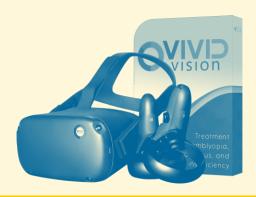


## Home Patient Manual









## Vivid Vision Home Patient Manual

**ACTIVATION CODE:** 

You are a candidate for Vivid Vision Home based on your doctor or eye care professional. This is great news! Vivid Vision Home is the most advanced Virtual Reality software to treat binocular vision disorders. Your eye care professional will choose the games and the settings. All that you have to do is play the games!

#### IMPORTANT! To run Vivid Vision Home, you will need:

- The activation code provided by your eye care professional
- · A virtual reality headset that is supported by Vivid Vision (see Section 4)
- · An internet connection
- · Email capability

#### **PRECAUTIONS**

- Vivid Vision Home may only be used under the supervision of a trained eye care professional. Follow all instructions and guidelines set forth by your eye care professional.
- If you feel nausea, dizziness, or headaches take off the headset immediately and consult your doctor. Failing to do so may result in injury or/and exacerbation of your current disorder.
- · Vision training may cause temporary symptoms of eye strain, which may include blurred vision, a tired sensation, dry, irritated, or watery eyes, and fatigue.
- · Vivid Vision Home is being provided to you by your eye care professional as a supplemental method for treating binocular disorders. It does not replace other therapies your provider recommends, such as in-office exercises, athome exercises, wearing an eye patch, or eye muscle surgery.
- · Adult supervision required when using Vivid Vision.
- If using a corded headset, make sure that the cable connecting the VR hardware to a personal computer is safely positioned to avoid any tangling or tripping over it.
- · Vivid Vision software requires the use of commercial off-the-shelf virtual reality hardware (see Section 4) recommended by Vivid Vision. Carefully read all instructions, limitations, and precautions in the Health, Safety, and Warranty Guide provided with the selected commercially available headset.

#### INDICATED USE

Vivid Vision is a computer-based application with data tracking and analysis tools. The device is intended to identify strabismus (eye muscle imbalance), to assess binocular vision (use of both eyes to see), to treat suppression and amblyopia (dimness of vision without any apparent disease of the eye), and to treat problems of vergence (inability to direct the two eyes at the same location).

#### INTENDED USER POPULATIONS

Vivid Vision Home is prescribed by an eye care professional to individuals to use in support of the individual's prescribed treatment rehabilitation program for binocular vision disorders.

#### INTENDED USE ENVIRONMENT

Vivid Vision Home is intended for use in a standard living or office environment with adult supervision.

## Section 1: Table of Contents

What's in this Patient Manual

Table of Contents
What's in this Patient Manual

How to Play the Games and Activities

An overview of each and every game and activity you'll find in Vivid Vision Home

- Definitions and Terms
  Glossary of terms and used in this user manual
- Frequently Asked Questions (FAQ)
  Answers to all of the most frequently
  asked questions
- Getting Started

  How to get started using Vivid Vision Home with your eye care professional
- 7 Contact Information
  If you need to get in touch with us for any reason, you can find out how to reach us here

4 Supported Hardware
Hardware (headsets, computers, smartphones)
supported by

## Section 2: Terms and Definitions

Used in this manual

#### **Eye and Vision Terms**

Amblyopia - commonly known as lazy eye, reduced vision or dimness of vision without any apparent disease of the eye; may occur in one or both eyes due to unequal refractive error (glasses/lenses correction), eye turn, or both

**Binocular vision** - use of both eyes together to see; the highest level of binocular vision is stereo vision

**Diplopia** - also known as double vision; seeing two of a single object

**Strabismus** - commonly known as eye turn and sometimes lazy eye; an eye muscle imbalance where an eye deviates abnormally from straight-ahead; may be constant or intermittent

**Suppression** - a subconscious adaptation some patients use to eliminate double vision

**Stereo vision / stereopsis** - depth perception that relies on using both eyes together

**Vergence** - ability to move and direct the two eyes at the same location

#### Hardware and Software Terms

**Headset** - virtual reality head-mounted hardware

Personal computer (PC) - your own computer

Smartphone - cellular phone with internet capability

**Virtual reality (VR)** - immersive, three-dimensional environment used by games in Vivid Vision

**VR-ready PC** - a personal computer (laptop or desktop unit) that meets the minimum required specifications to operate a VR headset

## Section 3: Getting Started

What is Vivid Vision?

