

Cyberchase

Cyberchase Games for All!



AN ACCESSIBILITY GUIDE FOR FAMILIES AND TEACHERS

WELCOME to *Cyberchase's* suite of award-winning Universally Designed Games! These five educational games have been designed from the beginning to be accessible and fun for all children, those with and without disabilities, all while teaching important math and science concepts. With careful consideration given to the graphics, audio, and challenge levels, the games are created for everyone to enjoy. Settings help players personalize their experience further to meet their individual needs and preferences.

Cyberchase's games appeal to many children's wide interests in science and engineering, creativity, and nature. From building a "cyber railway" and designing eco-friendly clothing, to helping migrating ducks find food and reducing noise pollution across Cyberspace, there is a game for every young player!

To help your child get the most out of these games, we recommend you check out the following resources before they play:

- **Making the Game Just Right**
Answers FAQs (frequently asked questions) about accessibility settings available in the game for all children
- **Adjusting the Game for Children with Disabilities**
Provides suggestions for settings that benefit many children with specific disabilities and learning needs, including autism, fine motor difficulties, developmental delays, low vision, blindness, and children who are deaf or hard of hearing.
- **Getting the Most from Cyberchase Games**
Offers tips to enhance and extend your child's learning with each game.



ABOUT THE GAMES

In *Cyber Sound Quest*, Hacker has hidden loud noise makers that are disrupting life throughout the Cybersites. Players use the math concepts of directionality, reading gauges and meters, and simple addition and subtraction to find and quiet the sound makers. Players also learn science concepts of noise pollution and ecology. The full game is available to play in English or Spanish.



In *Cyber Fashion Challenge*, players work with Cyber Fashion Designer Fabio DeZine to create fun and fashionable designs while exploring math concepts of geometry, counting, and simple addition and subtraction, along with science concepts of sustainable design and upcycling. Note: This game is only available to play in English.



In *Duck Dash*, players work with ducks migrating from the Northern Frontier to Restoria to help them find resting places with plenty of food and water. In the process, players explore math concepts of how to manage, organize, display, and evaluate data using graphs, and the science concepts of migration and ecology. Note: This game is only available to play in English.



In *Echo Explorers*, players save bats that Hacker has trapped in a cave by using math concepts of directionality and navigating a grid. Along the way, players also learn science concepts of pollination and echolocation. Note: This game is only available to play in English.



In *Railway Hero*, players repair the Super Cyber Railway after Hacker has stolen the tracks. Players use math problem solving strategies including counting, addition, and spatial reasoning to fill the empty tracks and get the CyberTrain on its way. Note: This game is only available to play in English.

Making the Game Just Right

Cyberchase games are universally designed to be played by children 4-8 years old with fun graphics and sound effects, and a range of challenge levels. They also include a variety of built-in settings to customize the gameplay experience for each child's unique strengths, needs, and preferences. By adjusting sounds, visuals, difficulty level, captions, audio description, and more, you can make the game "just right" for your child.

How do I get to the Settings menu?

