Fun Activities for Teaching Kids to Use Monocular Telescopes on a Low Budget

November 13th, 2017

3-4pm

Presented by

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Developed for Texas School for the Blind & Visually Impaired Outreach Programs

Outreach Programs Events Update:

- For upcoming webinars: http://www.tsbvi.edu/2015-10-17-20-13-33/webinar-listings
- For upcoming workshops and conferences: http://www.tsbvi.edu/2015-10-17-20-13-33/outreach-workshops-conferences
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Housekeeping

- Download handouts and sign-in roster
- Send sign-in roster to sobeckb@tsbvi.edu or fax to 512-206-9320
- Make sure you registered and complete evaluation within 60 days including code for ACVREP/SBEC credit
- View captions in a separate window at https://tcc.1capapp.com/event/tsbvi/embed
- The code will be announced during the presentation

Adobe Connect Webinar Tour

- For tips about screen navigation go to http://www.connectusers.com/tutorials/2008/11/meeting_accessibility/
- Location of pods
- Power Point content included in your handout
- Poll participation – enter response in chat if you cannot access the poll

Link to enter room: http://tsbvi.adobeconnect.com/monoculars/

Talking Points: Monocular Games & Fun Activities

Typical Monoculars

Figure 1 Various monocular telescopes typically prescribed by the low vision specialist

- There is a range of powers represented here. Some are adequate for classroom distances, whereas others will work better for greater distances.

Monoculars are used for:

- Calendar time
- Field trips and sporting events
- Reading/Copying from charts, whiteboard, overhead screen
- Information attached to classroom walls
- P.E. demonstrations
- Assemblies
- Locating street signs/house numbers
- Fast food restaurants

Games can help teach:

- We'd like to suggest you spend training time on games and fun activities
- These are monocular skills games can teach
    - Spotting
    - Focusing
    - Tracking
    - Tracing
    - Copying

Feed a Frog

Figure 2 A green plastic frog toy with red feet

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Figure 3 Multiple plastic toy insects of various colors

Modifying Targets

Figure 4 Orange toy fly on yellow paper with number 2 written in lower right corner

Figure 5 Brown object on pink paper with number 8 written in lower right corner
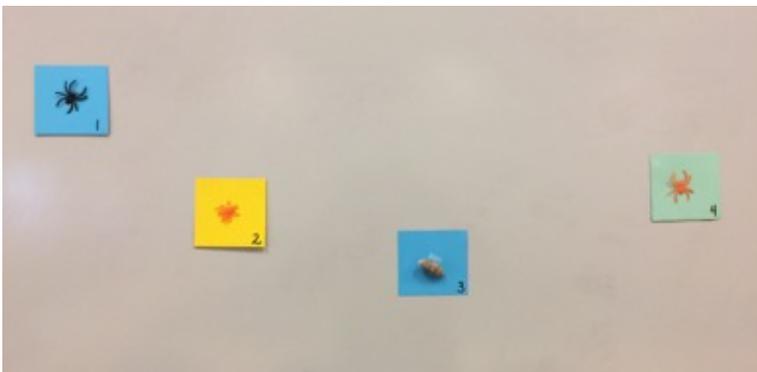
Spotting & Scanning

Figure 6 Multiple toy insects on various numbered, colored papers placed randomly on a whiteboard

Figure 7 Multiple toy insects on various numbered, colored papers placed randomly on a whiteboard

Slide 8

Figure 8 Cartoon image of a frog on a lily pad

Figure 9 Cartoon image of a snake

- Review focusing, spotting, and scanning
- Find the foods Ms. Frog will eat. Watch out for the snake!

Make a Bird Feeder

Figure 10 A girl placing peanut butter on a pine cone

- This activity can be done with just about any grade level. It teaches spotting, scanning, and copying.
- I start by preparing a chart that has to be read or copied (depending on age/skill level of the student). The lines indicate "peeks" -number of words I want student to copy per peek w/ the monocular.
- Hang feeder up outside, then watch for birds from a distance with the monocular.

Bird Feeder Materials

- Chart with instructions to copy
- Paper/pencil
- Monocular (of course!)
- Peanut butter
- Birdseed
- Large pinecone with wire hanger
- Dinner knife
- Newspaper (!)

Chart

- Skill: Copying sentences (making something fun)

Making a Bird Feeder
1. Tie the wire around the top of the pine cone.
2. Spread the peanut butter on the pine cone.
3. Put the cone in the baggie and shake.
4. Hang the cone in a tree.