**Vivid Vision** is a virtual reality (VR) software that uses separately obtained standard VR headsets to deliver games and activities that help patients improve their binocular vision. The Vivid Vision software is only available from an eye care professional, such as an optometrist or ophthalmologist. Your eye care professional determines (1) which Vivid Vision games and activities will be used for your specific treatment, (2) all settings, such as the difficulty and time of play for the games and activities, and (3) how often to re-evaluate your condition in the eye care professional's office.



## Getting Started

- Prescription
  You are prescribed Vivid Vision
  Home by your Vivid Vision eye care
  professional.
- 2 Doctor Activation
  Your eye care professional will activate your Vivid Vision Home account.
- Setup Your Hardware
  Vivid Vision can be used with multiple different VR headsets.
- Patient Activation
  Follow the link in your activation email.
- Begin!
  Get ready to start your activities in virtual reality!

- Your eye care professional will determine if you are a candidate for Vivid Vision Home's virtual reality software for binocular vision disorders.
- Your eye care professional will activate Vivid Vision Home with the email address that you have provided to them.
- Vivid Vision software can be used with multiple Vivid Vision recommended VR platforms. Select the platform that makes the most sense for you. Hardware must be purchased or owned by the patient. Most patients will use either a smartphone-based headset or an all-in-one headset. See section 4 for a comparison of supported headsets.
- Follow the link provided in the activation email that was sent when your eye care professional activated Vivid Vision Home. This link will walk you through the hardware supported by Vivid Vision Home, registering a Vivid Vision Home account, activating the Vivid Vision Home license, and installing/downloading Vivid Vision Home.
- Put on the headset and play the games and activities! Your eyecare professional has already configured all the settings and games. How to play the specific games you were prescribed is described in Section 6.

Go to SeeVividly.com/home to start setting up your account or to request support.







## Section 4: Supported Hardware

Visit SeeVividly.com/home for instructions on configuring your device

#### **VR-Ready Phone Headsets**

GearVR / Daydream

#### All-in-One Headsets

Oculus Go / Oculus Quest / Pico Goblin

#### **PC Headsets**

Rift/Rift S/Vive/Vive Pro/Windows MR

















- · Android-based mobile headset
- · Portable / wireless headset
- VR-ready phone required (see the latest GearVR- and Daydream supported devices on the website)
- · Android-based mobile headset
- · Portable / wireless headset
- · Most affordable
- · No phone or computer required

- · Better gaming experience than the mobile headsets
- Requires a computer system per manufacturer's specifications

#### Additional Hardware Required

GearVR / Daydream Remote (Recommended) or SteelSeries Stratus XL (discontinuing support January 2019)

## Additional Hardware Included with Headset

Pico / Go remote or Touch controllers

#### Additional Hardware Required

VR Ready PC Visit SeeVividly.com/home for the minimum necessary PC specs

# Section 5: How to Play the Games & Activities



The games and activities of Vivid Vision help train the brain to use both eyes together. Your eye care professional sets the sequence of games and activities available on your Home device and will instruct you on how often to use Vivid Vision.

To start a session, launch Vivid Vision through the Vivid Vision application on your smartphone, all-in-one headset, or PC. Log in and begin playing the games!

## HOOPIE

Ready for some basketball action?
Let's shoot some hoops! Catch basketballs in your hoop as they float towards you by moving your head up, down, left, and right.



#### **CATCH BASKETBALLS**

Basketballs will be shot from the hoop on the other side of the court. Move your head left and right and up and down to catch them into the basket.



#### AVOID X'S

If a ball is marked with a large white X, dodge it.



#### CATCH O'S

If a ball is marked with a large white O, catch it.



# Head Tracking Control Move your head to control the basket



#### Moving in VR

Moving your head will move the hoop.



#### Catching Basketballs

As the ball approaches the hoop, catch it by matching your head's position with the ball's trajectory.



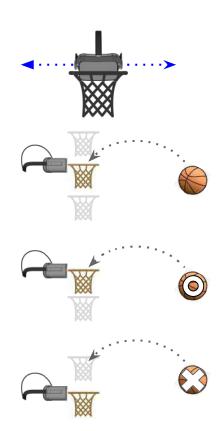
#### O Basketballs

If the ball has an O marker, catch it by aligning your head position with the ball's trajectory.



