

Structure-Based Designs

1. Cardboard Fortress

- **Description:** Build a multi-layered cardboard structure with reinforced corners.
- **Difficulty Level:** Medium
- **Skills Required:** Basic construction, creativity
- **Tools Required:** Scissors, glue, cardboard boxes
- **Duration:** 1-2 hours
- **Resources:** Cardboard, glue, tape

2. Styrofoam Container

- **Description:** Create a multi-compartment container using styrofoam.
- **Difficulty Level:** Easy
- **Skills Required:** Basic assembly
- **Tools Required:** Scissors, styrofoam, tape
- **Duration:** 30 minutes to 1 hour
- **Resources:** Styrofoam sheets or containers, tape

3. Plastic Bottle Cradle

- **Description:** Construct a cradle using cut plastic bottles for cushioning.
- **Difficulty Level:** Medium
- **Skills Required:** Basic engineering, creativity
- **Tools Required:** Scissors, plastic bottles, tape
- **Duration:** 1-2 hours
- **Resources:** Plastic bottles, tape, glue

4. Egg Crate Shield

- **Description:** Design a layered shield using multiple egg crates.
- **Difficulty Level:** Easy
- **Skills Required:** Basic assembly
- **Tools Required:** Scissors, egg crates, glue
- **Duration:** 1 hour
- **Resources:** Egg crates, glue, tape

5. Foam Block Structure

- **Description:** Build a protective structure using foam blocks.
- **Difficulty Level:** Medium
- **Skills Required:** Basic construction
- **Tools Required:** Foam blocks, glue
- **Duration:** 1 hour
- **Resources:** Foam blocks, glue

6. Paper Mache Box

- **Description:** Create a protective box using paper mache layers.
- **Difficulty Level:** Medium
- **Skills Required:** Paper mache skills
- **Tools Required:** Paper, glue, balloons
- **Duration:** 2-3 hours

- **Resources:** Paper, glue, balloons
- 7. **Wooden Frame**
 - **Description:** Construct a wooden frame with padding inside.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic woodworking
 - **Tools Required:** Wood, nails, padding
 - **Duration:** 2 hours
 - **Resources:** Wood, nails, padding
- 8. **Metal Wire Cage**
 - **Description:** Design a cage using metal wire to protect the egg.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic wire working
 - **Tools Required:** Metal wire, pliers
 - **Duration:** 1 hour
 - **Resources:** Metal wire, pliers
- 9. **PVC Pipe Frame**
 - **Description:** Build a frame using PVC pipes with padding.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic PVC assembly
 - **Tools Required:** PVC pipes, connectors, padding
 - **Duration:** 1-2 hours
 - **Resources:** PVC pipes, connectors, padding
- 10. **Aluminum Foil Cushion**
 - **Description:** Create a cushioned protective layer using aluminum foil.
 - **Difficulty Level:** Easy
 - **Skills Required:** Basic wrapping
 - **Tools Required:** Aluminum foil, tape
 - **Duration:** 30 minutes
 - **Resources:** Aluminum foil, tape

Suspension Designs

1. **Balloon Cushion**
 - **Description:** Surround the egg with inflated balloons secured in a net.
 - **Difficulty Level:** Easy
 - **Skills Required:** Basic assembly
 - **Tools Required:** Balloons, tape, netting
 - **Duration:** 30 minutes
 - **Resources:** Balloons, tape, netting
2. **String and Knot Protection**
 - **Description:** Suspend the egg using a web of strings attached to a central point.
 - **Difficulty Level:** Medium
 - **Skills Required:** Knots and suspension techniques
 - **Tools Required:** String, scissors