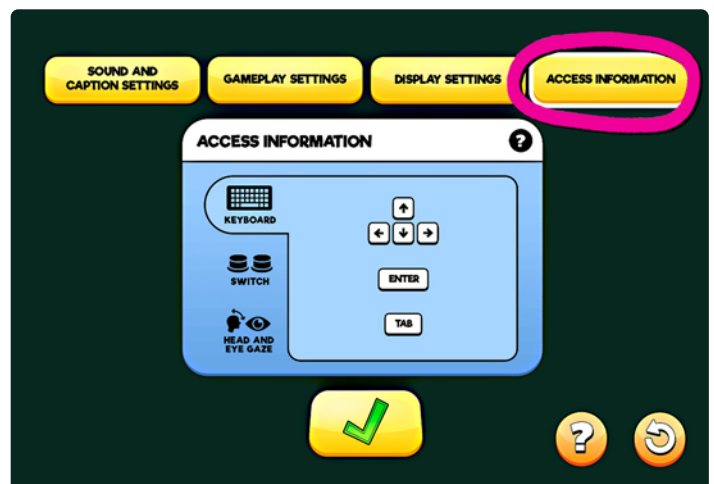
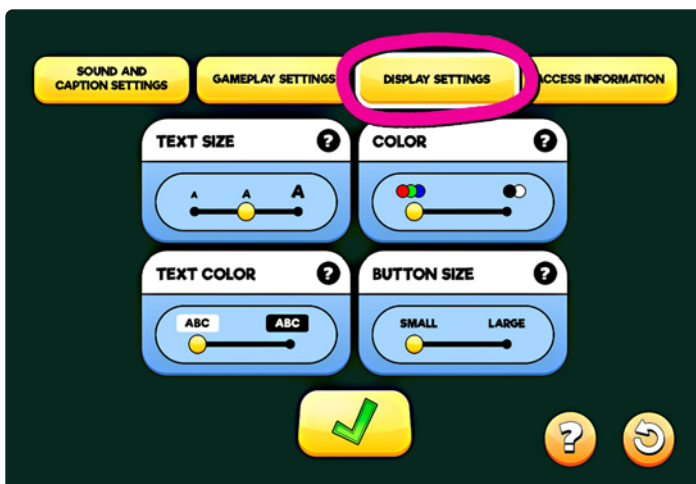
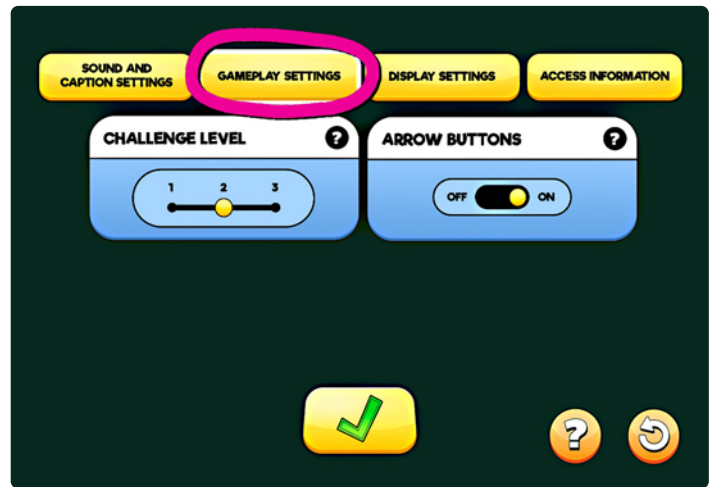
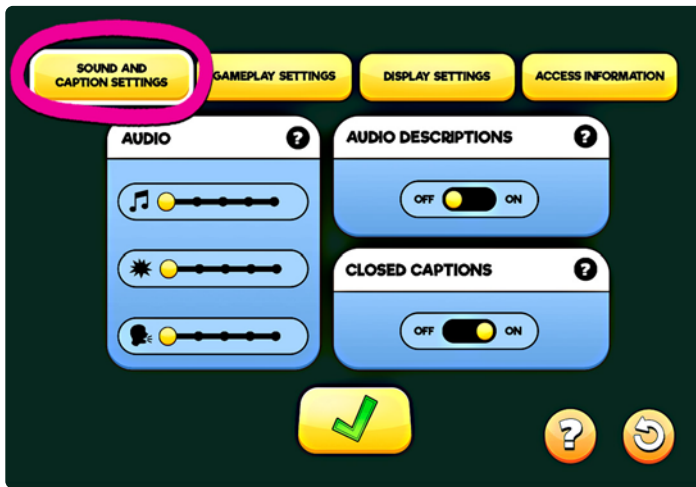


Click on the Settings icon or Set Up button. You'll find it at the bottom of the screen for most of the games.



In *Railway Hero*, use the "CyberTrain Controls" button on the upper right.

Examples of Settings screens from *Cyber Sound Quest*



Making the Game Just Right (continued)

Can I adjust the volume of the voices, music, and sound effects?

YES! You can adjust how loud or soft the voices, music, and sound effects are individually. In the Settings menu, choose the “Sound and Caption Settings” or “Audio” tab and click the volume level you like for voices, sound effects, and music.

Can I adjust the difficulty or challenge level for my child?

YES! Each game has different options you can adjust to better meet your child’s needs and preferences.

- In *Cyber Sound Quest*, *Duck Dash* and *Cyber Fashion Challenge* you can adjust the speed or difficulty of the game by going to Settings, clicking on the “Gameplay Settings” tab and adjusting the speed or difficulty. Lower numbers or moving to the left makes the game easier or slower, higher numbers or moving to the right makes the game harder or faster.
- In *Railway Hero*, you can turn Timed Play on or off. Playing with Timed Play “off” is easier.
- *Echo Explorers* gives several options to make the game easier or harder by going to Settings and then clicking on the “Difficulty Levels, Hints, and Controls” tab.

There are too many distractions in the game. What can I do?

You can adjust how many background visuals are available by clicking on the “Display Settings” tab and then turning the background visuals “off.”

My child has difficulty hearing or processing sounds. How can they play the games?

If your child reads, you can turn the captions on by going to the “Sound and Caption Settings” tab, finding “Closed Captions,” and clicking “on” or “off.” You may also wish to go to the audio settings to adjust the volume of voices, music, and sound effects to focus on the sounds that are critical to playing the game.

