

Name: \_\_\_\_\_

Ms. Boyle

Date: \_\_\_\_\_ Block: \_\_\_\_\_

Adv Fun

Angry Birds Project

Due dates:

Part 1: A – Monday 11/11<sup>th</sup> and B – Tuesday 11/12<sup>th</sup> (25 points earned at that time)

Part 2: A – Thursday 11/21<sup>st</sup> and B – Wednesday 11/20 (to be photocopied)

Part 3: A – Monday 12/2 and B – Tuesday 12/3 (for peer grading)

Final project is due on or before December 13<sup>th</sup>  
**BEFORE** the pep rally begins.

## Part 1: Your Vision

Start by playing Angry Birds and get ideas to design your own level.

**You only need 10 minutes** to play Angry Birds – do not spend more than 10 minutes doing so. Do not throw your teacher under the bus saying she you have to play angry birds during Titan Time, during class, or any other scenario that would have adverse consequences. Do not say you need to play until you win – because then you would be lying. Many of you have already played Angry Birds – so you technically do not have to do this part. If you can answer the questions below then you are all set.

Additionally, you do not need to purchase any version of Angry Birds – playing the free versions will suffice for this part.

Finally – DO NOT play Angry Birds Space – because those birds do not fly in parabolas.

I do not care if you win a level and I do not care what your score is, I want you to examine how the scene is set up. Look at the surroundings; do not simply focus on winning the game. That is not what we are focusing on here. While playing the game, think about the following:

- a. What are the components to a good level of Angry Birds? What makes a level more difficult than the previous level? If it is too hard or too easy what does that do to the player's motivation to complete the level?
- b. What types of birds are there? Do the actions of these birds differ or do they all do the same thing? Be able to explain at the difference between at least two types of birds. (Different colors denote the different abilities.)
- c. The pig come in different size, does that help or hinder the player? How many pigs do the different levels have? Is there are relationship between the number of pigs on the screen and the number of birds given to win the level?

- d. The pigs can be protected by different material – what types of material are used? Is there a difference in the material? Do some break faster or easier than others? Do some require more force or different angles to break through? Is there a relationship between the type of material used for protection and the number of birds given to win the level?

*What you will do:* Using Times New Roman font size 12 and double spacing, you will write in a paragraph form using complete sentences to describe the type of scene you would create for Angry Birds and why. Your reasoning should be supported by insight you gained from playing the game. (That means describe what you saw and why you selected that action.) You may use any of the type of structures you see throughout any version of the game. Think about how difficult you want your level to be, but how you want it to be solvable and winnable. Will your structure be tall, short, wide, skinny, have multiple levels (how many). I want you to write up why you to support why you are making your selections when designing the level.

Good example: When making my level, I would want to use wood as part of the structure for my pigs. Wood is not very difficult to break through and does not require a lot of force. I think I would want to a wider structure rather than taller. This would require players to think carefully about where to launch the birds to destroy the structure. (Now none of you can use this reasoning – but you can expand or argue in a different way).

Bad example: Dude, I want to make mine out of cement so no one can win. I gonna put double layers so all da birds die.

Keep in mind that this is 20 points. Trust me that one paragraph is **not** enough to convey your knowledge of Angry Birds to me. No question should be answered with a simple yes or no – but should be expanded and supported with the experience you saw in Angry Birds. Keep in mind that you should not have run on sentences in your paragraph because without proper punctuation it can be impossible to follow the idea and the concept you are trying to convey and therefore will just give me a headache and make me grumpy and we all know what a grumpy Ms. Boyle looks like. Just don't do it.

**The more detail and support the better!**

**Due: A: Monday 11/11<sup>th</sup> and B: Tuesday 11/12<sup>th</sup>**

## Part 2: Design a level

All students will be designing a level on the paper provided. The slingshot for the birds is already provided. Students should wait until they receive feedback from Ms. Boyle on their typed proposals before beginning.

The level should be solvable with only RED birds. There must be more than one level of pigs for you to aim at. There must be at least three pigs to be eliminated. (They cannot be smaller than the bird provided in the slingshot for you. They may be larger.)

Level designs should not be colored in yet. *Please leave all images in pencil.* Ms. Boyle is going to examine your levels and make photo copies for the remaining portion of the project.

**Level designs are due: A - Thursday 11/21<sup>st</sup> and B – Wednesday 11/20**

Levels will be collected and photo copied at this time only. If there recommendations for improvement, Ms. Boyle will make them at this time.

### Part 3: Destroy the Pigs!

We will begin this in class together on Friday 11/22 and Monday 11/25. It is paramount that you are prepared for class. On a copy we will sketch in a parabola that would make contact with the structure. Together we will talk about the best method for finding the equation of the parabola.

You will independently find three projected paths on your own design. You will draw in three paths on the same picture in three different colors. For each parabola path you will need to find:

- a. x-intercepts (as coordinate points)
- b. vertex (as a coordinate point)
- c. axis of symmetry (in an equation)
- d. equation of the parabola (note all  $a$  values should be negative – you cannot travel through the ground to eliminate the pigs!)
- e. work to support how you found the equation

You are allowed to round to the nearest 0.25 at your discretion. You are allowed to estimate within reason and you are allowed to assume your parabola is symmetrical – because we all know Ms. Boyle has issues drawing a perfect parabola.

**Due: A – Monday 12/2 and B – Tuesday 12/3**

We will be using time in class on 12/2 and 12/3 to peer grade each other's work. This means you will work with a partner and make sure you have created the equations correctly. It is mandatory that you have the equations done on this day to receive feedback before turning the entire project in.

You will receive a grade for peer grading someone's assignment. You can only earn these points in class if you have your equations ready for someone else to grade. This is meant as an opportunity for someone else to look over your completed work.

### Part 4: Color!

One of your photocopies will need to be colored to make it look like an actual level of Angry Birds. Note that if you told me you were making the scene with cement it better look like cement. Do not just randomly color, but use your knowledge of Angry Birds to make it look like an Angry Bird level.

## Part 5: Reflection

In Times New Roman font size 12, with double spacing, you will write a PARAGRAPH using complete sentences to answer these questions. Note that you should NOT number your answers, but write a seamless paragraph answering these questions with transitions.

1. What was the easiest part of this project? The most difficult?
2. Mathematically with the parabolas, what are you still struggling with? What form of the parabola did you use to find the equation? Why did you select that form?
3. What would you change about the project? Would you add something, subtract something?
4. What did you like or dislike about peer grading? Are there benefits to doing that in class? What would you change about the peer grading experience?

Name: \_\_\_\_\_

Block: \_\_\_\_\_

### Grading Scheme

	Grade Earned	Possible Points
Part 1: Your vision		20 points (will be entered separately)
Part 2: Design a level a. multi height b. at least three pigs c. creativity d. originality e. not impossible		20 points
Part 3: Your Equations a. x-intercepts b. vertex c. axis of symmetry d. equation e. work		24 points
Part 4: Color a. neat b. clear what the structure is made of c. not colored in with scribbles and pen		11 points
Part 5: Reflection		15 points
Neatness of work – easy to follow, I do not need to search for any part. It is all turned in at one time, correctly and stapled.		10 points
Late Assignments	-15% per day late	
Final Grade		100 points