

## Grid and Go Activity Booklet

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CHOKING HAZARD - Small parts. Not intended for children ages 5 and under without adult supervision.

## **Grid and Go**

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## **Product Overview**

#### **General Use**

**Grid and Go** provides a variety of grids and individual frames in different configurations, colors, and thicknesses to support the teaching of concepts and skills related to orientation and mobility, spatial understanding, sensory efficiency, math and science, literacy, recreational games, and more. The assortment of grids and frames can be used in combination with common felt boards available from the American Printing House for the Blind (e.g., Picture Maker board, All-in-One Board, and Tri-Fold Board) or with other hook-receptive surfaces available to teachers and students.

Grid and Go Activity Booklet presents numerous interactive activities and games that are possible with the use of the various grids and individual frames provided in the kit. Each suggested activity indicates the addressed skill or concept, the initial grid setup, and basic activity or game instructions. The activities and games described are merely suggestions. Teachers, parents, and students are encouraged to utilize the various grids and individual frames for additional learning and recreational uses that they create and identify on their own.

## **Kit Components**

The Grid and Go grids are provided in the following configurations, colors, and thickness:

#### 10 x 10 grids

- (1) thick red grid with square tiles
- (1) thin red grid with square tiles
- (1) thick yellow grid with square tiles
- (1) thin yellow grid with square tiles

## • 5 x 5 grids

- (1) thick red grid with square tiles
- (1) thin red grid with square tiles
- (1) thick yellow grid with square tiles

## • 3 x 3 grids

- (1) thick red grid with square tiles
- (1) thin red grid with square tiles
- (1) thick yellow grid with square tiles
- (1) thin yellow grid with square tiles

#### Individual frames

- (12) individual yellow frames with 2-in. x 2-in. (5.08 cm x 5.08 cm) openings and square tiles
- (6) individual yellow frames with 3-in. x 3-in. (7.62 cm x 7.62 cm) openings and square tiles

**IMPORTANT:** The square tiles from each die-cut grid and frame should be kept for use in a variety of activities and games suggested in this booklet or for activities created by the teacher or student. The square tiles are especially useful for masking out and minimizing selected grid openings. The thicker tiles can also be inserted into the thinner grids to create elevated square "landings" that are easy to tactually locate. The individual square tiles will fit back into the grids and individual frames that are positioned onto a hook-receptive board or surface.

Storage Suggestion: Store the square tiles from each grid and frame in resealable plastic bags, pouches, or containers of one's choice. Keep the tiles sorted based on size, color, and grid type. The thick square tiles can also be stored within each corresponding grid frame. Continue to store and protect the grids and frames in the large resealable bags or containers of one's choice.

#### 2 Grid and Go

#### White Adhesive-Backed Hook Strips

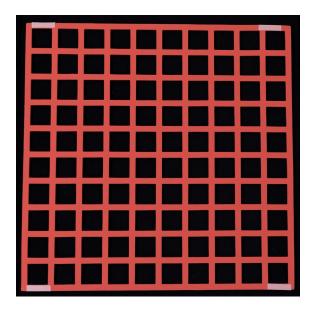
White adhesive-backed hook strips are provided with the Grid and Go kit. These strips should be applied to the back of the grid frames. DO NOT place hook strips on the back of the square tiles!

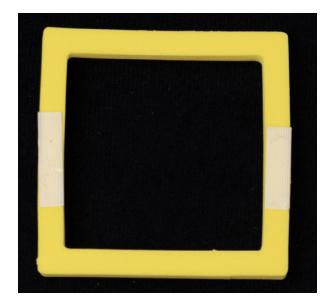
## **Assembly Instructions**

Apply one white adhesive-backed hook strip to each corner of the 10 x 10, 5 x 5, and 3 x 3 grids. The white vinyl side of the thin 5 x 5 and 3 x 3 grids is considered the back of the grid. There is not a right or wrong side to the 10 x 10 grids, so designate one side as the back of the grid when applying the hook strips.

Apply a white hook strip to each corner of the individual frames (small and large).

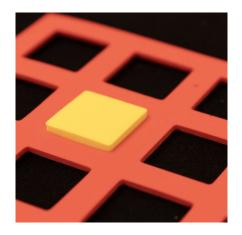
The applied hook strips should securely hold the grids to hook-receptive boards or surfaces. Remember, the square tiles stay in place within the grids or individual frames without the use of hook strips.

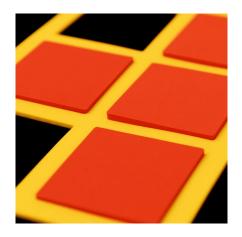




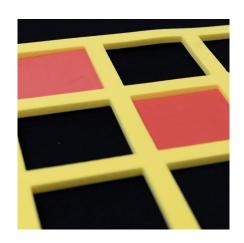
#### **Benefits of Two Grid Thicknesses**

The two thicknesses found in the  $10 \times 10$ ,  $5 \times 5$ , and  $3 \times 3$  grids accommodate activities and games that benefit from tactile height differences between the surrounding grid and the inserted square tiles. For example, the thick square tiles provide a discernible raised platform against a thin grid frame.

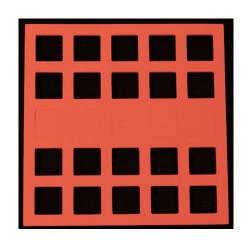




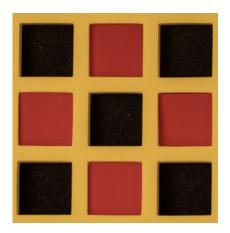
In contrast, the thin square tiles provide discernible recessed areas within the thick grid frames. They can also provide visual contrast if the grid color is different from the color of the square tiles.



Tiles of the same thickness as the surrounding frame can serve to mask unwanted grid openings (with the same color as the grid) or create a visual pattern (with a different color).



A checkboard pattern can be created by inserting red tiles into a yellow grid and leaving the black felt areas available as "landing" spots as on a game board.



## **Individual Frame Options**

The two sizes of individual frames (large and small) can be used to customize your own grid presentations. You can do this either by placing the needed number of individual frames adjacent to one another; spacing them apart as desired; or creating interesting patterns to convey a concept, accommodate a math or matching activity, create a unique game board, build a city grid, etc.

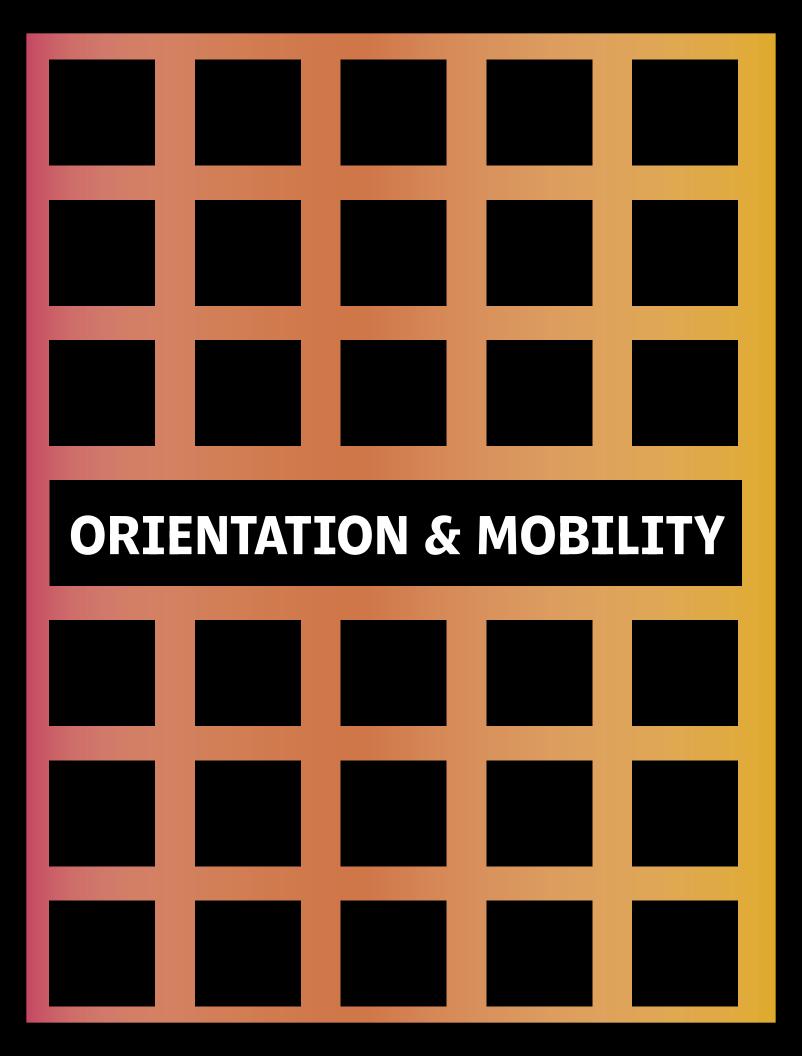
## **Felt Board Options**

The Grid and Go grids can be positioned on a hook-receptive board such as APH's Picture Maker felt board, the All-in-One Board, or the large Tri-Fold Board, depending on the size of grid needed. Teachers and students might have access to other types of hook-receptive boards or surfaces that are useable as well.



## **Supporting Materials**

A variety of materials can be used in combination with the Grid and Go grids that are positioned on a hook-receptive board or surface. Many of the activities in this booklet illustrate how any shape or object with a hook-material tab or backing can be placed within the grid or frame openings. These items might be those included in other APH products, purchased commercially, or personally designed. The support material options are numerous, as are the types of activities that are possible with Grid and Go!