#### X Basketballs

If the ball has an X marker, avoid catching it by moving your head left or right.



## RING RUNNER

Calling all captains! Help fly a spaceship through the rings over Saturn and collect as many upgrades as possible while dodging asteroids.



#### **FLY THROUGH BOOST RINGS**

Navigate your ship through the boost rings with blue arrows and avoid the slow rings with red arrows.



#### **BLOW UP ASTEROIDS**

Three triangles follow where your head is pointed. Point your head at an asteroid to lock on it and fire your ship's lasers to collect additional powerups.



#### **REACH YOUR TOP SPEED**

Rings with red arrows and asteroids slow you down! Collect only rings with powerups or blue symbols to reach your top speed.



#### Remotes

#### **VR Controllers**

Control the ship with the joystick.

Control the ship with the remote.

Point the VR controller to control the ship







Joystick

Move ship

A Button

Fire Lasers

X Button Shield

Move Remote Move ship

Hold Down Touchpad or (-) Button Settings

Trigger/ Click Touchpad
Fire lasers

Click Touchpad/ (-) Button Shield



Hand Trigger
Fire lasers

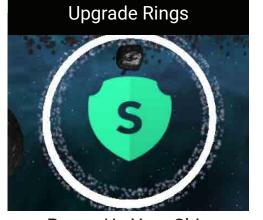
Opposite Hand Trigger Shield



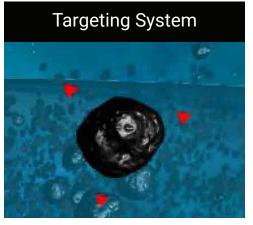
Fly Through Blue Arrows
Blue arrows speed up the ship. The
more arrows in a ring, the faster your
ship will fly.



Avoid Red Down Arrows
Red markers slow you down—make
sure to pilot your ship away from
them!



Power Up Your Ship
Powerups will make your ship
stronger. You can improve your laser
or targeting system, or get a shield
that protects you from asteroids.



**Destroy Asteroids**Use your head to point and lock on an asteroid or crystal so you can destroy it with your laser!

## BREAKER

Ready for some brick-breaking action? Bounce the ball off of your paddle to destroy bricks on the opposite side of the arena.



#### DON'T LET THE BALL GET PAST YOU

To start, hit the red ball with one of your paddles. Move the paddle to block the red ball. You will lose a life if the ball gets past you!



#### **DESTROY THE BRICKS**

Destroy all the bricks on the opposite side of the arena to continue to the next level. Higher levels mean stronger bricks! If you lose all of your lives, you'll be reset to level 1.



#### **COLLECT BONUSES**

Destroy tiles to spawn bonuses. Collect the bonuses to increase your lives, score, or active balls. Avoid red markers, which cost you lives!



Control the paddle with the joystick.

#### Remotes

Control the paddle with the remote.

#### **VR Controllers**

Left and right hands move independently











Move Remote
Move paddle

Hold Down Touchpad or (-) Button
Settings

Right Hand Controller

Move paddle

Left Hand Controller

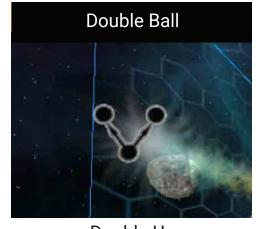
Move paddle



Store Extra Lives
Increase your extra lives by the
number inside the powerup. When
you lose your last life, you'll be back
at level 1!



Beat Your Top Score
Score multipliers help increase your score for the current round. They keep stacking up as long as you don't lose a life!



Double Up
Double ball powerups make a copy
of every ball currently in the arena.
They can make quick work of any
level!



Avoid These! Minus life penalties steal between 1 and 5 lives when collected. Avoid them as best you can!

## PEPPER PICKER

Let's spend some time in the garden! You planted a nice garden full of peppers—time to pick them! Search around yourself for a ripe pepper matching the current order and drop it into your basket.



#### **GET A NEW ORDER**

Get your order from the order list displayed on the wood sign. Find all of the peppers on the list to complete the round. Don't pick fruits or peppers not on the list!



#### FIND THE PEPPERS

Some peppers may be hard to find until they ripen. Be gentle! If you are too rough the pepper will fall to the ground before you grab it.



