



The Color Beam Book

**For use with the
Variable Beam Flashlight Kit**

Second Edition


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Variable Beam Flashlight Kit

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Louisville, KY



Information and routines presented in *The Color Beam Book* were written and designed by Millie Smith, and originally published in *Sensing and Learning* (Smith & Chambers, 2023).

In keeping with our philosophy to provide access to information for people who are blind or low vision, the American Printing House for the Blind provides a BRF and accessible PDF of this book as free downloads.

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Preface

The American Printing House for the Blind (APH) provides the Variable Beam Flashlight Kit (VBFK) as an expansion product to the publication, *Sensing and Learning*, Catalog #7-08614-00. The VBFK contains two flashlights, a variety of color lenses, and *The Color Beam Book*. The book contains generic routine shells to help educators implement highly effective, research-based instructional strategies for learners at the sensorimotor stage of cognitive development.


Before using the VBFK, APH recommends that you read and learn about how to increase a learner's sensory efficiency through activities designed to teach skills typically learned during the sensorimotor stage of cognitive development. The recommended reading is *Sensing and Learning* (Smith & Chambers, 2023).





Years prior to the publishing of *Sensing and Learning*, APH provided earlier publications and products to meet the needs of sensorimotor learners—including the Sensory Stimulation Kit (Bortner et al., 1978) and Sensory Learning Kit (Smith, 2005). A flashlight with colored lenses has been in each evolution of sensorimotor assessing, teaching, and learning presented in these flagship products. *Sensing and Learning* is the first in a sequence of product publications that comprise the APH Intervention Continuum for learners at the sensorimotor and preoperational stages. It is followed sequentially by *Symbols and Meaning* and *Tactile Connections: Symbols for Communication*.

Educators of sensorimotor learners with low vision, and educators of learners with significant cognitive disabilities and complex communication needs recognize the value in using a flashlight with colored lenses. Many professionals in the vision field have need of additional flashlights and lenses when working in group settings or when needing to leave a flashlight with a family member to continue intervention between professional visits. For this reason, APH offers the Variable Beam Flashlight Kit. Unlike many flashlights that make a clicking noise upon activation, the VBFK's flashlight turns on silently and changes from a wide beam to a narrow beam with a twist of the wrist. It does not cause an audial distraction for sensorimotor learners who may only be able to process one sensory response system at a time. The wide beam works well for tracking, illumination, functional vision assessments/evaluations,



and games. The narrow beam is applicable for functional vision assessments/evaluations and tracking.

CHAPTER 1: Introduction


Designed to help learners develop visual awareness and tracking skills, the Variable Beam Flashlight Kit (VBFK) is applicable for use with learners 0-2 years cognitive level. For these learners use the routine templates in chapters 2-4 and pay close attention to response actions and time delays. Additional activities and games are included (chapter 5) for learners at the 3-6 years cognitive level.



The kit contains:

- Two Mini MagLites® with lens holders/anti-roll devices
- Eight translucent and seven transparent color lenses
- *The Color Beam Book*

The Color Beam Book provides instructional strategies called "routines." Please use the routines as templates. Each should be modified to reflect the unique needs of individual learners. All routines are social interactions, meaning learners and partners perform them together.



Partners may be teachers, family members, friends, or caregivers.

Intervention Zones

The routines are organized into three intervention zones as identified in *Sensing and Learning*.


- *Attention is selective concentration on one person or object while ignoring others.*
- *Exploration is deliberate interaction with people and objects to gain more information about their sensory potentials.*
- *Function is deliberate interaction with objects that demonstrates knowledge of their typical use in specific contexts.*

Use all activities and games as guidelines in designing routines; presenting the items sequentially and appropriately for the functional level of the learner. Begin the activities on the level at which the learner can perform comfortably.

Each zone is designed to build upon the interaction abilities present at the preceding zone. If needed, determine the learner's zone by using the Sensing and Learning assessment tools.

Attention Routines

- Help the learner establish and maintain alertness.

- 
- Help the learner establish a positive relationship with partners who respond to the learner's expressions of pleasure and displeasure.