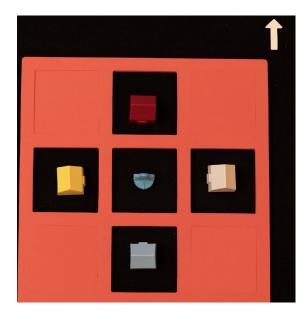
## **Grid and Go Compass Directions**

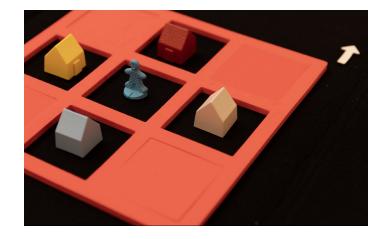
Main Objective: Learn about cardinal directions for orientation.

Skills and Concepts: Cardinal directions; spatial orientation; perspective; rotation

<u>Grid Setup:</u> Position a 3 x 3 grid (any color or thickness) on a black felt board. Block out the grid's corners with square tiles of the same color and height. Place a three-dimensional (3-D) figure of a person in the center square of the grid. Add house models to represent North, South, East, and West directions. Place a marker or arrow to note North on the compass rose.

- Instruct the student to rotate the 3-D figure to face North, South, East, or West. The 3-D figure can be replaced with other 3-D models that have a tactually discernible front and back to ensure directionality.
- Place houses or shapes in the other positions and ask the student where the 3-D figure is in relation to a specific house or shape.
- Rotate the board so that North is not always at the top of the display and have the student label compass directions.
- Remove the masking tiles from the grid to practice advanced compass directions of Northeast, Southeast, Southwest, and Northwest.





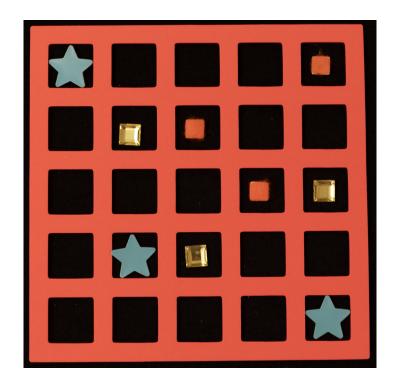
## Grid and Go Hide and Seek

Main Objective: Learn to scan a field tactually.

<u>Skills and Concepts:</u> Scanning; spatial orientation; visual tracking; tactile exploration

<u>Grid Setup:</u> Position a grid (any size, color, or thickness) on a black felt board. Larger grids can be used to increase the difficulty of the activity.

- Place hook-backed shapes in the open squares and have the student find the shapes by scanning from row to row, top to bottom. For example, have the student locate all the stars.
- Use different sizes and colors of shapes to increase complexity.



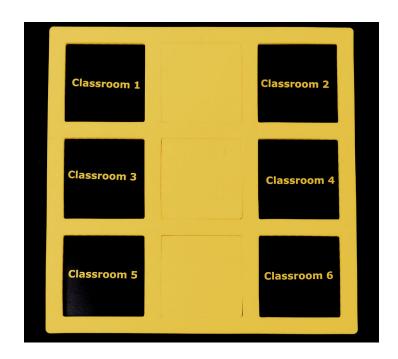
## **Grid and Go Hallway**

Main Objective: Create a school floor plan and learn its features.

Skills and Concepts: Spatial orientation; indoor numbering systems; laterality

<u>Grid Setup:</u> Position a 3 x 3 grid (any color or thickness) on a black felt board. Block out the center column of grid openings with square tiles of the same color and thickness to form a "floor plan" featuring a "hallway" between labeled "classrooms."

- Label each classroom in the hallway and have the student learn indoor numbering systems for a single floor. Increase difficulty by removing a label and having the student label the missing room on the grid.
- Increase difficulty by only labeling one or two rooms and having the student locate a non-labeled room on the grid.
- Increase the difficulty by using a larger grid or creating an L-shaped hallway.



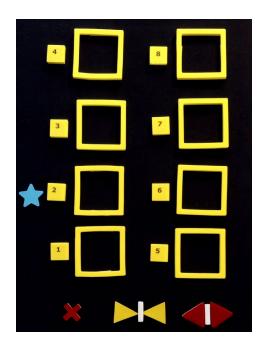
## **Grid and Go Elevator Panel**

Main Objective: Explore the features of an elevator floor panel.

Skills and Concepts: Spatial orientation; laterality; parallel and perpendicular; systematic scanning

Grid Setup: Use the appropriate number of individual yellow frames with 2-in. x 2-in. (5.08 cm x 5.08 cm) openings to construct a basic "elevator panel" on a black felt board. Place braille or print numbers beside or inside each square or "elevator button." Place a star shape next to the Main Lobby or Meeting "floor."

- Instruct the student to explore the elevator panel setup. Have them locate each floor by using a systematic scanning pattern. Have the student locate the symbol for the main floor.
- As the student becomes familiar with the layout, add more squares to increase the floors on the elevator panel. Increase the floors to three columns versus two columns.
- Move the main floor symbol around and have them problem solve what floor is now the main floor.
- Add extra buttons, such as Door Open and Door Close, Call for Help, etc.



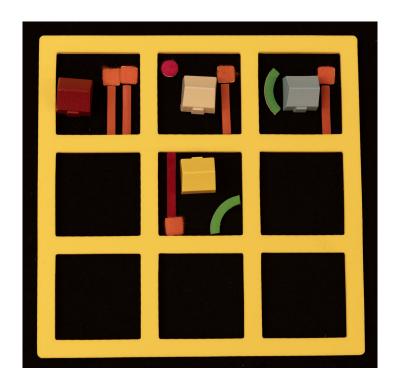
## **Grid and Go** Who Lives Next to Me?

Main Objective: Discover the places in a neighborhood.

Skills and Concepts: Spatial orientation; laterality; parallel and perpendicular; clues and landmarks; perspective

Grid Setup: Position a 3 x 3 grid (any color or thickness) on a black felt board. Mark the grid with landmarks (e.g., driveways, houses, garages). Use shapes or 3-D models to represent items in the student's yard as well as the neighbors' yards. Place a marker to note North on the board.

- Have the student explore the map and travel from yard to yard.
- Have the student follow a route to locate a specific location or landmark.



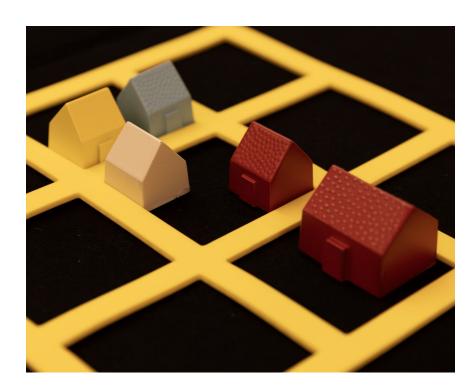
## **Grid and Go Traveling in the Neighborhood**

Main Objective: Learn to explore a neighborhood by direction and features.

Skills and Concepts: Spatial orientation; laterality; parallel and perpendicular; clues and landmarks; perspective

Grid Setup: Position a 3 x 3 grid (any color or thickness) on a black felt board. Mark the grid with buildings and landmarks to represent items in the student's "neighborhood." Place a marker to note North on the board.

- Have the student explore the map and move around the neighborhood by following specific routes using cardinal directions and laterality.
- Utilize the map to create a map in real time as the instructor and the student are walking together.



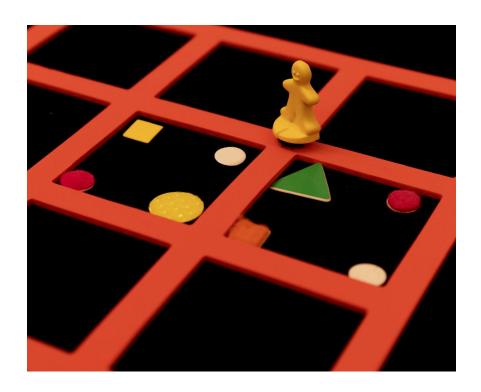
# Grid and Go Traveling in the City

Main Objective: Learn to explore a city by features and numbering.

<u>Skills and Concepts:</u> Spatial orientation; laterality; parallel and perpendicular; clues and landmarks; perspective; outdoor numbering system

<u>Grid Setup:</u> Position a 3 x 3 grid (any color or thickness) on a black felt board. Mark the grid with buildings and city landmarks. Place a marker to note North on the board.

- Have the student learn about grid systems in a city and the outdoor numbering system, using the map as a reference. Add complexity to the map as the student advances in their knowledge base.
- Add specific buildings and landmarks to create routes using cardinal directions and laterality.
- Block off areas using the squares to mark "green spaces" where there are no buildings.



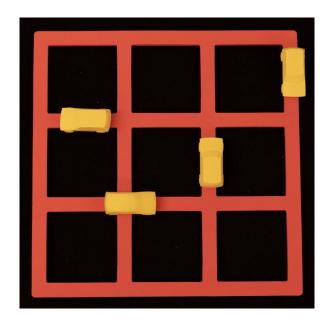
## **Grid and Go Traffic Flow**

Main Objective: Navigate a street grid by direction and features.

Skills and Concepts: Cardinal directions; laterality; parallel and perpendicular; spatial orientation; perspective

Grid Setup: Position a 3 x 3 grid (any color or thickness) on a black felt board to create a street grid. Place car models along the grid lines going different directions. Place a marker to note North on the board.