Abby at Work/Fun

Figure 11 Abby looking at her monocular

Figure 12 Abby writing on a piece of paper

Figure 13 Abby writing on a piece of paper

Figure 14 Cartoon image of a cardinal

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Ta Da!

Figure 15 A completed pine cone bird feeder

Remote Car Game

Here are the materials used for this, plus the layout in a large space (gym)

Figure 16 Yellow remote controlled car and controller

Figure 17 A white card with and elephant and the number 100 on it along with two small plastic toy figures

Gym Layout

Figure 18 Various white cards and plastic figures arranged on a gym floor

Play a target game

- Target games, such as the 2 pictured, lend themselves to spotting through the monocular.
- Games that have a scoreboard, like darts) are really great.

Figure 19 A boy throwing darts at a dart board

Write numbers on bottles. Total the ones left standing. High score loses.

Figure 20 Many plastic bottles filled with various colored liquids with a blue ball on the lower left

Battleship!

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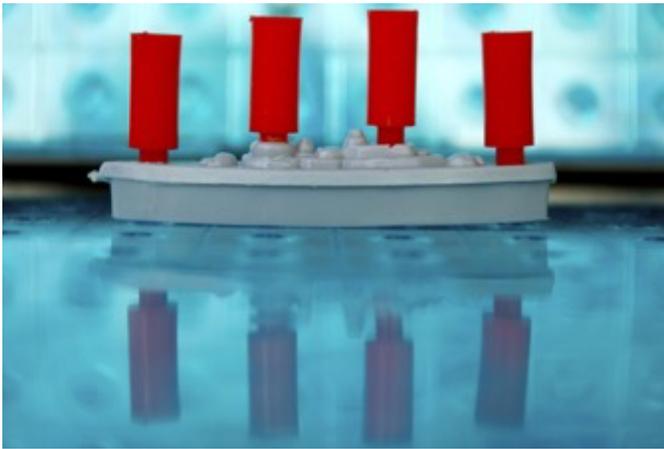*Scott Baltisberger & Chrissy Cowan – November 13, 2017*

Figure 21 A battleship board game piece

Rules of the Game

Figure 22 A commercially available Battleship game

Figure 23 A printed out grid for playing homemade Battleship

- The commercially available version of the game is designed for two players. There are two sets of trays. Each tray opens like a book held sideways so that there is a top and bottom section. Both sections have a grid that is marked by number/letter coordinates. The players open and position their trays so that neither can see the grids of his or her opponent.

- Players place their own ships (their "navy") on the bottom grid and take "shots" at their opponent by naming coordinates on the upper grid. For example, Player One could say A2. If the shot misses, Player Two says "miss" and Player One places a white peg on the upper grid. If Player Two says "hit", Player One places a red peg on the upper grid. Game continues with players taking turns until all ships in one player's navy are sunk. Strategy involves noting hits and misses and making proceeding calls based on this information.
- There is a homemade version of the game that is played the same way but uses a two-dimensional, self-made grid on which hits and misses are marked rather than the fancy plastic ships and pegs and boxes. Of course, when playing in this way, each player will need two grids: one to show the placement of his own ships and one to keep a tally of the effect of his shots upon his opponent. It is this homemade version that lends itself to a monocular game.

Modifying for Monocular Use

	A	B	C	D	E	F
1						
2						
3						
4						
5						
6						

Figure 24 A blank grid for playing homemade Battleship

- In order to modify for monocular use: Put the grid on projector of some sort and display at a distance. This grid represents the navy of the opponent. The student calls individual shots and teacher makes marks to show where hits and misses occur. The student uses his or her monocular to note the results: Did they get a hit or a miss?
- Examples of grids are included in your handouts but grids can be created very easy using the "Table" function of your word processor. Simply create a table and format all the boxes to be squares. Then, you can input the information for the grid. You can make a grid whatever size you want, according to your needs.

