

Name _____ Water Rocket Packet Sci# _____

Water rockets work by pushing water out with such force that the rocket itself moves upward. All moving objects have energy in the form of momentum. The faster an object moves, the greater its momentum. When a falling object hits the ground, the law of conservation of energy requires that the energy be transferred to another object. When a rocket falls it hits the ground the energy is transferred to the outer shell, weakening it. To avoid this, you need to design a recovery system.

Objective

To build a water powered rocket that carry an egg safely and stay in the air for the longest time possible.

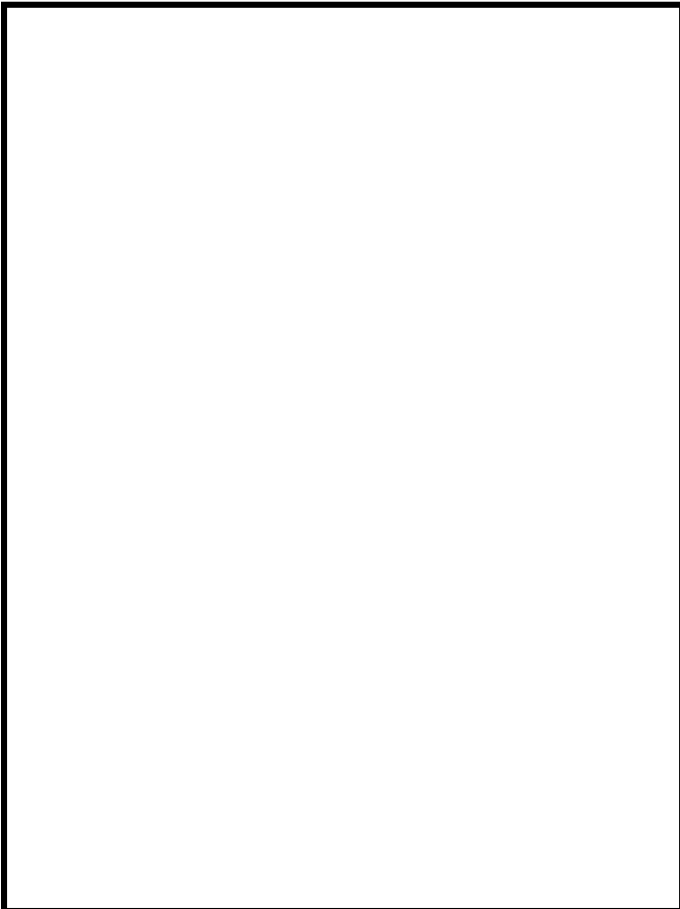
Rules

The rocket must only be made of materials approved by the instructor. Timing will rounded to "tenths" of a second. Each second the rocket is aloft will be given 10 points. A rocket that is judged to be unsafe will not be launched.

Suggested Building Materials

- # 2-liter pop bottles (any color, but the newer the better)
- # Any kind of tape (duct tape or packing tape works well)...any amount
- # Cardboard (several thicknesses)...any amount
- # Plastic/cotton string or fishing line...or basically any other SOFT or bendable material

Draw a rough sketch of your design below



What materials will you need to build your design?

Ex:

- 2 liter bottle → Holds launch pressure
- Plastic Zip-lock bag → Contains the mess

What is the purpose of every material listed?