- Instruct the student to move the cars along the streets and discuss cardinal directions in relation to the ways the cars are driving.
- Place squares in some areas to create blocks of space to represent parks or areas where cars cannot travel. Have the student drive car models around these areas and learn about alternate routes. Use cars to block intersections along the streets and have the student determine alternate routes for another car to take within the map.
- Have the student drive a car along a pre-determined route using laterality and cardinal directions. Add roadblocks to create a challenge.
- Mark certain streets as "one way" and help students understand what that means for cars driving along the streets.



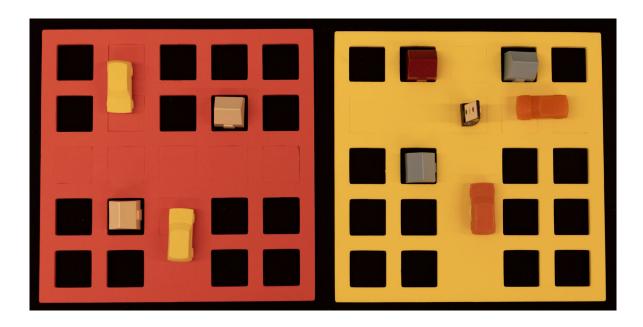
## **Grid and Go** Types of Intersections

Main Objective: Discover how to navigate various types of intersections.

Skills and Concepts: Intersection analysis; spatial orientation; relative distance; landmarks; visual tracking and scanning; driver-pedestrian relationships

Grid Setup: Position a 5 x 5 grid (any thickness) on a black felt board. Block out squares in different rows and columns to create various types of intersections (T, Plus, Offset, X, Y, etc.). Place houses and 3-D car models on the grid. Optional: Place traffic lights within the intersections.

- Utilize the grid to help the student analyze intersections for pre-teaching.
- Allow the student to move cars along the blocked-out areas to understand how cars move through the intersection.
- Explore corners at the intersection and practice street crossings.
- Practice visual tracking and scanning.
- Have the student use the grid to place landmarks on corners.



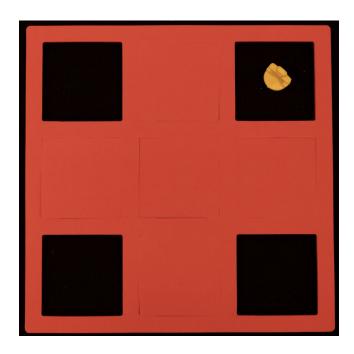
## **Grid and Go Four Corners**

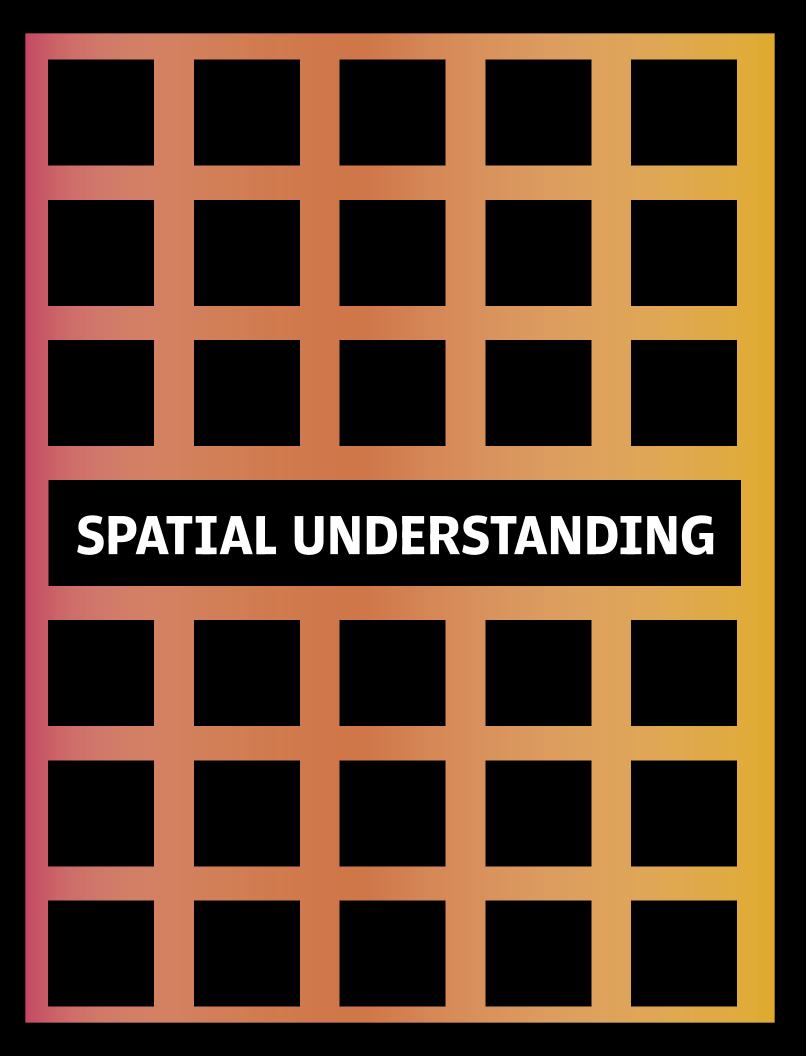
Main Objective: Use cardinal directions for orientation.

Skills and Concepts: Cardinal directions; spatial orientation; perspective

Grid Setup: Position a 3 x 3 grid (any color or thickness) on a black felt board. Use square tiles of the same thickness to block out the center square, as well as the middle square on all sides to create a plus sign-shaped intersection. Place a 3-D person or figurine on one of the corners. Place a marker to note North on the board.

- Have the student move the 3-D person or figurine from corner to corner traveling clockwise and counterclockwise while labeling the compass directions for each corner.
- Provide the compass direction for the corner (e.g., standing on the NE corner) that the 3-D person is placed on and ask the student to label the corner ahead or behind, as well as to their left or right.
- Increase difficulty by rotating the board so North is not at the top.





## **Grid and Go** Above, Below, and Between

Main Objective: Learn spatial concepts required for navigation.

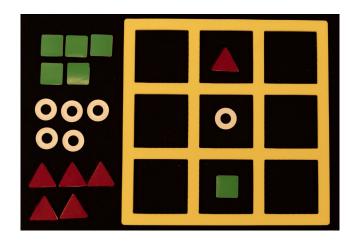
Skills and Concepts: Understanding of spatial concepts (e.g., above, below, between, corner, diagonal, center, right, left)

Grid Setup: Position a 3 x 3 grid (any color or thickness) on a black felt board. Provide six hook-backed squares, six hook-backed circles, and six hook-backed triangles. If working with students with low vision, assign a unique color to each shape if possible—e.g., green squares, white circles, red triangles. Place the 3 x 3 grid on the right side of a bifold felt board and the shapes on the left side of the bifold felt board (or on a separate felt board for convenient access).

Suggested Activity: Instruct the student to insert the shapes into the grid to demonstrate understanding of a variety of spatial terminology. For example:

- Place a triangle in each *corner* of the grid.
- Place a circle in the *center* of the grid.
- Place a circle between two triangles anywhere within the grid.
- Place three squares in the grid to create a diagonal path.
- Fill all grid openings by placing circles *below* triangles and *above* squares.
- Fill all grid openings by placing squares to the *left* of triangles and circles to the right of triangles.

Variation: Instead of geometric shapes, use three different types of objects or models (e.g., toy cars, animal miniatures, fabric or textured tiles, etc.).



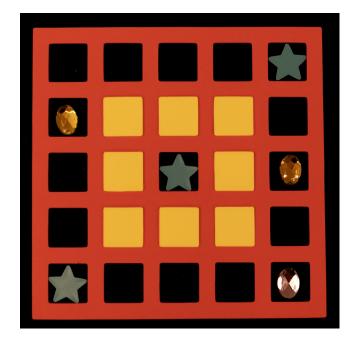
## **Grid and Go Inside and Outside**

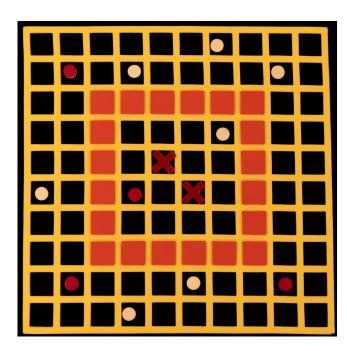
Main Objective: Reinforce spatial concepts required for navigation.

Skills and Concepts: Spatial concepts (e.g., inside, outside, middle, corner); systematic scanning; shape identification

<u>Grid Setup:</u> Position a 5 x 5 grid or a 10 x 10 grid (any color or thickness) on a black felt board. Construct a square within the center of the grid using the square tiles of a contrasting color or thickness. Provide an assortment of hook-backed shapes that fit within the grid openings.

- Place shapes *inside* and *outside* the square built within the grid. Have the student locate how many shapes are *inside* the square and how many shapes are *outside* the square.
- Have the student independently place shapes on the grid given directions to place them *inside* or *outside* the square.





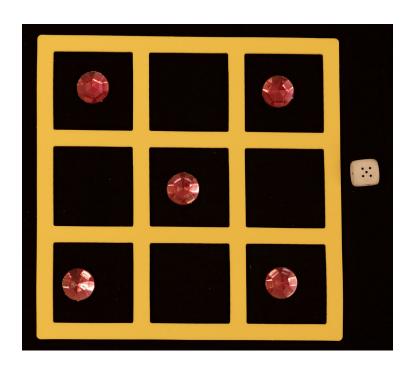
## **Grid and Go Roll of the Dice**

Main Objective: Duplicate patterns and demonstrate knowledge of spatial concepts.

