

Objective

By the end of this lesson, you will be able to understand and use roller coaster vocabulary effectively.

Materials and Prep

- Pen and paper
- Computer with internet access
- Access to a roller coaster simulation or video

No specific prior knowledge is required for this lesson.

Activities

1. **Research and Define:** Use the internet or books to research roller coaster vocabulary. Write down the definitions of at least 10 key terms related to roller coasters.
2. **Create Flashcards:** Using the definitions you found, create flashcards for each term. Write the term on one side and the definition on the other side. Use these flashcards to practice and memorize the vocabulary.
3. **Roller Coaster Simulation:** Find a roller coaster simulation online or watch a video of a roller coaster ride. As you watch or experience the simulation, identify and write down any vocabulary terms that are applicable to what you see.
4. **Label a Roller Coaster Diagram:** Using your knowledge of roller coaster vocabulary, find a labeled diagram of a roller coaster online or in a book. Study the labels and try to understand how each term relates to the different parts of the roller coaster.

Talking Points

- **Definition of Roller Coaster:** A roller coaster is a type of amusement ride that consists of a track with steep slopes and sharp curves, usually made of steel or wood, on which cars travel at high speeds.
- **Gravity:** Gravity is the force that pulls objects towards each other. On a roller coaster, gravity is responsible for the acceleration and speed of the cars as they move downhill.
- **Inertia:** Inertia is the tendency of an object to resist changes in its motion. On a roller coaster, inertia is experienced when the cars move in a straight line or maintain their speed while going around curves.
- **Centripetal Force:** Centripetal force is the force that keeps an object moving in a curved path. On a roller coaster, centripetal force is necessary to keep the cars on the track as they go around loops and turns.
- **G-Force:** G-force is the force exerted on an object due to acceleration or gravity. On a roller coaster, riders experience positive and negative G-forces depending on the direction and intensity of the acceleration.
- **Drop:** A drop is a steep descent on a roller coaster track. It provides a thrilling sensation as the cars rapidly lose altitude.
- **Loop:** A loop is a circular element on a roller coaster track where the cars go upside down. It requires sufficient speed and centripetal force to keep the cars on the track.
- **Corkscrew:** A corkscrew is a twisted element on a roller coaster track that rotates the cars in a spiral motion. It adds excitement and variety to the ride.
- **Banked Turn:** A banked turn is a curved section of track that is tilted or angled to the side. It helps to reduce the lateral forces on the riders and allows for smoother turns.
- **Launch:** A launch is a mechanism used to accelerate the roller coaster cars from a stationary position to a high speed in a short distance. It provides a sudden burst of acceleration and excitement.