**Angry Birds**

**“The Parabolic Edition”**

Red Bird, Yellow Bird, Blue Bird, and Black Bird are angry with the pigs. The pigs stole the bird’s eggs. The birds want their eggs back and will stop at nothing to get them back. The flight path of the birds can be modeled with a parabola. Use “x” as the distance and “y” as the height.

First, each student in your group will be assigned a bird. Each member will answer the following questions for their assigned bird:

1. What is the maximum height your bird flew?
2. What was the total distance your bird traveled?
3. What is the quadratic equation for your bird in vertex form and in standard form?

Next, determine whose bird flew the highest and traveled the longest.

Finally, figure out which bird hit the following pigs.

1. King Pig located at point (21, 19.5)
2. Moustache Pig located at point (9, 21)

Poster Checklist:

* Our poster has a title (artistically done with color)
* We have included a graph for every bird’s path (everything is labeled, vertex, roots, and axis of symmetry)
* We have included one big graph with all the bird’s paths together (labeled).
* All calculations are shown on our poster (no calculations are left out)
* All questions are written and answered on our poster (full sentences with correct spelling and punctuation)
* My poster has decorations (with an overarching theme, colors matching, and is thoughtfully planned)
* Organized (looks neat, everything has its place and all writing is legible)

**Red Bird**

Red Bird starts his flight from point (10,0). His flight path reaches a maximum height of 18 yards and lands at point (38, 0).

**Yellow Bird**

Yellow Bird’s flight path can be modeled by the quadratic equation y = -x2 + 14x – 24.

**Black Bird**

The table below contains partial data points of Black Bird’s trajectory.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| x | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| y | 0 | 7.5 | 14 | 19.5 | 24 | 27.5 | 30 | 31.5 | 32 | 31.5 |  |

**Blue Bird**

Blue Bird’s flight is represented by the graph below.