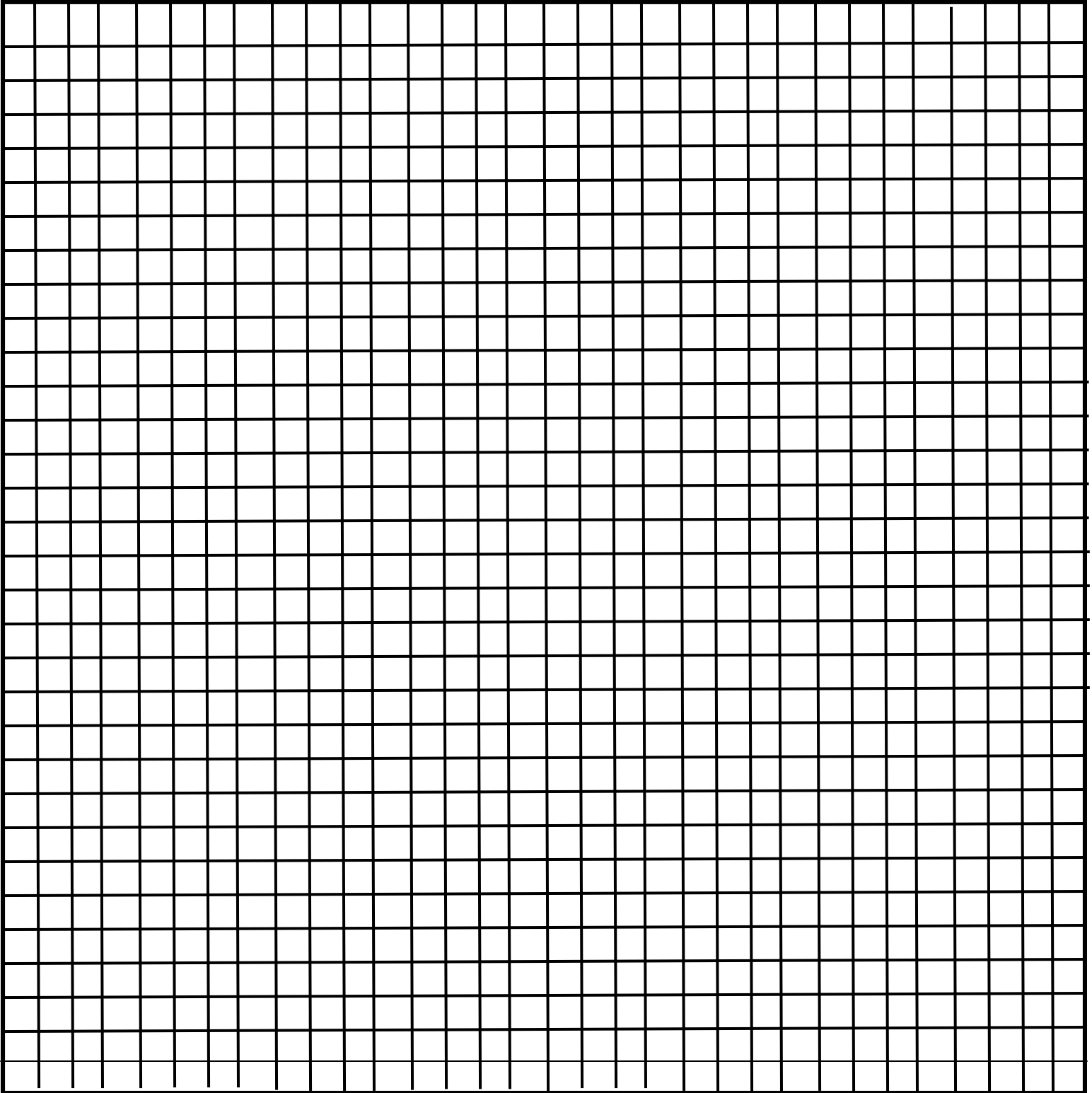
Ex:

- Holds launch pressure
- Contains the mess

Side View

Draw your design out to scale in the area below. Every 3 inches of your design equals 1 inch in the area below. Make sure to include measurements. **Neatness counts**