Exploration Routines

- Help the learner develop intentional behaviors while attempting to interact with media and partners.
- Help the learner anticipate a predictable event associated with a specific object.
- Help the learner expand their repertoire of interactions by encouraging imitation of actions initiated by the partner.

Function Routines

- Help the learner anticipate the next step in a sequence of steps leading to a meaningful outcome.
- Help the learner take responsibility for doing everything they can do in each step.
- Help the learner use people and devices as aids for completing parts of steps beyond their abilities.

Skills in the areas of communication, cognition, and motor functioning are highly related to quality of life. Routines give learners opportunities to acquire and maintain these skills in appropriate contexts throughout their lives (Smith, 2005; Smith & Chambers, 2023).



Notes to Partner

- Read the routine completely before beginning.
- Read the listed cautions before beginning any routine.
- The flashlight batteries will last longer if removed and stored outside the flashlight case.

CAUTIONS

- A blinking light may trigger a seizure.
- Do not shine the light directly into the learner's eye.
- **Small parts warning:** use color lenses with teacher supervision and store them properly. Color lenses could be swallowed.

If needed, turn off overhead lights and maintain body contact with a learner who is frightened in dim lighting.

Goals

Goals should be created as an integral part of a learner's Independent Educational Program (IEP) or Family Service Plan (FSP). Goals should be written uniquely for each learner, focusing on specific needs.

Sample Goals

Attention Zone

The learner will demonstrate awareness of the beam of light by turning toward it.



Exploration Zone

The learner will intentionally interact with the light source by reaching for the flashlight.

Function Zone


The learner will meaningfully manipulate the flashlight and color lenses in partial to self-selected and designated activities.

Responses

Learners at each level have unique responses to the interactions provided for them. Responses could include blinking, staring, decreased or increased movement, or visual attention. More advanced learners may respond verbally.

Learners who are significantly involved may respond by

- changes in breathing patterns
- changes in muscle tone
- changes in skin tone (flushing or paling)
- changes in movement patterns (quieting or accelerating)
- changes in facial expression (widening or closing of eyes or mouth)
- vocalizing
- blinking

- 
- tongue sucking
 - smiling
 - crying
 - laughing
 - turning toward stimulus

CHAPTER 2: Attention Zone



The light may be aimed at the learner's nose or...



aimed at another surface visible to the learner.



Routine Flashlight.1

Attention Zone

SAL Sensorimotor Routine Lesson Plan

Learner:

Instruction zone: Attention

Routine: Flashlight with color lenses

Teaching partner:

Observing team members:

Observation frequency:

Location:


Time:

Position:

Data period:

Learner's Steps

1. Listen to sound of flashlight as tapped by partner.
Accommodations and Supports, Embedded Goals,
Documentation
2. Look at flashlight with light off, then on as moved by partner.
Accommodations and Supports, Embedded Goals,
Documentation



3. Touch flashlight.

Accommodations and Supports, Embedded Goals, Documentation

4. Help move flashlight beam over surface.

Accommodations and Supports, Embedded Goals, Documentation

5. Request continuation of movement after pause.

Accommodations and Supports, Embedded Goals, Documentation


6. Help put flashlight away.


Accommodations and Supports, Embedded Goals, Documentation

Steps may be repeated using a wider or narrower beam of light.

Expansion Activities

1. Turn the light on and off. Observe if the learner has a consistent response to the presence and absence of light.
2. Move the beam of light slowly in front of the learner's face. Watch for the learner to follow the moving beam of light with their eyes or by moving their head.

- 
3. Shine the beam in various directions (side to side, up and down, diagonally, circularly) on a table or wall for the learner to follow with their eyes.
 4. Attach various color lenses to the flashlight and move the beam of light in different directions on a table or wall for the learner to track with their eyes. The translucent color lenses tend to be better for tracking or following as they diffuse light less than the transparent color caps. Note the preference of the learner.
 5. Turn the flashlight on and hold 12-16 inches from the learner's eyes, directly in front of the learner. Move the flashlight slowly to the left and to the right of the learner's face. If the learner does not respond to the light after 30 seconds, turn it off and provide a short rest period before resuming the activity.
 6. Vary the distances of shining the light from the learner's eyes. Increase the distance until the light appears to be out of the learner's visual field.
 7. Place a color lens on the flashlight. Shine the colored beam within the learner's field of vision and watch for the learner to exhibit an observable response.
 8. Repeat previous activity using a variety of color lenses. For learners with cortical visual impairment, watch for a color preference.