It is hard for my child to see the words on the screen. What can I do?

You can adjust the size and color of the text on screen. In the Settings panel, find the “Display Settings” tab. You can click to change the text from white on black to black on white and to change the size of the words.

My child only plays games using a keyboard. Can she play this game?

YES! The entire game can be played with a keyboard. You can play the game with only the tab and enter key if you want. Or, you can use the enter, space, tab, and arrow keys if you prefer.

My child uses a switch device to access computers and games. Can he play this game?

YES! The entire game can be played by using two switches connected to the tab and enter keys. If your child can only use one switch, they can play collaboratively with you or another child with one person using the tab to move the character and the other using the enter key to make selections.

Making the Game Just Right (continued)

My child uses a head or eye gaze tracking device. Can she play this game?

YES! In *Echo Explorers*, *Cyber Fashion Challenge*, *Duck Dash*, and *Cyber Sound Quest*, click or hover over the “Dwell” or “Switch Access” button in the top right-hand corner of the game. This will turn the dwell feature on and off and will allow your child to activate the game controls with their head or eye tracking device.



My child can't see the screen. How can they play the game?

Your child can play by using audio description to guide them through the game. Several of the games provide the option to turn audio description on at the start of the game by pressing Enter or tapping the lower left of the very first game screen. Otherwise, you can go to the settings menu, click on the “Sound and Caption settings” tab, and turn audio description on and off here.

Have questions or feedback? Contact cyberchase@thirteen.org.

Adjusting the Game for Children with Disabilities



Cyberchase used universal design to create five games that kids with a wide range of abilities and learning needs can play. While the games are great for all children and the individualization may help any child, adjusting the settings can be especially helpful for children with disabilities or learning differences. Each child has unique needs and preferences, but the following are settings that may benefit certain groups of children. You can individualize the game by clicking on the Settings icon or Set Up button at the bottom of the screen for most of the games. In *Railway Hero*, use the “CyberTrain Controls” button on the upper right.

NEURODIVERSITY/AUTISM

Children with autism have a wide range of needs and what will benefit one child may make the game more challenging for another. The following are settings that help some children with autism play the game.

- Adjust the **music** and **sound effects** so they are silent or quieter than the game instructions.
- Turn off/reduce the **background images** to better focus on the critical parts of the game.
- Turn on **audio description** to have verbal descriptions of the key visuals and actions.
- Adjust the **difficulty/speed** of the game to your child's level.
- Enlarge the **size of the buttons** in the game to make them easier to activate them.

Adjusting the Game for Children with Disabilities (continued)

FINE MOTOR DIFFICULTIES

Children who have difficulty with precise fine motor skills, you can reduce the fine motor skills needed.

- Enlarge the **size of the buttons** to make them easier to activate.
- Show your child how to play the game with only a few keys. You can use a combination of **railway** to play the entire game.
- If your child uses a **switch**, program it to the tab and enter keys for easy game play with two switches. If your child only uses one switch, they can play collaboratively with another player, with one player moving the character and the other player making selections.
- If your child uses a **head or eye tracking device**, for several of the games, they can turn “dwell” on and off from any screen to use their device to play.



DEVELOPMENTAL DELAYS

Settings can benefit children with developmental delays who may need additional support to play the game.

- Adjust the game to the **easiest or slowest** level to begin game play.
- Some children with developmental delays appreciate **audio description** that verbally describes the most important parts of the game to help them figure out what they need to do.

LOW VISION

Children with low vision may benefit from adjusting the visual and auditory components of the game

- Adjust the **size of buttons** and text on screen.
- Adjust the **colors** of the background.
- Adjust the amount of **visual images** in the background.
- Consider turning on **audio description** to describe what is on the screen.

BLIND

Children who are blind may choose to adjust the audio heard during the game.

- Turn on **audio description** that tells them what is on the screen and how they are moving throughout the game.
- Consider turning down or turning off non-essential audio information such as **music** and **sound effects** to focus on the audio critical for game play.
- Play the game using their **keyboard**. Options include playing with the tab and enter keys or playing with the tab, enter, and arrow keys.

DEAF/HARD OF HEARING

Children who are deaf/hard of hearing may want to adjust audio and captioning options.

- Adjust the volume of **voices**, **music**, and **sound effects** separately to focus on hearing only the sounds that are critical to playing the game.
- For children who can read, turn **captions** on.

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Getting the Most from Cyberchase Games

There are many ways to deepen and extend your child's learning while playing *Cyberchase* games, and even beyond the games.