Name of Design _____

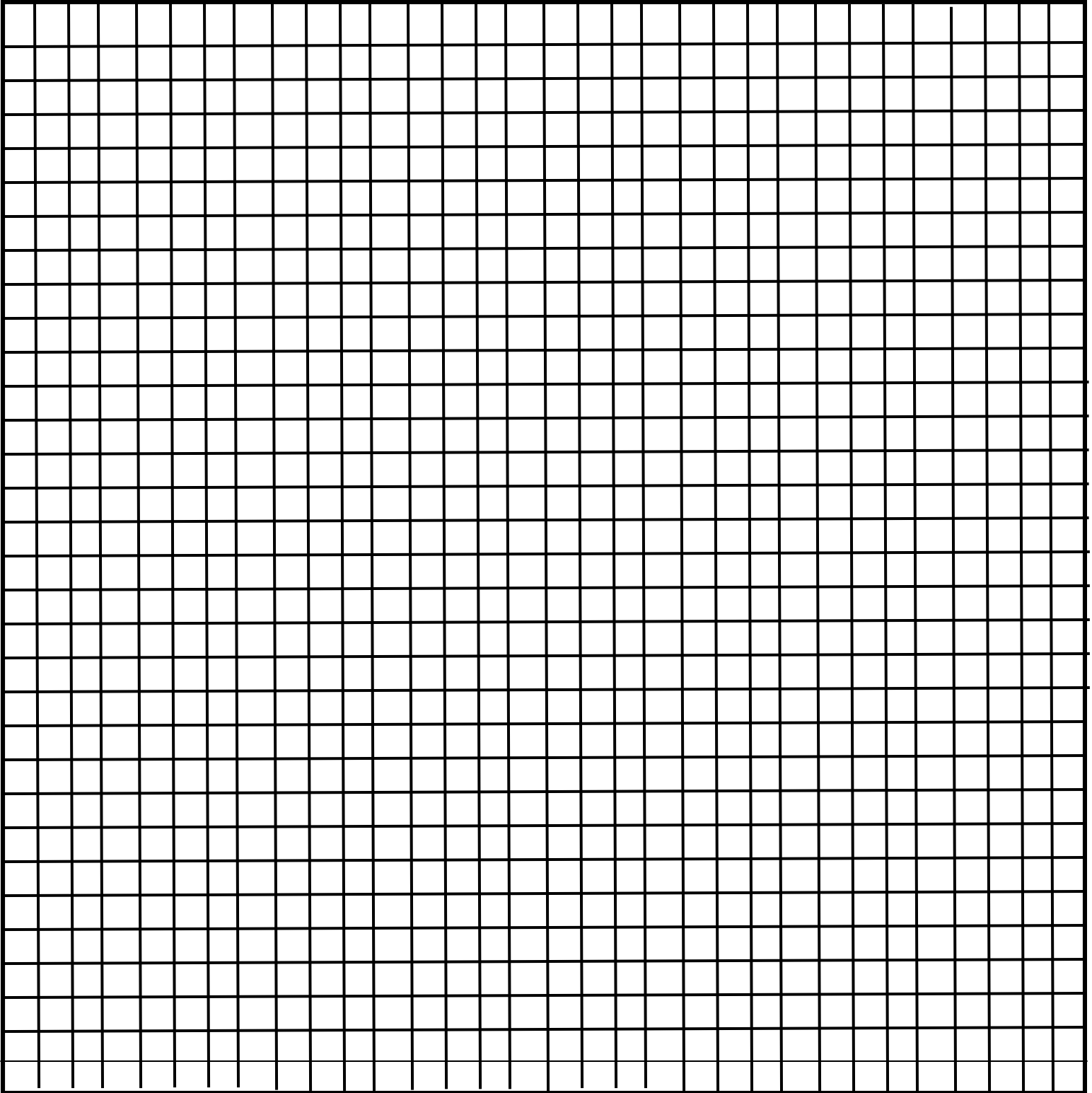


When finished drawing out your design. Color in your design and start to think about where you can find all the materials you will need to create this design.

