The Farmer's Trees
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Topic: Geometry and Shapes

Curriculum Competencies:
- Engage students in real-world setting for geometric shapes.
- Encourage students think critically as when they try to make many different shapes to arrange trees according to the given conditions.

Grade Level: 3-6 (or any grade with small changes)

Recourses:
Daffer, P. G., & Clemens, S. R. (1977). Geometry: an investigative approach. Menlo Park, CA: Addison-Wesley.

Description:
Describe the problem to the students. Ask them to use their geometric lens to arrange 10 trees in 5 rows of 4 trees each. Make sure they understand the problem. After that, let them try to solve the problem by making different geomatical shapes. Check their different shapes and ask them to explain the properties of shapes they had made. Ask students to use geometrical ideas in forming different shapes. Encourage them to think critically. Provide them material to form different shapes which must satisfy the conditions given. If they want to solve the problem by drawing the shapes on the paper, provide them small white board and colored markers.

Tips for teacher:

Material needed:
Colored pipe cleaners, colored disks, white board and colored markers.
Possible ideas to approach: The solution to the first problem is geometric shape star, in this shape 10 trees can be planted in 5 rows of 4 trees each. The solution of second problem is geometric shape pentagon, in this shape 10 trees can be planted in 10 in 5 rows of 4 trees each and 5 rows of two trees each. The solution to last problem is geometric shape octagon.
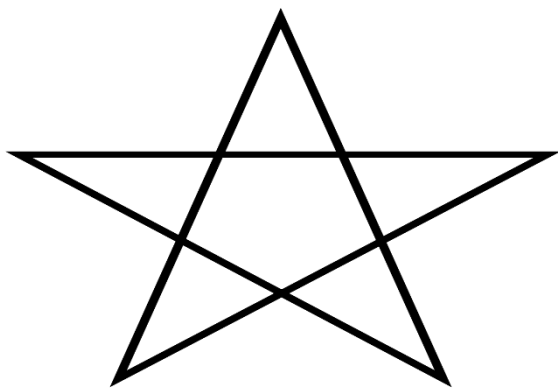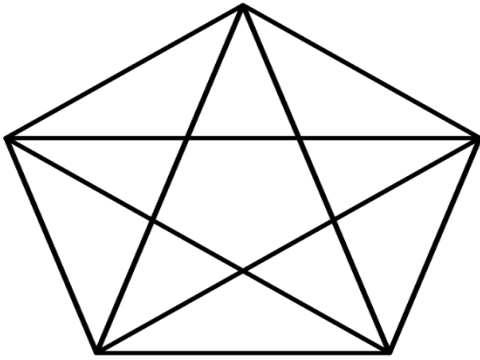
Activity Sheet

1) A Farmer planted 10 trees in 5 rows of 4 trees each. How did she do this?

2) If she wants to plant 10 trees in 10 rows total with 5 rows of 4 trees each and 5 rows of 2 trees each. How can she do this?

3) If she wants to plant 9 trees in 16 rows total with 8 rows of 3 trees each and 8 rows of 2 trees each. How can she do this?