Skills and Concepts: Duplicating patterns; spatial concepts (e.g., center, corner, above, below, and diagonal)

Grid Setup: Position a 3 x 3 grid (any color or thickness) on a black felt board. Provide six hook-backed circles of the same color. Provide a tactile game die.

- Have the student roll the tactile die and insert circles into the grid to represent the pattern of dots encountered on the tactile die.
- Position two 3 x 3 grids next to each other and do the same activity using a pair of tactile dice. Incorporate math skills by having the student add the dice together.



## **Grid and Go Zigzag Game**

Main Objective: Explore advanced spatial concepts required for orientation.

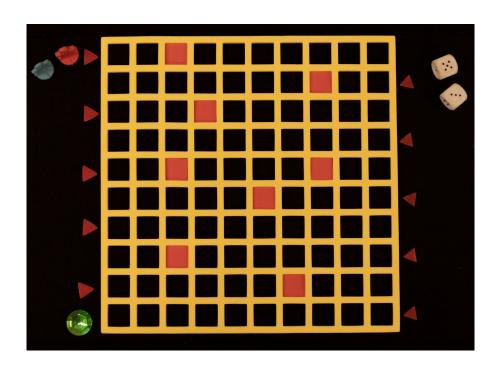
Skills and Concepts: Systematic scanning and tracking; spatial understanding; turn taking; counting; beginning and ending locations

<u>Grid Setup:</u> Position a thick yellow 10 x 10 grid on a black felt board. Randomly insert a few thick red square tiles within the grid to serve as obstacles or non-landing spots. Provide two game tokens that are tactually and visually distinguishable. Also provide a pair of tactile dice.

#### **Suggested Activity:**

• Two players take turns rolling the pair of dice (or a single die) and moving their game tokens the number spaces rolled, moving in a left-to-right, topto-bottom direction within the 10 x 10 grid. The starting location is the upper-left corner and the "winning" location or destination is in the lowerleft corner square. The first player to land on the lower-left corner square wins the game. A player cannot land on the same location that another player occupies, or they lose a turn.

<u>Variation:</u> Place arrows at the end of each row to show the direction (left or right) that game tokens travel.



## **Grid and Go Catch Me if You Can**

Main Objective: Practice turn-taking and game-playing skills.

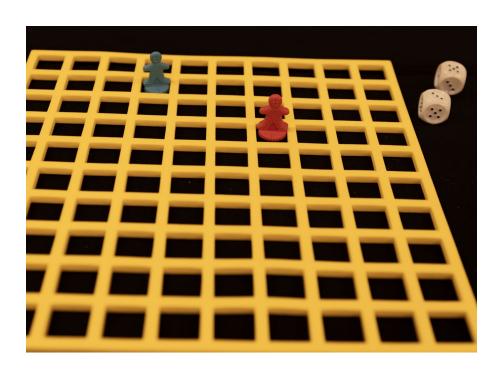
Skills and Concepts: Turn taking; directionality; counting

Grid Setup: Position a 10 x 10 grid (any color or thickness) on a black felt board. Provide two game tokens that can be distinguished by shape and/or color. Place the two game tokens apart from each other at any two locations on the grid with plenty of space between them. Provide either a single game die or a pair of dice. [Provide tactile dice, if needed.]

## **Suggested Activity:**

• Have players take turns rolling the game die and moving the number of spaces (in any direction) on the grid based on the number rolled. The player can shift directions on the grid at any time to complete their turn. The player who is the first to land directly on their opponent's square is the winner.

<u>Variation:</u> If a pair of dice is used, each player can only move horizontally using the first rolled number and vertically using the second rolled number.



## **Grid and Go Mirror Images**

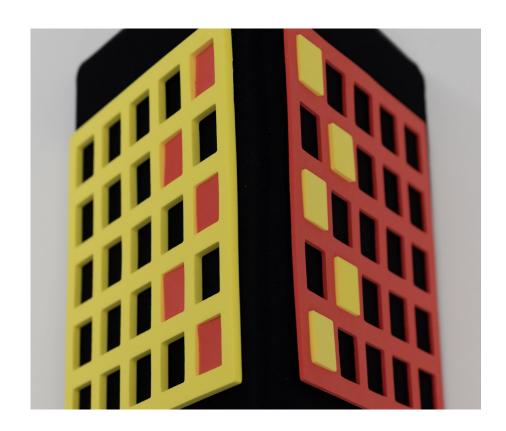
<u>Main Objective:</u> Practice following directions to increase spatial understanding.

Skills and Concepts: Spatial understanding; listening skills; communication skills

<u>Grid Setup:</u> Position a 5 x 5 grid (any color or thickness) on each side of a bifold felt board. Fold the board to create an easel-style presentation and assign each side of the board to one of two players. Provide tiles (10 total) of the opposite color and/or thickness for each player to use with their assigned grid.

## **Suggested Activity:**

• Assign one player as the "communicator" and one as the "listener." Have the "communicator" place a square tile in any location on their grid and then instruct the "listener" where to place a square tile on their grid to mirror the same position. For example, "Place a square tile in the upperright corner." The "communicator" continues giving instructions to the "listener" for a total of 10 tiles. Afterwards, the players should compare their constructed grids to determine whether the grids correctly mirror each other.



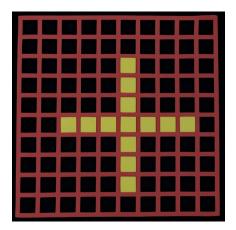
## **Grid and Go Line Position**

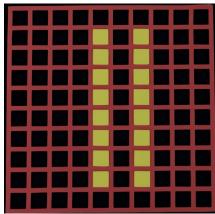
Main Objective: Discriminate between different types of line positions.

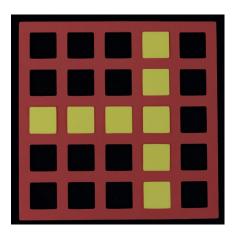
Skills and Concepts: Understanding concepts such as parallel, perpendicular, and intersecting lines

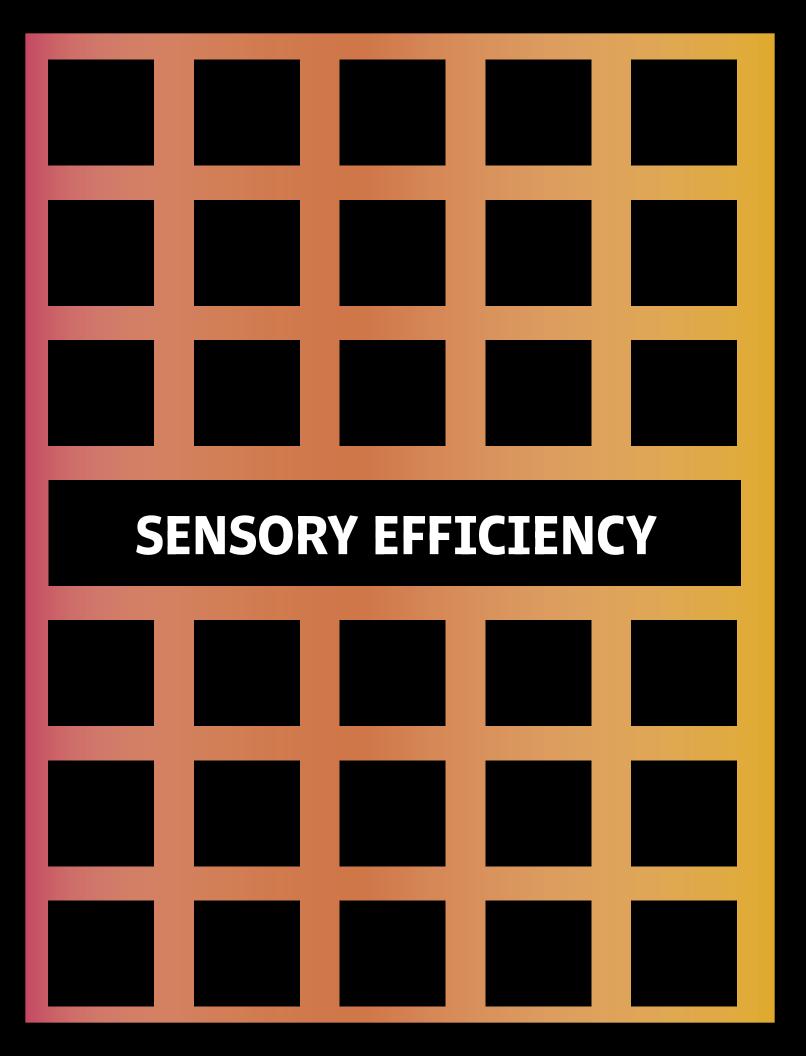
Grid Setup: Position a 5 x 5 grid or a 10 x 10 grid (any color or thickness) on a black felt board. Provide tiles of a contrasting color or thickness.

- Have the student demonstrate their understanding of parallel, perpendicular, and intersecting lines by placing tiles of a different color and/or thickness within the grid to display examples of each concept.
- Introduce additional concepts such as right angle, adjacent, 90 degrees, etc., as the line types are being reviewed.
- Discuss how these line types resemble many street layouts and intersections.









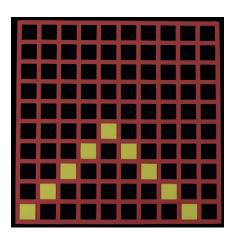
## **Grid and Go Tracking Paths**

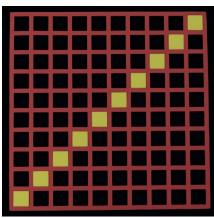
Main Objective: Track various types of line paths.