#### DROP IT INTO THE BASKET

Once you have the right pepper in your hand, turn and drop it into the basket. Once you have found all of the peppers in the order, you'll get a new order!



Hands move together and follow the head.

#### Remotes

Control the hands with the remote.

#### **VR Controllers**

Left and right hands move independently











**Move Remote**Move hand forward or backward

Hold Down Touchpad or (-) Button Settings

> Trigger / Click Touchpad Close hands

Right Hand Controller Move right hand

Left Hand Controller
Move left hand

Right Hand Trigger Close right hand

Left Hand Trigger
Close left hand

#### Pick Peppers with your Hands



Move your head to search for a pepper. Move the hands forward then bring your hands together to grab it.

#### Drop Them in the Basket



Move your hands over the basket and then release the pepper so it falls in. Find your next order on the order list!



Drop the white flag in the basket if you can't find a pepper to reset the scene at a lower level.

## BUBBLES

POP POP! Let's pop some bubbles! Use the pointer to pop the bubbles closest to your face. The better you do, the more bubbles you can pop.



#### POP THE CLOSEST BUBBLE

A group of bubbles will appear at different distances. One bubble will be in front. Pop the closest bubble!



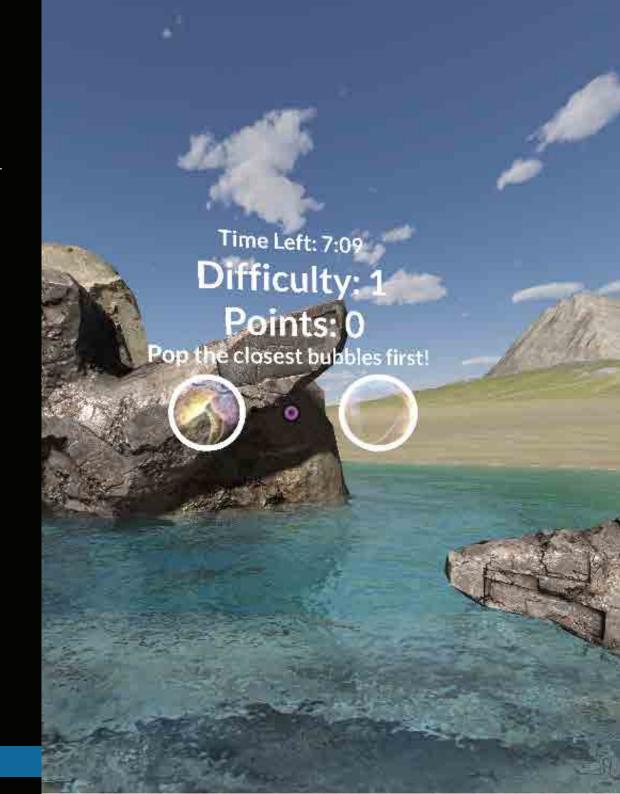
#### KEEP ON POPPIN'

Once you pop the bubble closest to you, pop the next closest, and the next. If there is only one bubble left, pop that one too!



#### SPEED AND ACCURACY

Get points for both speed and accuracy. The faster you pop them in the correct order, the better your score! A green + means you were correct!



Control the pointer with the joystick.

#### Remotes

Use the remote to control the pointer.

#### **VR Controllers**

Left and right hands move independently











Touchpad
Move remote

Hold Down Touchpad or (-) Button
Settings

Click Touchpad Pop bubble Right Hand Controller
Move right hand

Left Hand Controller
Move left hand

#### Pop Bubbles with the Gamepad



Use the joystick to move the pointer towards the closest and smallest bubble and press **A** to pop it.

#### Pop Bubbles with the Remote



Move your remote to move the pointer, then click the touchpad/trigger to pop the bubble.

#### Pop Bubbles with your hands



Use your left or right hand controller to pop the bubbles in order from closest to farthest.

## BULLSEYE

The carnival has come to town—hit the closest target with only stereo vision cues.



#### STEP RIGHT UP!

Shoot distant targets with your water gun to win a prize at the carnival.



#### SHOOT THE CLOSEST TARGET

For each trial, shoot the one target that looks closer than the others.