Top View

Draw your design out to scale in the area below. Every 3 inches of your design equals 1 inch in the area below. Make sure to include measurements. **Neatness counts**

Name of Design _____

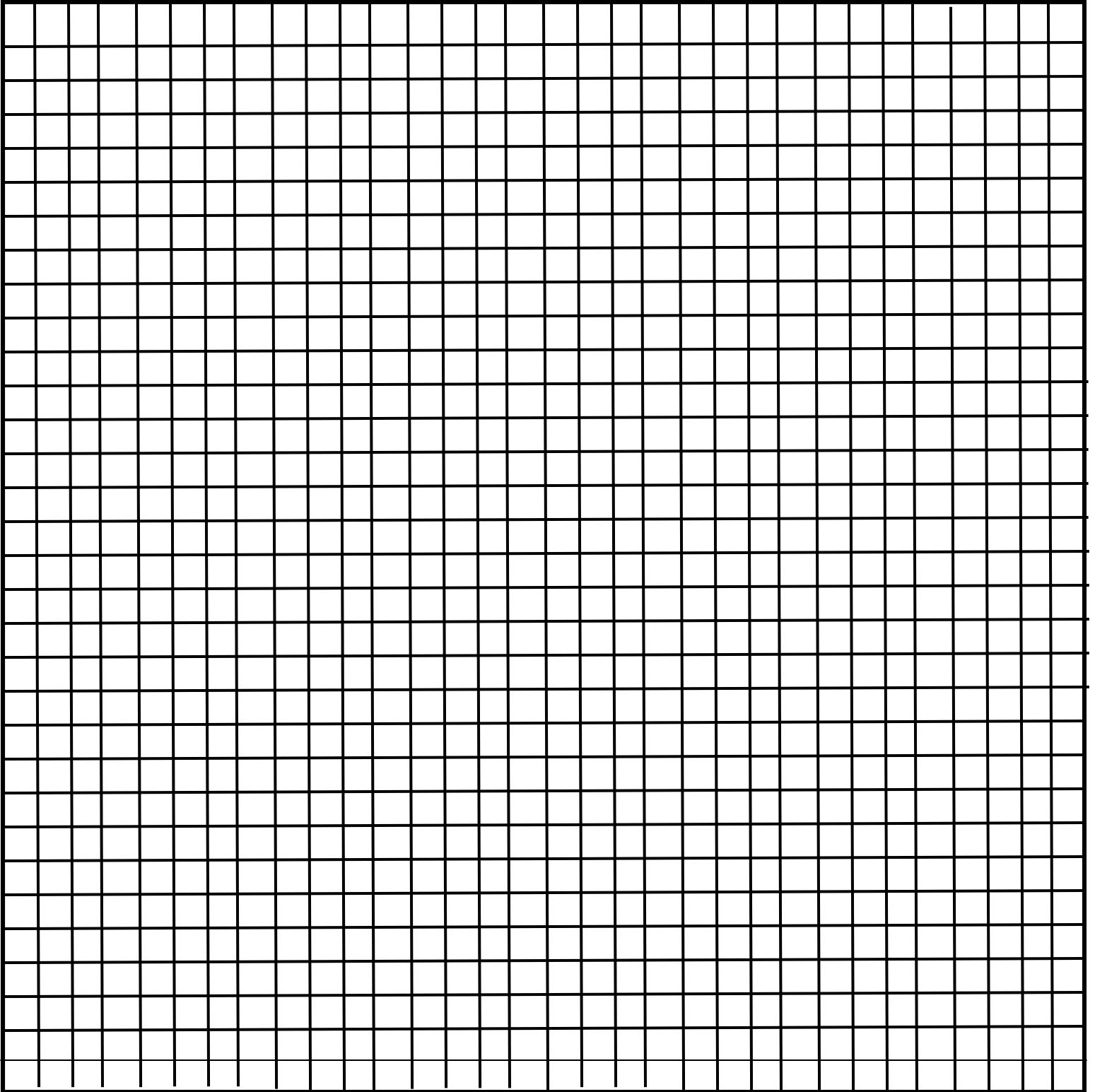


When finished drawing out your design. Color in your design and start to think about where you can find all the materials you will need to create this design.

45° View

Draw your design out to scale in the area below. Every 3 inches of your design equals 1 inch in the area below. Make sure to include measurements. **Neatness counts**

Name of Design _____



When finished drawing out your design. Color in your design and start to think about where you can find all the materials you will need to create this design.