Jumbled Arrays

SPIDER	GOAT	FROG	FISH	TIGER	BULL
CALF	CAT	FLY	WOLF	PIG	KITTEN
SNAKE	APE	WORM	BIRD	SQUID	DUCK
TICK	COW	DOG	LIZARD	DEER	BUG
LION	TOAD	PUPPY	ANT	FLEA	CLAM
SHARK	HORSE	SNAIL	PONY	ROACH	HEN

Figure 25 Grid with various animal names in each box

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6	18	3	14	8	12
11	25	20	1	23	17
2	31	7	28	10	26
24	15	35	32	21	5
9	27	4	34	29	33
16	30	22	13	36	19

Figure 26 Grid with randomly selected numbers in each box

- Once students understand the grid system, they may quickly learn that , rather than having to use their monocular, they can simply follow "hits" with logical follow-ups. That is, if you have a hit on B4, you know that another hit will occur at either B3 or B5 or A4 or C4. To avoid this circumvention of monocular use, you can use a jumbled array like the two shown here. In this case you simply fill-in each square with non-sequential content such as types of animals or random numbers. This ensures that the student will have to look at the grid for each and every shot that is fired. Examples of these are included in the handouts.

More Jumbles

	Q	A	X	S	D	M
14						
27						
83						
40						
65						
6						

Figure 27 Grid with various letters across the top for columns, and various numbers down the left side for rows

- If you want the student to learn and use a coordinate system, simply jumble the letters and numbers in the column and row headings so that they don't occur sequentially. There are electronic copies of these coordinate arrays in the handout and also a blank copy which can be edited any way you want, adding or removing rows and columns or changing the content.

Crossword Puzzles

Figure 28 Example of a crossword puzzle

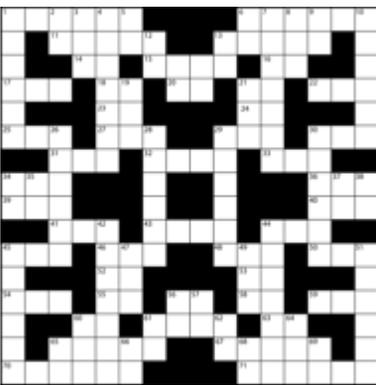Figure 29 Example of a crossword puzzle

Figure 30 Example of a crossword puzzle

- Another common game that is easy to modify for monocular use is the crossword puzzle.
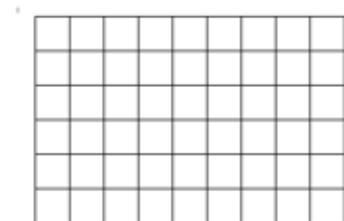
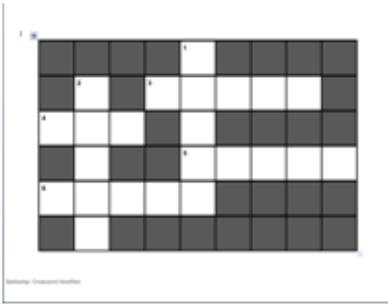# Crossword Puzzles

Figure 31 Blank crossword puzzle grid

Figure 32 Filled in crossword puzzle grid

- To do a crossword, you first need to create your puzzle. You might be able to simply download something from the internet or copy a puzzle out of book – there are plenty of those. On the other hand, I often found it helpful to individualize my puzzle either by adjusting it to the student's age, grade or experiences or simply focus on the type of info a student would find personally interesting. For example, you could do a puzzle that uses names from children in the student's class or, if the child who is really interested a certain book series, use information or names from the book. There is a blank puzzle included in the handouts but this is another game that can be easily created using your table function. Simply draw your grid and use the "shape fill" function to color in all the squares that aren't to be used.

Modifying for Monocular Use

Figure 33 Example of crossword puzzle clues

Figure 34 Example of crossword puzzle answer key

- Project the questions at a distance for the student to read using his or her monocular. The student keeps the puzzle at his or her desk and fills in the answers. When finished, you can project an answer key so the student can check his or her performance. Alternatively, you could project the puzzle itself as well.
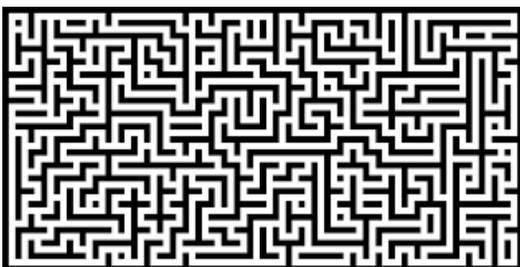
Mazes

Figure 35 Example of a maze

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- Mazes are another type of game that lends itself to do-it-yourself projects. This case example deviates a little from activities that are purely for monocular use but also include using an electronic magnification device or, as many of us still refer to them, "CCTV". As is the case for crossword puzzles, you can find a number of mazes on-line or in books but adding a bit of personalization can make the activity more interesting and motivating for a student. The two mazes shown here were made for specific students. They may work with one or more of your students or you may want to come up with something completely new that addresses their personal quirks or interests.