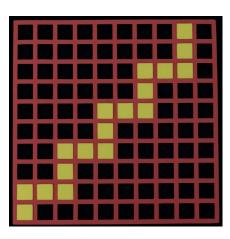
Skills and Concepts: Directionality; tracking paths; terminology (e.g., diagonal, stairstep, up and down, and straight)

Grid Setup: Position a thin red 10 x 10 grid on a black felt board. Provide thick yellow square tiles (from the thick yellow 10 x 10 frame).

- Have the student design and track a variety of paths using the thick yellow tiles that can be felt above thinner red grid lines. How many different types of paths can the student create? Review terminology such as straight, diagonal, up and down, and boxed (around periphery of grid), etc.
- Have the student locate similar paths in tactile displays (e.g., graphs, maps).







## **Grid and Go Continue a Pattern**

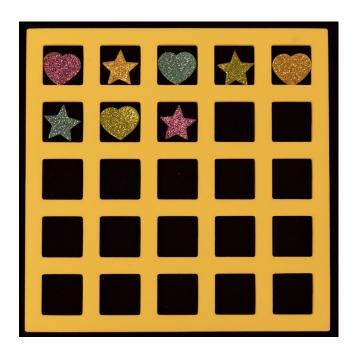
Main Objective: Learn to identify patterns and classify objects.

Skills and Concepts: Scanning; texture discrimination; shape identification

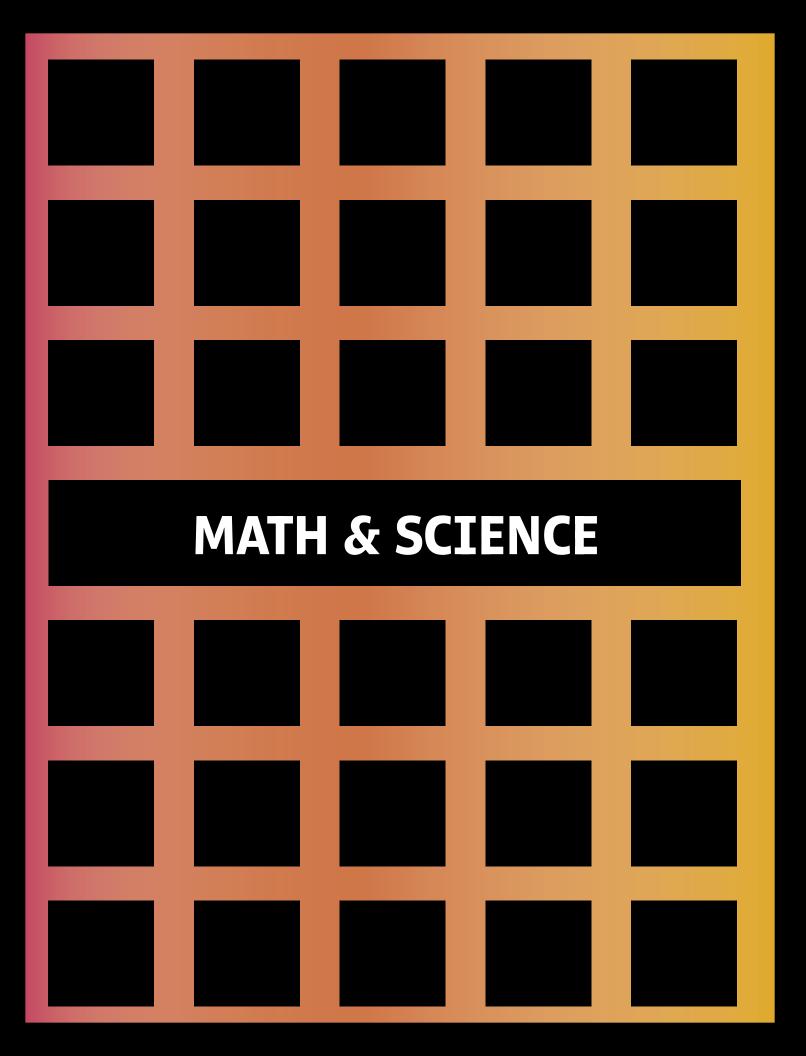
<u>Grid Setup:</u> Position a grid (any size, color, or thickness) on a black felt board. From left-to-right and top-to-bottom, create a repeating pattern of two different hook-backed 2-D shapes, textured tiles, or other 3-D shapes in the first and second rows.

## **Suggested Activity:**

• Have the student continue the repeated pattern encountered on the grid, scanning left to right and top to bottom, until all the grid openings are correctly filled in.







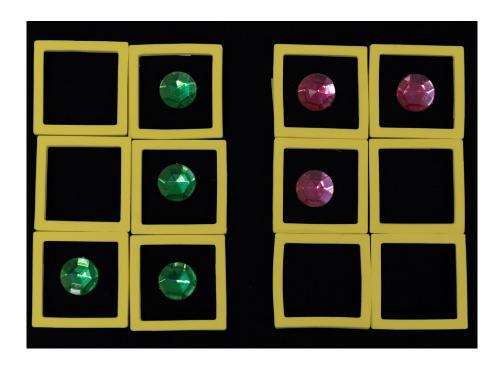
# **Grid and Go Braille Numbers**

Main Objective: Practice counting braille numbers.

Skills and Concepts: Braille numbers (written in UEB or Nemeth); braille cell configuration; braille numeric indicator; numbers 0 through 9

Grid Setup: Construct two 3 x 2 (horizontal x vertical) grids using 12 individual frames and space them slightly apart on a black felt board. Provide 12 circular hook-backed pieces to represent braille dots.

- Have the student "write" a braille number by placing hook-backed circles (e.g., rhinestones) in the openings of the grid. Practice writing numbers 0 through 9. Use the first "cell" for the braille numeric indicator. Either UEB or Nemeth braille numbers can be displayed.
- Have the student use a braillewriter to braille the displayed number.



# **Grid and Go Hundreds Chart**

Main Objective: Learn a variety of number concepts using a hundreds chart.

Skills and Concepts: Numbers 1 through 100; place value; single-digit numbers; double-digit numbers; even and odd numbers; counting; addition; subtraction; multiplication; division; patterning; spatial concepts

Grid Setup: Position a thin red 10 x 10 grid on a black felt board. Create number tiles with print and braille numbers using the square tiles removed from the thick yellow 10 x 10 grid. APH's braille-print number stickers can be applied to the tiles. Tip: Keep these number tiles assembled for use with other types of number activities accommodated by the Grid and Go grids.

- Randomly remove some number tiles from the chart and ask the student to replace the missing tiles in the correct numeric order.
- Ask the student to remove tiles with even numbers (or odd numbers).
- Ask the student to remove number tiles that contain the number 7.
- Ask the student to flip over number tiles that are divisible by 2.
- Place a number tile on the chart and have the student insert the number tiles that immediately surround it (above, below, left, right, and diagonal) in numerical order.
- Practice fractions—e.g., remove half of the tiles from the board, one third of the tiles, one tenth of the tiles, etc.
- Use the chart as a game board. For example, roll a die and move along the chart until a player reaches 100.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

# **Grid and Go Skip Counting**

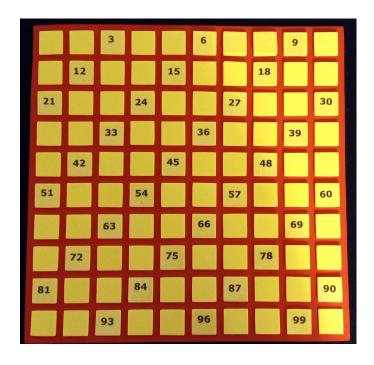
Main Objective: Learn more about functions and patterns in a grid of numbers 1 through 100.

Skills and Concepts: Numbers 1 through 100; place value; counting; addition; recognition of number patterns

Grid Setup: Position a thick red 10 x 10 grid on a black felt board. Create number tiles with print and braille numbers using the square tiles removed from the thick yellow 10 x 10 grid. APH's braille-print number stickers can be applied to the tiles. Tip: Keep these number tiles assembled for use with other types of number activities accommodated by the Grid and Go grids.

### **Suggested Activity:**

 Insert all number tiles within the hundreds chart in the correct order. Have the student skip count by multiples (twos, threes, fives, tens, etc.) by turning over or removing tiles from the grid and then noticing the resulting visual and tactile pattern.



# **Grid and Go Size Sequencing**

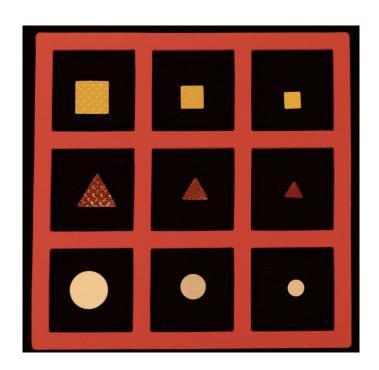
Main Objective: Sequence objects and shapes by size.

Skills and Concepts: Size comparison; tracking left to right and top to bottom

<u>Grid Setup:</u> Position a 3 x 3 grid (any color or thickness) on a black felt board. Provide various shapes or small objects (e.g., buttons, coins) in three different sizes—large, medium, and small—that fit within the grid openings. All the shapes or objects can be the same color and/or texture to increase complexity of the task.

#### **Suggested Activity:**

• Ask the student to sequence the shapes or objects from largest to smallest (or smallest to largest) across each row of the grid, left to right.



# **Grid and Go Graphs**

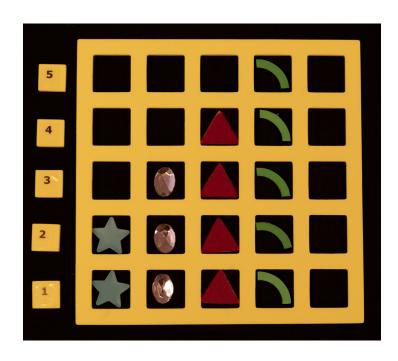
Main Objective: Understand concepts associated with various types of graphs.

