# Egg Drop

Student worksheet

Name: _____

Date: _____

**Directions:** Fill out the sections as you work through the engineering design process.

1. **Define the problem.** What problem are you trying to solve? What is your goal?

2. **Do background research.** Do research about existing egg drop projects and other devices designed to protect fragile things (like helmets or air bags). Write at least three of your findings here.

3. **Specify requirements.** What limitations are there on your project? What rules do you have to follow?

4. **Brainstorm solutions.**
    a. Use the space on the next page to draw at least three different ideas for an egg drop device. Label the materials you will use.
    b. After you draw your designs, think of some possible pros and cons for each one and write them down.

# Egg Drop — Page 2

Name: _____

| | |
|---|---|
| **Idea 1** | **Pros:** |
| | **Cons:** |
| **Idea 2** | **Pros:** |
| | **Cons:** |
| **Idea 3** | **Pros:** |
| | **Cons:** |

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Name: _____

5. **Choose a design.** Work with your teammates to choose a *single* design that you will build as a group. Your final design does not need to be identical to one of your initial designs. It can be a combination of different people's ideas.
    a. Draw your group's final design here. Label the materials you will use.

    b. Write at least one sentence explaining why your group chose this design.

6. **Build a prototype.** Build a copy of your final design. You might need to modify your design if things don't fit together like you expected. This is OK. If you encounter any problems when building your prototype, write them down here.

7. **Test and redesign.** Follow your teacher's instructions to test your design. It is OK if your design breaks — that is why you are testing it first! How can you change it to make it stronger?
    a. Write down at least two ways you can improve your design.

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b. Make sketches of the new design(s).

c. Explain at least two key features or functions of your design.

8. **Final testing.** Follow your teacher's instructions for final testing with a real egg. How many drops did your egg survive? Write that number here.