- 
9. Continue to shine the flashlight within the learner's field of vision until the learner demonstrates an awareness of the light at varying distances and of different colors.
 10. Make sudden changes in the location of the light beam while the learner is tracking it (i.e., light is traveling down the wall, suddenly shuts off and reappears on the ceiling). Allow the learner time to relocate the light, then continue moving the light on its path.

CHAPTER 3: Exploration Zone



Using anticipation containers and calendar boxes helps teach the learner what is about to happen next.

Routine Flashlight.2 **Exploration Zone**

SAL Sensorimotor Routine Lesson Plan

Learner:

Instruction zone: Exploration

Routine: Flashlight with color lenses

Teaching partner:

Observing team members:

Observation frequency:

Location:

Time:



Position:

Data period:

Learner's Steps

1. Read schedule.

Accommodations and Supports, Embedded Goals,
Documentation

2. Transition to activity area and get in best position.

Accommodations and Supports, Embedded Goals,
Documentation

3. Read schedule again.

Accommodations and Supports, Embedded Goals,
Documentation

4. Take flashlight out of now container.

Accommodations and Supports, Embedded Goals,
Documentation

5. Contour follow parts of flashlight.

Accommodations and Supports, Embedded Goals,
Documentation

6. Wiggle flashlight beam over blank surface.

Accommodations and Supports, Embedded Goals,
Documentation

7. Wiggle second flashlight with different color lens.



Accommodations and Supports, Embedded Goals,
Documentation

8. Choose preferred flashlight from array of two after beam moved over surface by partner.

Accommodations and Supports, Embedded Goals,
Documentation

9. Choose preferred flashlight from array of two with two additional different lens colors.

Accommodations and Supports, Embedded Goals,
Documentation


10. Put flashlight in finished container.

Accommodations and Supports, Embedded Goals,
Documentation

Steps may be repeated using a wider or narrower beam of light.


Expansion Activities

1. Turn the flashlight on and place it within the learner's visual field, but out of their reach. Encourage the learner to move towards the light source by crawling, walking, or reaching for the flashlight. If necessary, assist the learner by physically moving them in the direction of the flashlight. Turning the light on and off may help to



attract the learner to the light source. (See cautions.)

2. Continue assisting the learner until they locate independently the light source placed nearby. Learners with motoric involvement may indicate that they are aware of the location of the light source by gesturing, turning, or looking in the direction of the flashlight.
3. Attach a color lens to the flashlight and shine the beam of colored light onto a table, floor, or piece of paper while the learner watches. Change the color lens and continue shining the different colored light. Have the learner indicate which color lens that they would like to see again.
4. Increase the learner's choice of color lenses.
5. Hand the flashlight to the learner to explore. With hand-under-hand assistance (if needed), help the learner turn it on and off.
6. Shine the flashlight underneath and through a sheet, or other fabric. Move the light around to encourage a learner to explore the sheet.
7. Shine the light on the floor and have the learner follow the light by walking, crawling, etc.

- 
8. Allow the learner to select and attach a color lens to the flashlight and shine the beam of light wherever they choose.

CHAPTER 4: Function Zone



The learner chooses to play with the flashlight during free time. The learner manipulates the flashlight or signals partner to manipulate flashlight in a certain way related to activity, such as choice making.