Skills and Concepts: Reading graphs; creating graphs; bar graphs; pictographs; X- and Y-axis

Grid Setup: Place a 5 x 5 or 10 x 10 grid (any color or thickness) on a black felt board. Provide an assortment of hook-backed pieces that fit within the grid openings. Also provide braille-print number tiles (such as those used in the Hundreds Chart activities described in this activity booklet) that can be used to label the X-axis and Y-axis.

## **Suggested Activity:**

• Have the student use the grid to read or set up bar graphs, pictographs, etc., using movable and interactive hook-back pieces and labels.



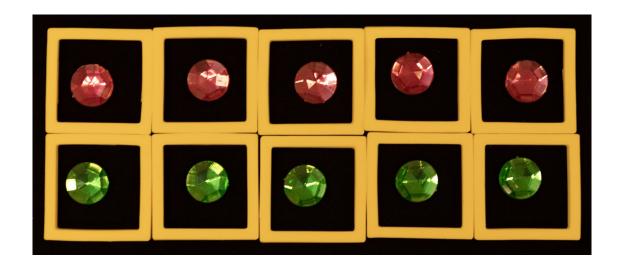
# **Grid and Go Five and Ten Frames**

Main Objective: Use frames to organize factors of 5.

Skills and Concepts: Number concepts; addition; subtraction

Grid Setup: Construct five and ten frames using the 2-in. x 2-in. (5.08 cm x 5.08 cm) individual yellow frames. Provide tokens in contrasting colors or textures in sets of 5. Five and ten frames serve as graphic organizers. The frames can be positioned horizontally or vertically.

- Place a specific number of tokens (one to 10) in the frames. Have the student determine the number represented by the tokens.
- Place a specific number of tokens (one to four) in a five frame. Have the student determine how many tokens are needed to make 5. Then, have the student fill the frame with the needed number of tokens to "make 5."
- Place a specific number of tokens (one to nine) in a ten frame. Have the student determine how many more tokens are needed to make 10. Then, have the student fill the frame with the needed number of tokens to "make 10."



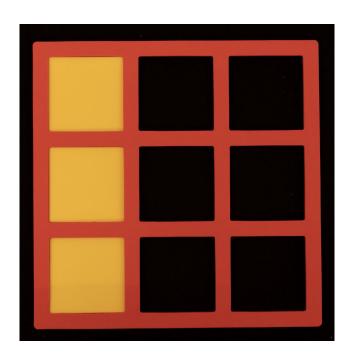
# **Grid and Go Fraction Practice**

Main Objective: Use a grid to illustrate fractions.

Skills and Concepts: Fractions, one-third, two-thirds, whole, etc.

Grid Setup: Use any size or color grid and a contrasting color and/or thickness of square tiles.

- Using a 3 x 3 grid, have the student insert square tiles to fill in one third of the grid, two thirds of the grid, or all openings of the grid to represent "whole."
- Using a 5 x 5 grid, have the student insert square tiles to fill in one fifth of the grid, two fifths of the grid, three fifths of the grid, four fifths of the grid, or all grid openings to represent "whole."
- Using a 10 x 10 grid, have the student insert square tiles to fill in one tenth of the grid, two tenths of the grid, etc.



# **Grid and Go Cube Nets**

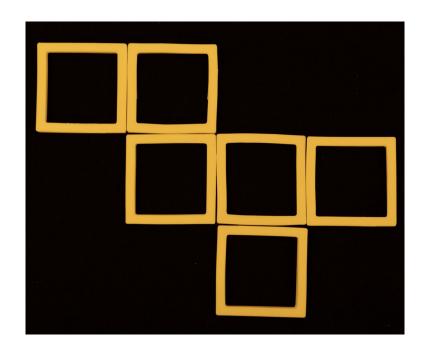
Main Objective: Use spatial reasoning to explore two- and three-dimensional (2-D and 3-D) objects.

Skills and Concepts: Cube; cube nets; 2-D; 3-D; sides; edges; squares; foldable; spatial reasoning skills; mental visualization

Grid Setup: A cube net displays a cube with the square faces flattened and shown as a 2-D image so that all six facing sides are visible. If folded along the edges, the 2-D cube net will result in a 3-D cube. Use six individual yellow frames to construct a variety of 2-D cube nets on a black felt board.

## **Suggested Activity:**

• Display a variety of 2-D nets using six individual yellow frames that would either fold into a 3-D cube or not. Have the student use their spatial reasoning skills to determine whether the display would result in a cube structure. If in doubt, cut the 2-D net design from embossed or printed graph paper and fold along the "sides" to confirm whether a cube is built.



# **Grid and Go Number Pads**

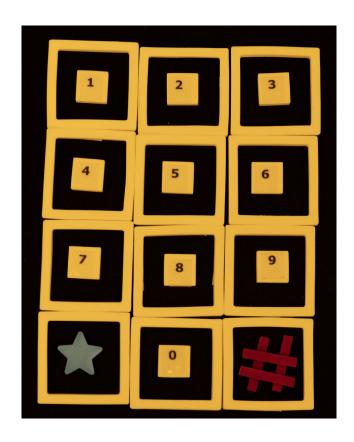
Main Objective: Explore a standard telephone keypad setup.

Skills and Concepts: Number recognition; spatial concepts; scanning skills; exposure to a variety of number pads

Grid Setup: Use the appropriate number of individual yellow frames to construct a variety of number pads (e.g., telephone, calculator). Provide braille-print number tiles and other hook-backed shapes to represent other features encountered on the number pad.

## **Suggested Activity:**

• Set up a variety of number pad arrangements to familiarize the student with a variety of real-life equivalents.



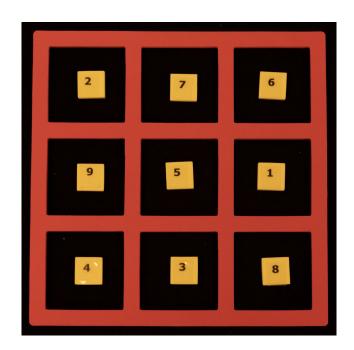
# **Grid and Go** Same Sum in All Directions

Main Objective: Solve a mathematical puzzle using number tiles.

Skills and Concepts: Mathematics (addition); independent problem-solving; spatial directions

Grid Setup: Position a 3 x 3 grid (any color or thickness) on a black felt board. Provide large print and/or braille tiles, one for each of the numbers 1 through 9.

- Have the student insert the number cards within the 3 x 3 grid so that all numbers in each row and column equal 15 when added together.
- Provide a 3 x 3 grid to each player and race to discover who can be the first to position the number tiles correctly to equal 15 in all directions.



# **Grid and Go Butterfly Life Cycle**

Main Objective: Demonstrate knowledge of the life cycle of a butterfly.

Skills and Concepts: Life cycle; egg; caterpillar; pupa or chrysalis; butterfly; arrow; clockwise

Grid Setup: Position a 3 x 3 grid (any color) on a black felt board. Keep the middle and four outer corners of the grid empty. Insert arrows into the remaining four squares to indicate a clockwise direction between stages. Each corner of the grid can feature a print or tactile picture or model for each stage of the butterfly life cycle. Or position four large individual yellow frames on a black felt board, and space them apart to allow room for arrows to indicate a clockwise direction between stages of a butterfly life cycle. Insert print or tactile pictures or models into the individual frames to represent the four different stages of the butterfly life cycle.

## **Suggested Activity:**

• Have the student insert print and/or tactile cards within the individual frames in a clockwise direction to show the butterfly cycle in the correct order.



# **Grid and Go Punnett Square**

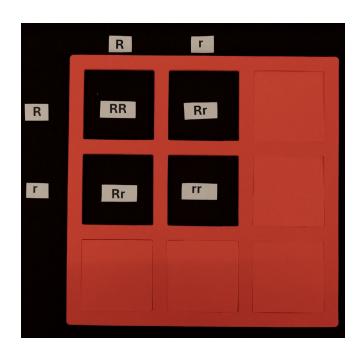
Main Objective: Utilize a Punnett square to make genetic predictions.

Skills and Concepts: Understanding and utilization of Punnett squares to make genetic predictions; quadrant

Grid Setup: Position a 3 x 3 grid (any color or thickness) on a black felt board. Using tiles from the same 3 x 3 grid, block out all grid openings except those that form a 2 x 2 grid (four quadrants). Provide print or braille labels for labeling the columns and rows, as well as two-letter labels to indicate the outcome of the genetic cross.

## **Suggested Activity:**

 Allow the student to use the interactive Punnett square when studying and illustrating genetic predictions. Custom labels can be printed or brailled.