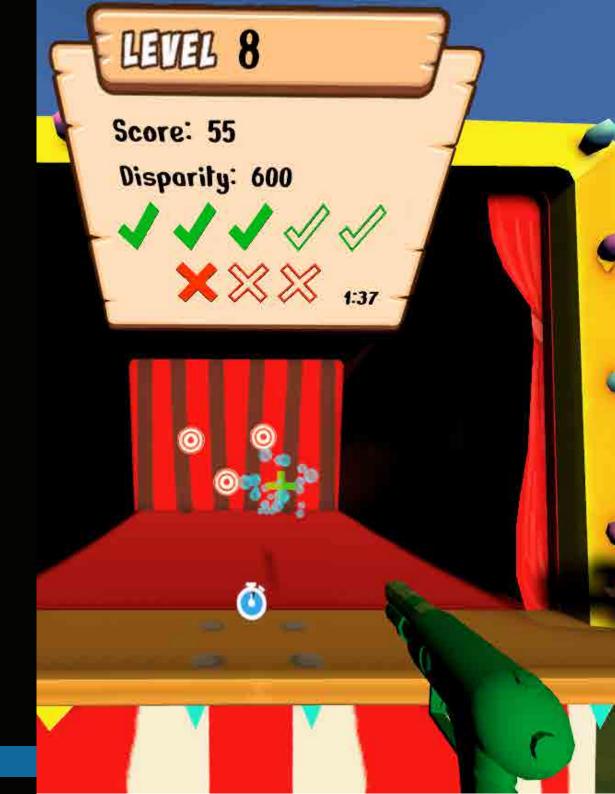
#### **GETTING HARDER...**

Each level becomes slightly harder. The better you do, the more prizes you'll win for the session!



#### **CHALLENGE YOURSELF**

Go for speed and accuracy!



#### Remotes

#### VR Controllers

Control the pointer with the joystick.

Use the remote to control the pointer.

Switch hands by pulling the trigger









**Joystick**Move pointer



A Button Shoot water gun

Move Remote

Move pointer

Trigger / Click Touchpad Shoot water gun

Hold Down Touchpad / Hold Down (-) Button Settings

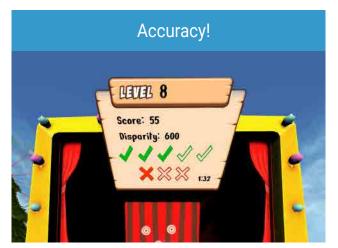


Right Trigger
Shoot water gun (right hand)

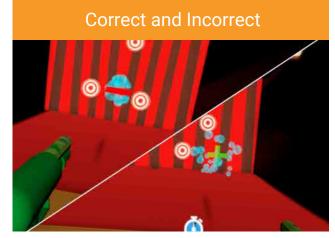
**Left Trigger**Shoot water gun (left hand)

# Shoot Distant Targets

Use the water gun to shoot targets in the carnival booth.



Get 5 correct and move to the next level! Miss 3 and you'll go down a level!



A green + indicates the correct target was shot. A red — means the selection was incorrect.

## FLASH MATCH

LOOK CLOSELY! Flash Match is a game designed to challenge visual processing skills. Your clinician will assign you different visual processing modules. Modules may include:



#### VISUAL DISCRIMINATION

Find the floating target that matches the image in the scene.



#### VISUAL MEMORY

An image is displayed for a short period of time. Find the floating target that matches the flashed image.



#### SEQUENTIAL MEMORY

A series of images is displayed for a short period of time. Find the floating target that matches the flashed images and select them in the order they were displayed.



#### SPATIAL RELATIONSHIPS

Find the one target that looks different from all the others in the scene.

Pay **careful attention** to the instructions in the game and use your laser pointer to zap the floating targets!

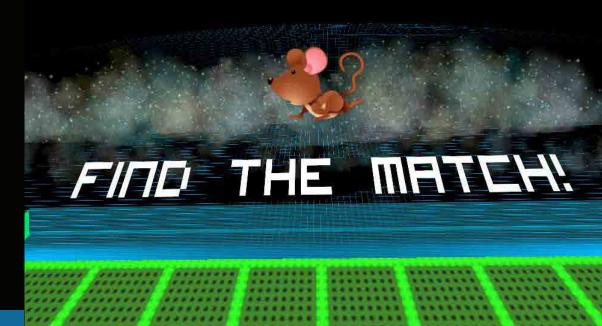
## LEVEL L











#### Remotes

#### **VR Controllers**

Control the pointer with the joystick.

