Student name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour: \_\_\_\_\_\_

7th Grade Applications of Technology

Unit Name: Egg Crash Vehicles

10 class periods

**What will you learn in this unit?**

In this unit you will learn how vehicles keep us safe in the event of an accident.

**How will you do this?**

I can talk about different safety devices used in a vehicle and how they can prevent a fatality in the event of a head on collision.

I can write about the materials and tools I will need to build a vehicle which will carry a raw egg.

I can construct a vehicle which will hold a raw egg and move down a ramp, of its own power, to hit a barrier without damaging the egg.

I can write daily what the group is doing so that we can prove that we are on task everyday.

Content objective: 6-8 . TC. 9.: understand and discuss how assistive technologies can benefit all individuals.

**Why is this important for you to know?**

We use vehicles everyday. Whether it is a car, boat, bus, bicycle, train, plane or skateboard, all of these ways to travel can be very dangerous. We need to use the safety devices out there to make sure that we are kept as safe as possible in the event of an accident.

**What careers require knowledge of safety?**

Environmental engineer Air quality specialist Risk management

Water quality specialist Loss control manager Occupational health nurse

Safety specialist Toxicology specialist Loss control

Hygiene specialist Transportation/Fleet safety

**Vocabulary:**

* *Transportation:the action of transporting someone or something or the process of being transported.*
* *Safety: the condition of being protected from or unlikely to cause danger, risk, or injury.*

**Now it's your turn to share.**

Have you ever been in or seen an accident involving a vehicle? \_\_\_\_\_\_\_ Tell me about it. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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What protective gear should anyone who uses a bike, motorcycle, skateboard and rollerblades have on? \_\_\_\_\_\_

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Fun facts about accidents involving vehicles:

#### Worst Car Pile-Ups: Highway 401, Windsor, Ontario, Canada in 1999  87 vehicles caused 8 fatalities and 100 injuried

#### Worst Ferry Disasters: *Dona Paz* ferry off Tablas Strait, Philippines, a ferry with many too many people aboard collided with a tanker in 1987  3,000 fatalities

**Agenda:**

1. Videos on vehicle safety as well as egg crash vehicles as done by other schools. Discuss safety features after watching videos.
2. Read **Egg Crash Vehicle Design Ideas** and draw out three ideas for designs, list the materials you plan to use for each design as well as the tools used. (6 points) On the back side of the paper is the task sheet. You will use this sheet to record what your group does each day (10 points)

3. **Activity (summative):** build a vehicle which will hold a raw egg. The vehicle must have wheels to roll down a ramp under its own power (cannot push it). It must be able to make it down the ramp and then hit a barrier head on. The egg must be able to see and Mrs. Fulton needs to be able to put the egg in and remove it easily. You may use a plastic egg during construction and preliminary testing.

* 5 points for construction which fits the requirements
* 10 points for survival, 8 for a minor crack, no oozing and 5 points for cracking with oozing.(15 points)

6. Reflect: (5 points)

* Tell me about the new information you learned: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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- How does knowing about vehicle safety help you to make choices in how you use transportation ?\_\_\_\_\_\_\_\_

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* What did you enjoy most about this unit? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Extra Credit: Design a safety feature for a bicycle which will prevent injury to a small child who is just learning to ride a two wheel bicycle and cannot seem to get on the bike without the bike tipping over. Draw your design out on printer paper, add color and notes (5 points)

\*\*\*Before turning in this packet check all of your work to make sure it is completed.

This activity needs to be turned in by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Please do not write below this line:

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Design ideas \_\_\_\_\_ / 6 points

Task sheet \_\_\_\_\_ / 10 points

Reflect: \_\_\_\_\_ / 5 points

Total: \_\_\_\_\_ / 21 points

Grade: \_\_\_\_\_\_\_\_

Egg crash vehicle \_\_\_\_\_ / 15 points summative

Extra credit: \_\_\_\_\_ / 5 points

Grade: \_\_\_\_\_\_\_\_