- **Duration:** 1 hour
 - **Resources:** String, scissors
3. **Rubber Band Cradle**
- **Description:** Design a flexible support using a network of rubber bands.
 - **Difficulty Level:** Easy
 - **Skills Required:** Basic assembly
 - **Tools Required:** Rubber bands
 - **Duration:** 30 minutes
 - **Resources:** Rubber bands
4. **Suspended Box**
- **Description:** Create a box with an egg suspended inside using strings.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic assembly
 - **Tools Required:** Box, strings, tape
 - **Duration:** 1 hour
 - **Resources:** Box, strings
5. **Elastic Band Suspension**
- **Description:** Use elastic bands to create a bouncy suspension system.
 - **Difficulty Level:** Easy
 - **Skills Required:** Basic assembly
 - **Tools Required:** Elastic bands, container
 - **Duration:** 30 minutes
 - **Resources:** Elastic bands, container
6. **Hanging Net**
- **Description:** Build a net using fabric or mesh to suspend the egg.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic sewing or knotting
 - **Tools Required:** Fabric or mesh, thread or string
 - **Duration:** 1 hour
 - **Resources:** Fabric or mesh, thread
7. **Cloth Sling**
- **Description:** Create a sling using cloth to suspend the egg.
 - **Difficulty Level:** Easy
 - **Skills Required:** Basic sewing
 - **Tools Required:** Cloth, thread
 - **Duration:** 30 minutes
 - **Resources:** Cloth, thread
8. **Spring Suspension**
- **Description:** Utilize springs to suspend and absorb impact for the egg.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic engineering
 - **Tools Required:** Springs, hooks
 - **Duration:** 1 hour
 - **Resources:** Springs, hooks

9. Foam Suspension

- **Description:** Suspend the egg inside a foam-filled container.
- **Difficulty Level:** Medium
- **Skills Required:** Basic assembly
- **Tools Required:** Foam, container
- **Duration:** 1 hour
- **Resources:** Foam, container

10. Magnetic Suspension

- **Description:** Use magnets to suspend the egg in a container.
- **Difficulty Level:** High
- **Skills Required:** Advanced engineering
- **Tools Required:** Magnets, metal parts
- **Duration:** 2 hours
- **Resources:** Magnets, metal parts

Air-Based Designs

1. Air Pillow

- **Description:** Construct a cushion of air by inflating plastic bags or balloons.
- **Difficulty Level:** Medium
- **Skills Required:** Basic engineering
- **Tools Required:** Plastic bags, tape, air pump
- **Duration:** 1 hour
- **Resources:** Plastic bags, tape

2. Bubble Wrap Cocoon

- **Description:** Wrap the egg in multiple layers of bubble wrap for cushioning.
- **Difficulty Level:** Easy
- **Skills Required:** Basic wrapping
- **Tools Required:** Bubble wrap, tape
- **Duration:** 30 minutes
- **Resources:** Bubble wrap, tape

3. Air Cushion Box

- **Description:** Create a box with air-filled cushions inside.
- **Difficulty Level:** Medium
- **Skills Required:** Basic assembly
- **Tools Required:** Plastic bags, tape
- **Duration:** 1 hour
- **Resources:** Plastic bags, tape

4. Inflatable Envelope

- **Description:** Design an inflatable envelope using plastic or rubber.
- **Difficulty Level:** Medium
- **Skills Required:** Basic engineering
- **Tools Required:** Plastic or rubber, air pump
- **Duration:** 1 hour

