



collisions™

General Game Guide

Collisions: General Game Guide

Audience: Middle and high school

Subject: Chemistry

Pricing: Subscription model

Platform: Android, iOS, web version

About Collisions

Collisions is a chemistry learning game designed to give high school students a deepened understanding of fundamental chemistry concepts through exploratory game play. Collisions covers a broad range of chemistry topics and showcases chemistry as a system through interconnected experiences that can be played individually or as a whole. Collisions demonstrates through gameplay how different chemistry concepts affect one another. Just like in chemistry, everything in the game is interconnected.

Collisions encourages exploration and discovery by offering a safe environment for players to make mistakes and learn from those mistakes. The actions that the player performs, reflect the real actions of chemistry. The rules of Collisions are grounded in the rules of chemistry, so as students learn to play the game, they simultaneously learn chemistry.

Curriculum Integration

Collisions includes robust game content that cover the following content areas:

- Acids & Bases
 - Atoms
 - Covalent Bonding
 - Ionic Bonding
 - Ions
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Standards Alignment

Collisions is aligned to specific standards from the following sources:

- Next Generation Science Standards
 - For alignment to your state's standards, email educators@playmadagames.com.
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Collisions Overview

Collisions currently has five chemistry content areas. Each content area includes a Sandbox and a series of Challenges. General information about each area is outlined below.

Sandbox

The Sandbox provides an exploratory play environment for students. In each Sandbox, students learn key interactions that will enable them to explore important chemistry concepts during play.

Tutorial (2-5 minutes)

The tutorial introduces key game skills to the player. Each content space has new interactions to learn before play.

Achievements (25 - 45 minutes)

Each Sandbox includes a unique set of Achievements for students to work through. These Achievements will introduce and/or review important chemistry concepts within the content area. As the instructor, you can have students work through all Achievements or assign specific Achievements that align with your lesson's objective.

Extended Play

The Sandbox is not limited to mastering the tutorial and Achievements. We encourage you to use the Sandbox in a manner that most complements your instructional method.

Collisions Overview (cont.)

Challenges

Each content area within the game includes a series of Challenges. The first Challenge level unlocks upon completion of the tutorial in the Sandbox space. Subsequent Challenges unlock upon successful completion of the previous level.

ACIDS & BASES (1 - 2 hours)

- 12 Challenges
- To emphasize the interconnected nature of chemistry:
 - Challenges 9, 10, and 11 connect to the Covalent Bonding content area
 - Challenge 12 connects to the Ionic Bonding content area

ATOMS (45 – 60 minutes)

- 4 Challenges

COVALENT BONDING (1 – 2 hours)

- 6 Challenges
- To emphasize the interconnected nature of chemistry:
 - Challenges 5 and 6 connect to the Atoms content area.

IONIC BONDING (1 - 2 hours)

- 9 Challenges
- To emphasize the interconnected nature of chemistry:
 - Challenges 6 and 7 connect to the Ions content area
 - Challenges 8 and 9 connect to the Acids and Bases content area

IONS (1 – 2 hours)

- 9 Challenges
 - To emphasize the interconnected nature of chemistry:
 - Challenges 8 and 9 connect to the Atoms content area
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