Rescue the Prince

Figure 36 Cartoon example of a prince

Figure 37 Cartoon image of a castle

Figure 38 Cartoon image of a dragon

- The first maze is called "Rescue the Prince". This was made for a young lady who liked to read a lot of fantasy-type fiction. I devised a story in which a gang of dragons kidnaps a prince from his castle. His only hope is if a brave young girl can find locate the prince, evading the dragons along the way, and carry him back to the castle. To begin, we used cards with images of a dragon, a prince and a castle to familiarize the student with the targets. These could be viewed at near and also used for monocular practice by placing them on the wall in various configurations in such a way that the student could practice spotting, scanning and tracking.
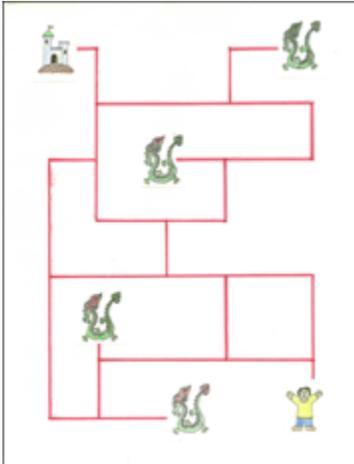
The Maze

Figure 39 Example of "Rescue the Prince" maze

- The maze was made to be used with an electronic magnifier, arranged so that the student could not see the entire maze at once but only a single line. This increased the discovery and surprise factor when the student was navigating the maze. The student was first to locate the castle and then follow the lines until reaching the prince. If a dragon was encountered, she had to backtrack and continue her journey. Once the prince was located she had to return to the castle. In this way a number of directional tracking skills were engaged in order to move around the maze. Examples of the cards and maze are included in the handouts.
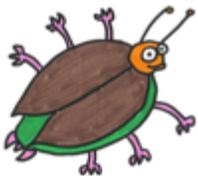
Los Bichos

Figure 40 Cartoon image of a scorpion

Figure 41 Cartoon image of a beetle

Figure 42 Cartoon image of a spider

Figure 43 Cartoon image of a slug

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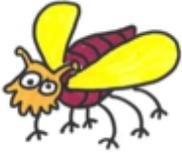*Scott Baltisberger & Chrissy Cowan – November 13, 2017*
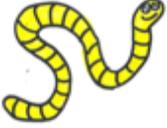
Figure 44 Cartoon image of a bee

Figure 45 Cartoon image of a worm

- Another version of a maze that incorporates both monocular and magnifier skills is "Los Bichos" which is Spanish for "The Bugs". This one also uses cards on each of which is an illustration of a type of "creepy crawly": a scorpion, a slug, a cockroach, a fly, a spider and a worm. As in the prior example, the cards are used to familiarize the student with the images and to practice monocular skills by placing them on the wall.
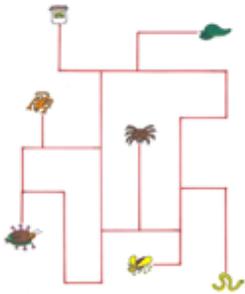
The Maze for Los Bichos

Figure 46 Example of the maze for Los Bichos game

- For practice with the electronic magnifier, the bugs are presented within a maze. It is the child's assignment to travel throughout the maze until he or she has found each and every one of them.

Keeping Score

Figure 47 Cartoon image of a jar labeled Los Bichos

- In order to keep score, the child is given a "collecting jar". This was an illustration of a jar labeled "Los Bichos" on a full sheet of paper. This paper is inserted into a sheet protector. As the child finds each bug, its card is slipped into the sheet protector to show that it has been collected. Examples of the cards, jar and maze are included in the handouts.

More Mazes

Figure 48 Example of a maze with animals

- A maze can be created for just about any interest or proclivity that a student may have. Take time to know your student and incorporate their interests and experiences into your lessons. It will make it more meaningful and fun for both of you.

Resources

- To access the additional materials for these games referenced in the webinar please contact Scott Baltisberger at baltisbergers@tsbvi.edu or Chrissy Cowan at cowanc@tsbvi.edu.

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Thank you for joining us!

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Figure 49 TSBVI logo

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