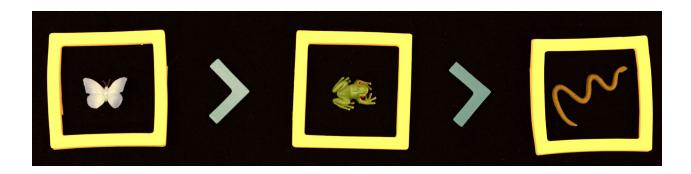
## **Grid and Go Animal Food Chains**

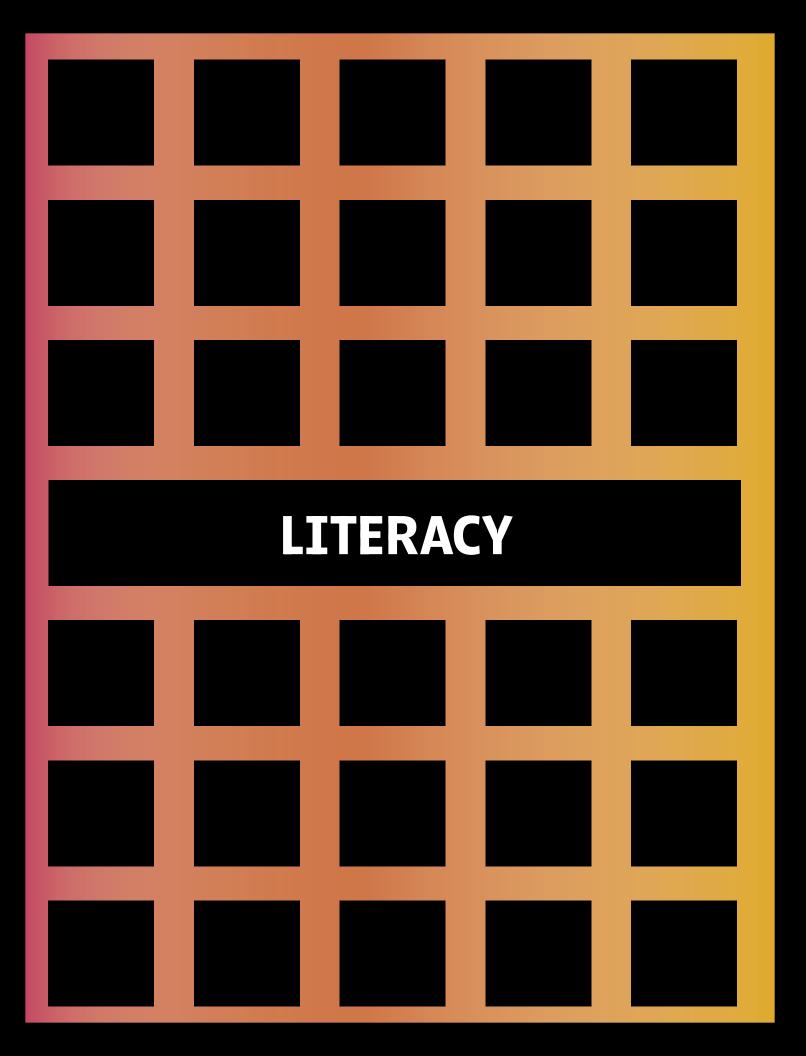
Main Objective: Demonstrate knowledge of animal food chains.

Skills and Concepts: Food chain; living organisms; producers; consumers; predators; ecosystems; food

Grid Setup: Use individual yellow frames (small or large) to build a food chain representation on a black felt board. Insert hook-backed animal picture cards or miniatures into the frames. Use the individual frames to show the sequence or series of organisms that are dependent on one another as a source of food. Print or braille labels can be provided as well to place under or within each frame.

- Provide a variety of picture or tactile cards or miniatures that the student can use to build a variety of animal food chains.
- Construct more complex food webs with individual frames and add directional arrows.





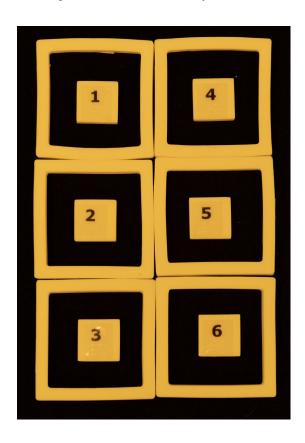
# **Grid and Go Braille Cell**

Main Objective: Become familiar with the dot positions within a braille cell.

Skills and Concepts: Braille cell configuration; braille dot number positions; spatial concepts (e.g., next to, under, above, below)

Grid Setup: Position six individual frames in a 2 x 3 (horizontal x vertical) arrangement on a black felt board to represent a braille cell configuration. Provide number tiles 1 through 6 for each of the corresponding braille dot locations—dots 1, 2, and 3 in the first column and dots 4, 5, and 6 in the second column. Also, provide six hookbacked circles.

- Have the student insert the number tiles into the grid openings to correctly identify each braille dot location.
- Have the student place a round tactile circle in the location of a braille dot as the instructor randomly calls out a dot position.



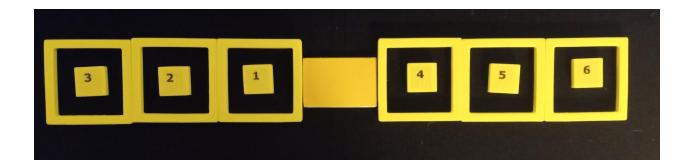
# **Grid and Go Braillewriter Orientation**

Main Objective: Become familiar with the key positions on a braillewriter.

Skills and Concepts: Awareness of braille dot positions ("keys") on a braillewriter; spatial concepts (e.g., next to, between, left side, right side)

Grid Setup: Position six individual yellow frames in a straight row on a black felt board with a "space bar" (represented by a rectangle piece) placed between the third and fourth frames. Provide number tiles 1 through 6 for each of the corresponding braille dot "key" positions as encountered on a braillewriter.

- Have the student place each number tile in the correct location to match the braille dot "key" position on a braillewriter.
- Compare the constructed display next to a braillewriter. Ask the student to add shapes to the display to represent other features on the physical braillewriter (e.g., line-feed key).



# **Grid and Go Braille Alphabet**

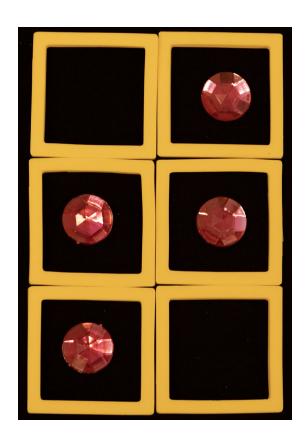
Main Objective: Build braille letters on a grid.

Skills and Concepts: Knowledge of braille alphabet; braille cell configuration; corresponding dot positions

Grid Setup: Position six 2-in. x 2-in. (5.08 cm x 5.08 cm) individual yellow frames in a 2 x 3 (horizontal x vertical) arrangement on a black felt board. Provide six hookbacked circles (approximately 1 to 1.5 in., or 2.54 to 3.81 cm, in diameter) of a contrasting color.

## **Suggested Activity:**

• Depending on the student's familiarity with the braille alphabet, have the student use the circles to build various braille letters. The left column represents braille dot positions 1, 2, and 3 (top to bottom); the right column represents braille dot positions 4, 5, and 6 (top to bottom). Then have the student braille the letter using a braillewriter.



# **Grid and Go Missing Letters**

Main Objective: Complete incomplete words using braille or print letters.

Skills and Concepts: Word recognition; spelling; decoding; consonant; vowel

Grid Setup: Position one individual frame for each letter that appears within a word on a black felt board. Leave one or more of the frames empty. Provide print or braille letter tiles that can be used to fill in the empty frames to build complete words.

### **Suggested Activity:**

• Have the student select from the available letter tiles to build a complete word or words. Are multiple words possible? How many possible words can they build?



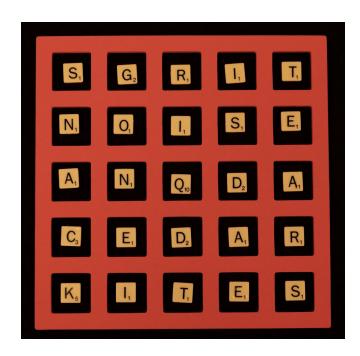
# **Grid and Go Word Search**

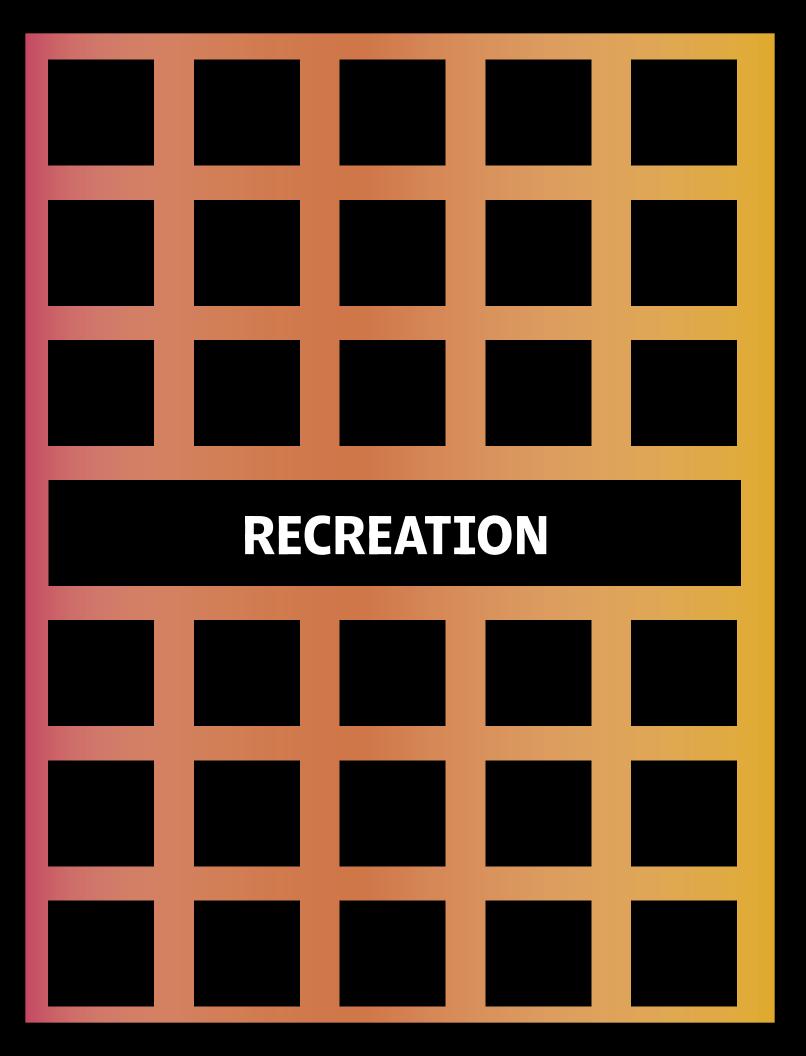
Main Objective: Identify words in a puzzle using scanning techniques.