- **Resources:** Plastic or rubber, air pump
5. **Air Pocket**
- **Description:** Create pockets of air around the egg using inflated balloons.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic assembly
 - **Tools Required:** Balloons, tape
 - **Duration:** 1 hour
 - **Resources:** Balloons, tape
6. **Foam and Air Pad**
- **Description:** Combine foam padding with air-filled pockets for protection.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic assembly
 - **Tools Required:** Foam, plastic bags, tape
 - **Duration:** 1 hour
 - **Resources:** Foam, plastic bags
7. **Blown-Up Balloon Wrap**
- **Description:** Wrap the egg in multiple layers of blown-up balloons.
 - **Difficulty Level:** Easy
 - **Skills Required:** Basic wrapping
 - **Tools Required:** Balloons, tape
 - **Duration:** 30 minutes
 - **Resources:** Balloons, tape
8. **Air-Filled Tube**
- **Description:** Place the egg inside an air-filled tube for impact absorption.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic engineering
 - **Tools Required:** Tube, air pump
 - **Duration:** 1 hour
 - **Resources:** Tube, air pump
9. **Inflatable Pouch**
- **Description:** Design an inflatable pouch to hold and protect the egg.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic engineering
 - **Tools Required:** Inflatable pouch material, air pump
 - **Duration:** 1 hour
 - **Resources:** Inflatable pouch material, air pump
10. **Air-Pocket Cradle**
- **Description:** Create a cradle with multiple air pockets to absorb shock.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic assembly
 - **Tools Required:** Air pockets, cradle material
 - **Duration:** 1 hour
 - **Resources:** Air pockets, cradle material

Combination Designs

1. Hybrid Structures

- **Description:** Combine cardboard, balloons, and bubble wrap for enhanced protection.
- **Difficulty Level:** High
- **Skills Required:** Advanced creativity, engineering
- **Tools Required:** Cardboard, balloons, bubble wrap, tape
- **Duration:** 2-3 hours
- **Resources:** Various materials

2. Innovative Concepts

- **Description:** Develop a unique solution combining elements from multiple categories.
- **Difficulty Level:** High
- **Skills Required:** Advanced problem-solving, creativity
- **Tools Required:** Various materials based on concept
- **Duration:** Variable
- **Resources:** Various materials

3. Multi-Layer Protection

- **Description:** Use layers of different materials like bubble wrap, foam, and cardboard.
- **Difficulty Level:** High
- **Skills Required:** Advanced assembly
- **Tools Required:** Bubble wrap, foam, cardboard, tape
- **Duration:** 2 hours
- **Resources:** Various materials

4. Suspended Cushion

- **Description:** Combine suspension with air cushioning techniques.
- **Difficulty Level:** High
- **Skills Required:** Advanced engineering
- **Tools Required:** Strings, balloons, padding
- **Duration:** 2 hours
- **Resources:** Strings, balloons, padding

5. Bubble Wrap and Balloon Hybrid

- **Description:** Create a hybrid protection system using bubble wrap and balloons.
- **Difficulty Level:** Medium
- **Skills Required:** Basic assembly
- **Tools Required:** Bubble wrap, balloons, tape
- **Duration:** 1 hour
- **Resources:** Bubble wrap, balloons

6. Foam and Cardboard Combo

- **Description:** Use a combination of foam and cardboard for a robust protective design.
- **Difficulty Level:** Medium

- **Skills Required:** Basic construction
 - **Tools Required:** Foam, cardboard, glue
 - **Duration:** 1-2 hours
 - **Resources:** Foam, cardboard
7. **String and Bubble Wrap System**
- **Description:** Create a protection system using a combination of string suspension and bubble wrap.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic assembly
 - **Tools Required:** String, bubble wrap
 - **Duration:** 1 hour
 - **Resources:** String, bubble wrap
8. **Cardboard and Balloon Shield**
- **Description:** Design a shield using both cardboard and inflated balloons.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic assembly
 - **Tools Required:** Cardboard, balloons, tape
 - **Duration:** 1 hour
 - **Resources:** Cardboard, balloons
9. **Bubble Wrap and Styrofoam**
- **Description:** Wrap the egg in a combination of bubble wrap and styrofoam for added protection.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic wrapping
 - **Tools Required:** Bubble wrap, styrofoam, tape
 - **Duration:** 1 hour
 - **Resources:** Bubble wrap, styrofoam
10. **Elastic Band and Foam Cradle**
- **Description:** Combine elastic bands with foam padding to create a flexible cradle.
 - **Difficulty Level:** Medium
 - **Skills Required:** Basic assembly
 - **Tools Required:** Elastic bands, foam
 - **Duration:** 1 hour
 - **Resources:** Elastic bands, foam