Use the remote to control the pointer.

Left and right hands move independently











Move Remote
Move pointer

Hold Down Touchpad or (-) Button
Settings

Click Touchpad/Trigger
Shoot laser

Right Hand Controller
Move right hand laser pointer

**Left Hand Controller** *Move left hand laser pointer* 

**Trigger**Shoot lasers

#### Zap Targets with the Gamepad



Use the joystick to move the pointer towards the floating target and press  ${\bf A}$  to fire your laser.

#### Zap Targets with the Remote



Move your remote to move the pointer, then click the touchpad/trigger to fire your laser.

#### Zap Targets with Your Hands



Use your left or right hand controller to move the laser pointers and the trigger to fire your laser.

## TURBO

Speed and accuracy are critical. Tap or select floating targets as quickly and accurately as possible. Your clinician will assign you different modules to challenge oculomotor, processing, and reaction skills.



#### **CONTRAST MODULE**

Targets light up. Quickly select the lit up target.



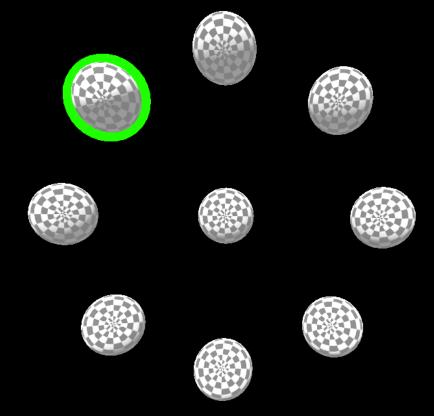
#### STEREO MODULE

A bit of a challenge! Look for the target that appears to pop out of the scene.



#### MEMORY MODULE

Memorize and recall the series of numbers. Select the numbers in the order they were displayed.



#### Remotes

#### **VR Controllers**

Not available for Turbo

Use the remote to control the pointer.

Left and right hands move independently







Move Remote
Move pointer

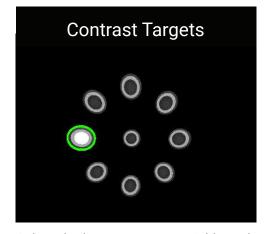
Hold Down Touchpad or (-) Button
Settings

Click Touchpad/Trigger

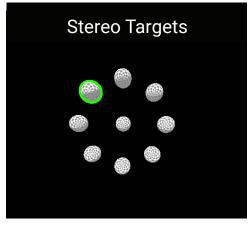
Select target

Right Hand Controller
Move right hand

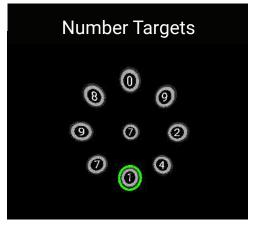
Left Hand Controller
Move left hand



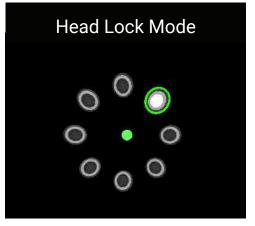
Select the lit-up target as quickly and accurately as possible.



Select the target that appears to pop out as quickly and accurately as possible.



Memorize the order of the numbers and select the targets in order



Keep your head pointed straight at the circle. Use your eyes and hands to find the correct target.

## BARNYARD BOUNCE

Your barn is hoppin'! Help your animal hop up the platforms and collect powerups along the way! Your clinician sets the game to convergence or divergence - you just need to keep on climbing!



#### **UNLOCK ANIMALS**

Unlock animals as you play. Each animal has a special ability to help you hop through the world



#### **COLLECT GOLD STARS**

The higher you hop, the more gold stars you'll find!



#### **FLY TO GATHER EGGS**

Move your animal left and right during the golden egg event. Try to line your animal up as precisely as possible during each egg event.







#### Remotes

#### **VR Controllers**

Control the animal with the joystick. Move the remote to move the animal.

Move the controller to move the animal.











Move Remote Move animal

Hold Down Touchpad or (-) Button Settings

Click Touchpad/Trigger
Special ability

Right Hand Controller Move animal with right hand

**Left Hand Controller** *Move animal with left hand* 

**Trigger**Special ability



Jump Higher!
Red powerups give you a boost double your jumping ability for 10
seconds!