Routine Flashlight.3

Function Zone

SAL Sensorimotor Routine Lesson Plan

Learner:

Instruction zone: Function

Routine: Flashlight with color lenses

Teaching partner:

Observing team members:

Observation frequency:



Location:

Time:

Position:

Data period:

Learner's Steps

1. Read schedule.

Accommodations and Supports, Embedded Goals,
Documentation

2. Transition to activity area and get in best position.

Accommodations and Supports, Embedded Goals,
Documentation

3. Transfer flashlight from now container to work tray.

Accommodations and Supports, Embedded Goals,
Documentation

4. Remove lens cap.

Accommodations and Supports, Embedded Goals,
Documentation

5. Choose preferred color lens.

Accommodations and Supports, Embedded Goals,
Documentation

6. Insert lens.



Accommodations and Supports, Embedded Goals,
Documentation

7. Replace cap.

Accommodations and Supports, Embedded Goals,
Documentation

8. Shine light on target object after modeling by
partner.

Accommodations and Supports, Embedded Goals,
Documentation

9. Move light to second target.

Accommodations and Supports, Embedded Goals,
Documentation

10. Move light to third target.

Accommodations and Supports, Embedded Goals,
Documentation

11. Choose preferred color from array of two new lenses.

Accommodations and Supports, Embedded Goals,
Documentation

12. Insert lens.

Accommodations and Supports, Embedded Goals,
Documentation

13. Shine light sequentially on targets in horizontal array
(left to right).



Accommodations and Supports, Embedded Goals,
Documentation

14. Shine light sequentially on targets in vertical array (top to bottom).

Accommodations and Supports, Embedded Goals,
Documentation

15. Put flashlight in finished container.

Accommodations and Supports, Embedded Goals,
Documentation

Steps may be repeated using a narrower or wider beam of light.


Expansion Activities


1. Use flashlight to direct visual attention to specific objects.
2. Allow learner to choose desired color from an array of color lenses.
3. With hand-under-hand assistance, demonstrate to the capable learner how to change the color lenses.
4. If appropriate, use adaptive holders to assist the holding of the flashlight for choice making and communication boards.
5. Older learners may test assembled flashlights in vocational setting.

CHAPTER 5: Activities and Games for Advanced Learners (3 to 6-year cognitive level)




1. Have the learner outline an object with the light and identify the object by name.
2. Attach a color lens to the flashlight and turn on the beam of light for the learner to watch. Turn off the light and have the learner verbalize what color was shining. Repeat using various color discs.
3. Shine the beam of light on the wall. Have a learner touch the light circle on the wall, then locate and walk to the flashlight.
4. Shine a color beam on the wall. Ask learners who are wearing an article of clothing the same color to stand up.
5. Shine a color beam on the wall and have a learner locate an object in the room or point to another learner's clothing which is the same color.

- 
6. Have the learner walk around the room following the light spot and touching the objects on which the beam of light shines. Have the learner name the objects the light beam touches.
 7. Using the flashlight have the learner outline an object from memory on a screen or piece of paper. Involve classmate in guessing what the outlined figure is, for example, square, circle, triangle, simple house.
 8. Place colored cards and fabric swatches within reach of the learner. Attach a color lens to the flashlight and shine a wide beam of light on a table or wall surface. Have the learner select or indicate a card or piece of fabric which is the same color as the light they saw. Repeat using various color lenses.
 9. Shine the light on different parts of the learner's body. Encourage the learner to touch and verbally identify the part of the body.
 10. In a darkened room, have the learner(s) shine two flashlights with different color lenses onto the wall, projector screen, table, or butcher paper. Instruct the learner(s) to move the lights to the rhythms and in patterns while listening to music, or other learners playing rhythmic instruments. Learners can change color caps when they want.
 11. Shine the flashlight with a color lens onto a piece of paper attached to the wall. Have the learner(s) draw




around the circle of colored light using matching-colored crayon or marker. Turn off the flashlight and have the learner(s) color in the circles. Talk about the difference in circle sizes (larger/smaller). A picture can be created incorporating the colored circles.

