Name	Group	Members	 Date	

Fence for the Cattle

Kay and her father needed to create a new area in their pasture for their 4-H cattle. They have decided to use 3 acres of land. Kay and her siblings have the opportunity to decide on the shape the fenced area would create for their cattle (you get to decide on the shape). The fence is shown below. Each section of fence measures 2 m from post to post. How many posts and how many rails would be needed to fence in the 3 acres of land?

Square meter is a metric area unit and **acre** is widely used in imperial, us customary systems for **land planning and management, agriculture, forestry.**

1 Acre = 4046.85642 Square Meters (You may round this number)

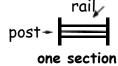
Meter is a metric length unit. Foot is an imperial length unit. There are 3.2808399 feet in a meter.

1 Meter = 3.2808399 Feet

Task: Complete each section below then create a sketch of the 3 acre pasture you have designed and the number of posts and rails that need to be ordered to create the pasture for the 4-H cattle.

Please use the toothpicks to create sections of the fence to assist with your planning.

 Use toothpicks to build the first five sections of the fence pattern shown.





- 2. Predict the number of posts and the number of rails in ten sections and record:

 Predictions for posts and rails in 10 sections ______
- 3. Record posts and rails in the following chart:

Sections	Number of Posts	Number of Rails
1		
2		
3		
4		
5		
10		

4. Write an **expression** or **equation** to show the relationship between sections and posts, between sections and number of rails and the relationship between number of posts and number of rails.

5. Design and sketch the 3 acres of land. Determine how many sections will be needed to close in this field. How many posts are needed? How many rails are needed?

6. Kay and her father decide to purchase bulk railing and make their own posts and rails. When they place their order with UFA, the clerk needs the total amount of metal (or wood) in linear feet. How many linear feet of material do they need? (Each post is 1.2 m in height)