Energy!
Refill your energy bar to the max with a blue powerup.



Fly!
Soar to new levels with a gust of wind!



Accuracy!
Line your animal up with the eggs
during the golden egg event!

# VERGENCE & JUMP DUCTION

Let's work out those eye muscles! Vergence and jump duction are designed to improve eye teamwork. Work on fusing images over a wide range.



#### FIND THE CLOSEST BUBBLE

Bubbles will appear at different distances away from you. Select the one that is closest to you. Only one is closer than the others.



#### SELECT A BUBBLE

Use the buttons on your gamepad, remote, or controller to select the bubble that looks closest and different to you compared to the other three.



#### IF YOU SEE DOUBLE, TRY FUSING

Sometimes the image may look double. That's ok! Try to focus and make it a single image. When this gets too hard, the program will make it easier.

Vergence: 0.00

**Ball Spacing: 0** 

Step Size: 1

Ball Size: 5

Time Left: 03:41

Correct: 0/0



Gamepad	Remotes	VR Controllers
Use buttons to select a bubble.	Move remote and use touchpad/trigger to select a bubble.	Move controller then pull trigger to select a bubble.
	Move Remote  Move pointer  Click Touchpad/Trigger  Select bubble	Move Controller Move pointer towards a bubble Trigger Select bubble Click Touchpad (Vive) Select bubble
<b>Buttons</b> Select bubble		

## ANGLES TEST

Let's run a test. The Angles Test is designed to estimate your eye position using the VR headset.



#### LINE UP THE TARGETS

Move the targets and try to place the white circle in the center of the black ring. The goal is for the colored arrows to line up.



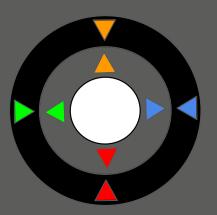
#### **ROTATE THE TARGETS**

If the white circle is tilted with respect to the black ring, rotate it until the tips of the colored triangles are lined up as best you can!



#### **REPEAT**

Once the white circle and the black ring are aligned with all triangles pointing to their matching color, confirm. You will repeat the process a number of times, so don't worry if it's not perfect.



#### Remotes

#### **VR Controllers**

Use joystick, triggers, and A button.

Move remote to move and rotate targets. Requires both Mode 1 and Mode 2.

Move controller to move and rotate targets Requires both Mode 1 and Mode 2.









Joystick Move white circle

**Left Trigger** *Rotate left* 



A Button Continue to next step

Right Trigger Rotate right

#### Touchpad / Controller

Mode 1: Move targets by moving remote Rotate target left/right by moving remote

Trigger / Click Touchpad
Continue to next step

Click Joystick / Touchpad Change modes

#### **Move Controller**

Mode 1: Move targets Mode 2: Rotate target left/right

#### Trigger

Continue to next step



**Start**The targets begin offset.



Align
Move the targets with the joystick or touchpad so that the white circle is in the center of the black ring.



Rotate
Use the controller or remote to rotate the targets into place.



Submit

Press A or click trigger or touchpad when the targets are as closely aligned as possible.

## Section 6: Frequently Asked Questions

Should I be wearing my glasses or contact lenses? You should be wearing the glasses or prescription contact lenses prescribed by your eye care professional, unless instructed otherwise by your eye care professional.

## What should I do if I feel nausea or sick when playing?

Immediately stop playing and consult with your eye care professional. Virtual reality can cause motion sickness in some individuals.

What devices can I use for Vivid Vision Home? Please visit www.SeeVividly.com/home for an up-to-date list of supported devices.

#### Should I be sitting or standing when playing the games?

For mobile headsets it is recommended to sit. For computerbased headsets with a positional sensor, you can stand and move in the game.

#### Can I use Vivid Vision Home without a doctor?

Since Vivid Vision Home is used to treat a medical condition, it must be used under the supervision of an optometrist or ophthalmologist.

#### How long and how often should I play?

Your eye care professional will develop a customized treatment plan for you regarding game and activity length.

#### What if I have questions about my treatment?

Only a trained eye care professional can answer questions about your health and your treatment using Vivid Vision Home. Please direct these questions to your Vivid Vision professional.

# CONTACT US Share your feedback!



We want to hear about your experience with Vivid Vision Home.
To let us know your story, send an email to contact@seevividly.com





