Standard(s) addressed:** Understand patterns, relations and function.

**Problem Name:** All Aboard Pattern Train

**Problem:** To create a pattern that will show two attribute differences.

\* Culminating activity for patterns\*

- Directions:**
1. Find an attribute block for each car in the train.
  2. Every block should be different in two ways from the block in the car next to it.
  3. Trace and color each shape.
  4. Label to show the attribute.
  5. Draw an arrow to show the one way they are the same.
  6. Explain your work.



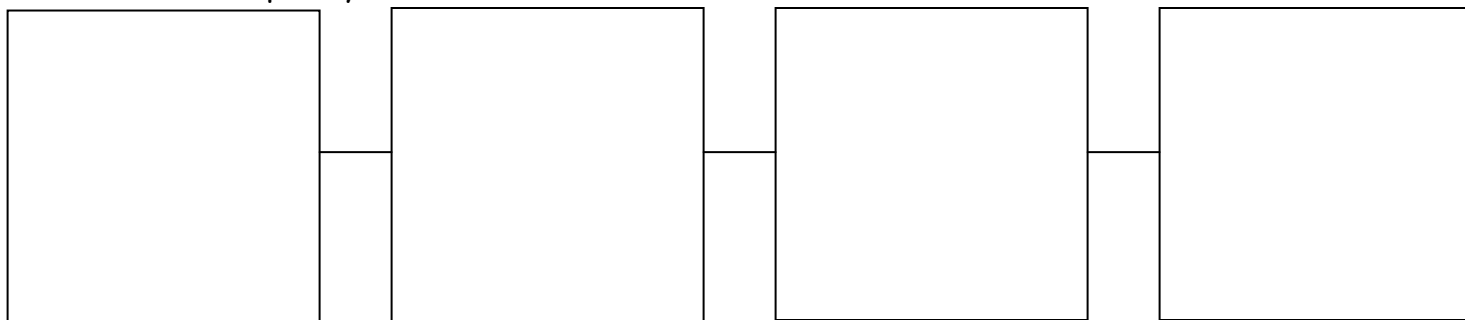
1. Large
2. Yellow
3. Triangle

1. Large
2. Green
3. Circle

1. Small
2. Green
3. Square

- 1.
- 2.
- 3.

**Directions:** 7. Create your own pattern. Remember to show two attribute differences.  
Label and explain your work.



1.

1.

1.

1.

2.

2.

2.

2.

3.

3.

3.

3.

**Problem Solution(s):** Explain your patterns.

**Specific Rubric:**

**5. Advanced Understanding:** All objects displayed meet the required criteria of two differences. Solutions are all correctly labeled. Explanations are all clear and complete.

**4. Satisfactory Understanding:** All objects displayed meet the required criteria of two differences. Labels and explanations are clear for all procedures. There is one minor error in labeling. Explanation is complete.

**3. Almost Satisfactory Understanding:** All but one object displayed meets the required criteria of two differences. Solutions are labeled and explained. One object is mislabeled. There are some mistakes in the explanations, or the work needs clarified.

**2. Partial Understanding:** One or two objects are mislabeled. Explanations are incomplete, and not clear.

**1. Minimal Understanding:** Some shapes are drawn (correct or incorrect). Several objects are mislabeled. Little or no explanation is given.

**0. No Understanding:** Did not attempt to solve.