General Strategies

Game Instructions. It's a good idea to play along with your child the first time, in case they have any questions or need help. If your child cannot figure out how to play the game, have them start the game over and listen to the introduction, which sets up the game narrative and explains the player's goal. Then ask your child to replay the first level and pay close attention to the instructions that guide them through how to play the game.

Personalize the game experience. You can use the game's Settings panel to adjust different features and difficulty levels for your child. See more about how to adjust settings in *Making the Game Just Right* and *Adjusting the Game for Children with Special Needs*.

Co-play the game. Kids can play the game together by taking turns trying different levels. They can learn from each other and practice their social skills at the same time. You can also play along with them by taking turns with game, to help them figure out challenges in the games.

Extend Your Child's Learning

In *Cyber Sound Quest*, Hacker's bots Buzz and Delete have hidden loud noise makers that are disrupting life throughout the Cybersites. Players use the math concepts of directionality, reading gauges and meters, and simple addition and subtraction to find the sound makers and quiet them. They also learn science concepts of noise pollution and ecology. *Cyber Sound Quest* is fully playable English or Spanish.

- *Show your child measuring tools in the real world* that are similar to the sound meters in the game, such as thermometers and fuel gauges. Point out how the pointer or level tells you information. Consider creating a chart for your child to record the temperature every day as a fun way to practice reading a thermometer.
- *Help your child figure out multiple ways to combine two numbers to add up to 10.* Use 10 small objects (10 paper clips, 10 small pieces of candy, etc.) and have your child make two piles. Count the number in each pile and then count the total number. Use math language to show them that adding the two piles together makes 10. For example, if they divide the pile into 3 and 7, ask them to count each pile and then count all of them. Point to each pile and say "3 plus 7 equals 10." See how many different ways they can make two piles that add up to 10.

In *Cyber Fashion Challenge*, players work with Cyber Fashion Designer Fabio DeZine to create fun and fashionable designs. Gameplay explores math concepts of geometry, counting, and simple addition and subtraction, and science concepts of sustainable design and upcycling. Note: This game is only available to play in English.

- *Encourage your child to be creative* by making their own repeating patterns of shapes and colors. Patterns are an important concept in math and science, found in nature and clothing designs.
- *Learn new vocabulary.* As your child progresses through the levels, they will move from encountering simple shapes (circles and squares) to less well-known shapes such as isosceles triangles and decagons (a 10-sided shape). Talk about these terms and what they mean as your child discovers these shapes.

Getting the Most from Cyberchase Games (continued)

In **Duck Dash**, players work with ducks migrating from the Northern Frontier to Restoria to help them find resting places with plenty of food and water. In the process, players explore math concepts of how to manage, organize, display, and evaluate data using graphs, and the science concepts of migration and ecology. Note: This game is only available to play in English.

- *Try out rankings.* After your child has played a few levels, encourage your child to make multiple duck swaps to sort the ducks from highest to lowest energy level. This will help your child make multiple number comparisons and learn to rank numeric values.
- *Use math to make choices in the game.* Help your child choose the best pond for the ducks to land on by creating a number sentence. Start by adding up all the food items (pros) and add up all the problem items (cons). Then subtract the cons from the pros. Your child can do this in their head or write it as a number sentence. Seeing the difference between the number sentences for each pond can help your child make a choice. This helps your child with addition, subtraction, and comparisons.

In **Echo Explorers**, players save the bats that Hacker trapped in a cave by using math concepts of directionality and navigating a grid. Along the way, players also learn science concepts of pollination and echolocation. Note: This game is only available to play in English.

- *Point out strategies for moving around the grid* including using cardinal directions (north, east, south, west) and the grid coordinates (such as B5).
- *Encourage your child to try different strategies* to find all the parts to find out the quickest way to solve each level. For instance, they could send pings only in one direction or they could move through each square on one row or column searching for items. This encourages problem solving while reinforcing cardinal directions and basic map skills.

In **Railway Hero**, players repair the Super Cyber Railway after Hacker has stolen the tracks. Players use math problem solving strategies including counting, addition, and spatial reasoning to fill the empty tracks and get the CyberTrain on its way. Note: This game is only available to play in English.

- *Add it up!* In the first few levels it may be fairly easy for children to figure out which track pieces will fill the gap, but as they move through the game, there will be more ways they could fill each gap. Encourage your child to think of different ways to fill each gap such as completing a 5-space gap with 2 tracks + 3 tracks or 4 tracks + 1 track.
- *Explore adding strategies.* Show your child different strategies to find the right combination of tracks to complete the gap. For instance, the “doubling” strategy would involve filling an 8-piece gap with two track pieces of 4. The “plus one” strategy would fill the 8-piece gap with a 7 piece and a 1 piece. Encourage your child to talk through the strategies they are thinking about.

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