12. Have learner(s) follow verbal directions to flash the yellow light twice and then shine the red light onto the floor. Shine the green light on the wall and instruct the learner make a moving blue circle around the green.
13. Learners are sitting in a line. Hand the first learner the flashlight. They verbalize a characteristic of the flashlight (long, metal, etc.) and passes it to the next learner who says another part of the description without naming the object. Pass it on down the line until no one can think of any other way to describe the object without naming it. The emphasis of the activity is on descriptive adjectives rather than guessing what the object is.
14. Shine the light on a mirror or on other reflecting surfaces. Turn the lights out in the room. Place the flashlight under or behind an object so that it cannot be seen but the beam of light shows through on a wall or other surface. Have the learner locate the flashlight by following the beam of light to it.
15. In a darkened room, attach a transparent color lens to the flashlight and turn on the beam of light. Turn off




the flashlight and have the learner choose a translucent lens of the same color and place it on a second flashlight. Repeat with different colors, gradually increasing the distance between you and the learner.

16. Have the learner trace letters of the alphabet or numerals on the wall with the flashlight and transparent color lenses.
17. Prepare cards showing color words. Hold up a word card and have the learner choose the color disc indicated by the card and place it on the flashlight.
18. Name or show the learner a letter. Ask the learner to shine a colored light on objects in the room which begin with that letter. For example, "Shine a green light on things which begin with the letter d."
19. Place a color lens on the flashlight. Hide the lighted flashlight under, behind, or beside objects in the classroom. Have the learner find the flashlight, name the color, and name the object.
20. Use the flashlight and color lenses in conjunction with primary level learners' literature. As colors are mentioned in the story, have the learner select a disc of that color and place it on the flashlight.
21. Play an adapted version of "Mother May I" or "Captain May I." Assign a different color to each learner playing



the game. Players stand behind a starting line. You or a learner selected to play "Mother" stand opposite the players some distance away. The players must move, one at a time, as "Mother" directs. Rather than call the players' names, flash the flashlight with attached color disc. The player assigned to that color must move forward the number of steps flashed. Long flashes may indicate big steps; brief blinks direct the learner to take short steps. Or, "Mother" may call out the type of step before flashing: scissor step, duck step, hop. Before moving, the player must ask "Mother, may I?" If the learner forgets to ask, they return to the starting line. Each learner receives an equal number of turns. The first to reach "Mother" becomes "Mother" in the next game.

22. Adapt "Red Light, Green Light" to include the flashlight and color discs. The player chosen to be "It" stands behind a goal line at one end of the play area. The remaining players stand behind a starting line marked across the opposite end. "It" places a green disc on the flashlight, flashes the flashlight, then turns his back and counts aloud, "1-2-3-4-5-6-7-8-9-10." Players begin running toward the goal line when the green light is flashed. On the count of ten, "It" turns and flashes the red light. Any player moving his feet when the red light is flashed must return to the starting line. The player to reach the goal line becomes "It" in the



next game. If the play area is small, have the players walk, hop on one foot, or jump towards the goal line.

23. Adapt a game of tag by using visual rather than verbal signals. Divide the players into two teams and assign a color to each team. In a fairly large play area, mark starting lines for both teams; the starting lines should run across the play area with approximately 6 feet between them. Twenty to thirty feet behind each starting line, create a goal line. Instruct both teams line up on their respective starting lines. Standing at the end of the starting lines, place a color lens on the flashlight and turn on the beam. The team assigned that color should run for their own goal line. The opposite team chases them, attempting to tag team members before they reach the goal line. Players who are tagged join the opposing team. The team which has more members at the end of the playing period is the winner.

24. Using many flashlights, create two teams of learners and assign one color to each team. Learners play tic-tac-toe on a piece of paper attached to the wall.

To send a message with the flashlight using the Morse Code, a short flash represents a dot (.) and a long flash represents a dash (-). The universal distress signal (S O S) is: ...---...



A	.-	N	-.	1	.----
B	-...	O	---	2	..---
C	-.-.	P	.--.	3	...--
D	-..	Q	--.-	4-
E	.	R	.-.	5
F	...-	S	...	6	-.....
G	--.	T	-	7	--....
H	U	..-	8	----..
I	..	V	...-	9	-----.
J	.----	W	.- -	0	-----
K	-.-	X	-..-	Erase Sign	
L	.-..	Y	-. -	
M	--	Z	--..	Numerals Sign	
				..-..	

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