# **Tinkercad: Project Starter Outline 1 Template**

*Create a high-level outline for the activity which describes the challenge presented to students, applied math (if applicable), headings of “What You Should Know Sections” to include, overview of project steps, and possible Extend Yourself Activities to build out.*

**Technology Name:** Tinkercad (https://www.tinkercad.com/)

**Activity Title: ~~Extraterrestrial Engineers E~~ Engineering an Extraterrestrial**

**Level (1, 2, or 3):** 3rd Grade

**Math Standards Alignment/Grade Level: 3rd grade**

**3.G.A.1**

Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

**Activity Idea/Challenge Description:** In this challenge, third-grade students will harness the power of Tinkercad to create their very own three-dimensional extraterrestrial (ET) . After learning about the features of different shapes, they will use a variety of different shapes to create an extraterrestrial creature.

**What You Should Know (High Level Topics):**

* **What is Tinkercad? How do you use it to create a 3d design?**
* **What are the important features of square, rectangles, circles, triangles, pentagons, hexagons and octagons.**
* **What is a 3D shape? How is it different from a 2 D shape?**
* **How can I use different shapes to create a design?**
* **What is an extra-terrestrial?**

**Career Connection(s):**

* **Game Developers:** In the field of game development, understanding shapes is crucial for creating 3D models, environments, and visual effects within the virtual world.
* **Carpenters and Woodworkers:** Professionals in woodworking and carpentry use geometric shapes and measurements to create precise and functional structures.
* **Urban Planners:** Urban planners use shapes and spatial arrangements to design cities and communities. They consider how buildings and spaces fit together to create functional and aesthetically pleasing environments

**Project/Activity Steps (High Level Steps):**

* **Plan your ET: S**tart by brainstorming what your ET might look like. Consider the number of eyes, limbs, and any unique features. Give your ET unique features like multiple arms, legs, or eyes. They could be slimy, furry, scaly, or have patterns. Use only basic shapes (circles, squares, triangles, etc.) to sketch your ET on paper. Show your ET interacting with an object, for example a musical instrument, reading a space book, or riding a futuristic vehicle. Each part of the ET should be represented by a simple shape**.**
* **Create your ET:** Log in to your Tinkercad account or create one if you don't have it.
  + Start a new project and use the basic shapes available to recreate your sketched ET. Drag and adjust the shapes to match your sketch.
  + Experiment with resizing, rotating, and combining shapes to achieve the desired look.
* **Write a Description:** Write a descriptive paragraph about your ET. What are its special abilities, where does it come from, and what does it like to do?
* **~~Design a Spaceship:~~** ~~Students will design a spaceship for their ET using Tinkercad. They will need to consider the shape, size, and features the spaceship might have to accommodate their ET friend.~~

**Project Submission Item(s):**

* Screenshot of the ET created
* Identification of each of the shapes used
* Descriptive Paragraph
* ~~Screenshot of ET with its spaceship~~
* ~~Identification of the shapes used to create the spaceship.~~

**Extend Yourself Idea(s):**

**Design a Spaceship:** Students will design a spaceship for their ET using Tinkercad. They will need to consider the shape, size, and features the spaceship might have to accommodate their ET friend.

**Create a Storyboard:** Create a storyboard or comic strip that tells a story involving your ET.

**~~Write a Description:~~** ~~Write a descriptive paragraph about your ET. What are its special abilities, where does it come from, and what does it like to do? This integrates writing skills~~.

**ET Language Exploration:**Create a simple "ET language" using symbols.

**Design a Habitat:** Design a habitat for their ET using Tinkercad. Consider the environment, shelter, and any special features the habitat might have.