Skills and Concepts: Word recognition; scanning techniques; spatial concepts (e.g., up, down, diagonal, top, bottom)

Grid Setup: Position a 5 x 5 grid (any color or thickness) on a black felt board. Insert braille and/or print letter tiles within the grid openings to create multiple words. Apply hook material to the back of the letter tiles, if needed.

- Provide the student with a list of words to search for within the grid.
- Have the student scan the grid and write down as many words as they can find in any direction.





# **Grid and Go** Tic-Tac-Toe

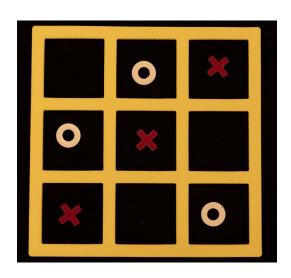
Main Objective: Use strategy skills to win a tic-tac-toe game.

Skills and Concepts: Systematic scanning; shape discrimination; texture discrimination; size discrimination; color discrimination; spatial concepts (e.g., left, right, middle, corner, etc.); turn taking

Grid Setup: 3 x 3 grid (any color or thickness)

- Game option A: X and O pieces of contrasting colors and/or textures Suggestion: Use X and O pieces included with APH's Picture Maker: **Geometric Textured Shapes**
- Game option B: Two types of objects (five of each) that have contrasting, colors, sizes, and/or textures

- Game option A: X-and-O Tic-Tac-Toe. Position a 3 x 3 grid (any color or thickness) on a black felt board to accommodate the traditional tic-tac-toe game. Furnish hook-backed X and O game pieces—ideally different colors and textures. It is recommended to select a grid color that visually contrasts with the playing pieces. Follow traditional tic-tac-toe game directions.
- Game option B: Anything Goes Tic-Tac-Toe. Substitute the X and O pieces used in Option A with any two items that have contrasting colors, sizes, and/or textures. Encourage the student to be part of the selection for game pieces. Use traditional tic-tac-toe game directions.



# **Grid and Go Find the Differences**

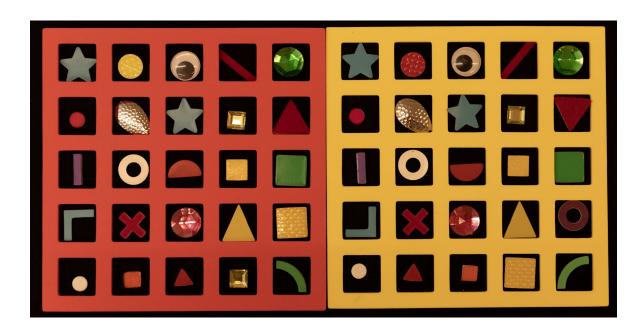
Main Objective: Identify the differences between two visual or tactile presentations.

Skills and Concepts: Spatial understanding; shape recognition; texture discrimination; tracking left to right; rotation

<u>Grid Setup:</u> Position two 3 x 3 grids or two 5 x 5 grids (any color or thickness) adjacent to each on a black felt board. Fill in all or some of the openings with similar shapes between the two grid displays and incorporate a few differences. Increase or decrease the number of visual or tactile differences based upon the desired complexity.

### **Suggested Activity:**

• Have the student compare the two grid displays and identify the differences between the two presentations.



# **Grid and Go Tactile Memory Game**

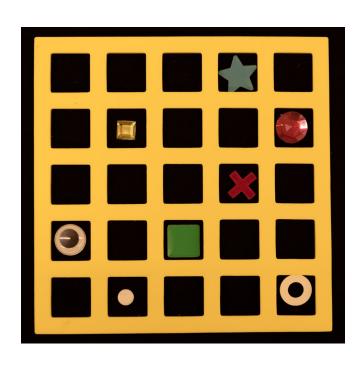
Main Objective: Use memory and exploration skills to recreate a layout.

Skills and Concepts: Scanning; spatial concepts; tactile memory; visual memory

Grid Setup: If an APH Picture Maker felt board is available, position a 5 x 5 grid on each side of the bifold board. The instructor inserts hook-backed 2-D shapes into some of the openings of one of the positioned grids. For each displayed shape, make sure to have a duplicate shape available for the student's use. If needed, simplify the game using a 3 x 3 grid.

#### **Suggested Activity:**

• Give the student a duration of time (e.g., 5 or 10 minutes) to explore and study the grid arrangement that the instructor has created within one of the 5 x 5 grids. After the allowed time, fold the board back on itself (or hide it) and ask the student to arrange the provided duplicate shapes in the same location within the empty grid as the grid previously explored. Have the student self-check their arrangement by showing them both assembled grids side by side. Are all the shapes in the same location or grid openings?



# Grid and Go Snowman

Main Objective: Decode an incomplete word using limited clues.

<u>Skills and Concepts:</u> Letter awareness; spelling; word recognition; word-decoding skills; language skills; pronunciation; deduction skills; problem-solving; sorting; picture making

Grid Setup: Sequence individual letters (print and/or braille) of the alphabet at the top of a black felt board. At the bottom of the board, place individual yellow frames adjacent to one another to represent the letters that build the secret word. Place an X shape on the board next to which incorrectly guessed letters are placed during gameplay. Provide separate hooked-backed pieces that build a snowman (e.g., three snowballs of varying sizes, two arms, and other features) depending on the number of guessing attempts allowed.

- Have the student guess the secret word by filling in the individual frames with each individual letter of the word before a complete "snowman" is built.
- The game can be played by a single player or by multiple players who take turns guessing the secret word.



# Grid and Go Trading Places

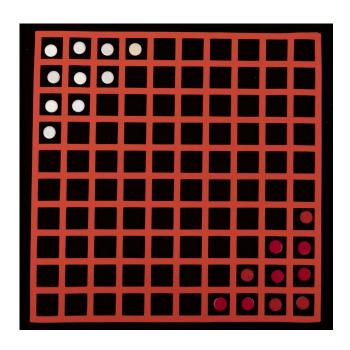
<u>Main Objective:</u> Use strategy and spatial concepts to compete against an opponent on the grid.

<u>Skills and Concepts:</u> Directionality; spatial concepts (e.g., *corner*, *opposite*, *toward*); turn taking

<u>Grid Setup:</u> Position a 10 x 10 grid (any color or thickness) on a black felt board. In two opposite corners of the board, position game tokens (that are discriminable by shape and/or color) in a triangular pattern—10 tokens of one type in one corner and 10 tokens of another type in the opposite corner. Provide a single tactile die for players to roll to determine who begins the game.

#### **Suggested Activity:**

Gameplay for two players: Each player chooses a home base corner. Players
alternate turns and move one game token at a time, either moving their
token to an adjacent square OR moving it in a chain of multiple hops over
the opponent's tokens or one's own in the direction of their opponent's
home base corner. Jumping over two or more tokens (one's own or
an opponent's) in a single jump is not allowed. Game tokens are never
removed from the game grid during play. The winner is the first player who
transfers all their game tokens to their opponent's corner of the grid.



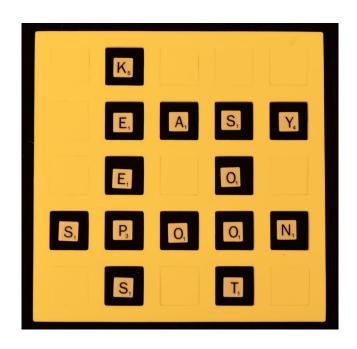
# **Grid and Go Crossword Puzzle**

Main Objective: Solve a crossword puzzle on the grid.

Skills and Concepts: Spelling; vocabulary; spatial concepts (e.g., row, column, intersecting); knowledge retention

Grid Setup: Position a 5 x 5 or 10 x 10 grid on a black felt board. Insert blank square tiles of the same color and thickness as the grid to mask out openings where letters are not needed. Provide letter tiles in print and/or braille. (Tip: Apply braille-print alphabet stickers to one side of the square tiles removed from the grid. Keep these alphabet tiles for later use with other Grid and Go activities.) Provide the crossword clue and indicate the beginning location (e.g., first row/ second column) of the answer.

- Use different size grids to increase or decrease the complexity of the customized crossword puzzles.
- Encourage the student to independently create a crossword puzzle of their own and write clues.



# **Grid and Go** Checkers

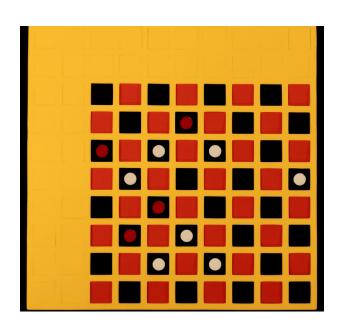
Main Objective: Use strategy and spatial concepts to play checkers against an opponent.

Skills and Concepts: Turn taking; experience with the game of checkers; scanning; shape identification; directional movement; strategic thinking

Grid Setup: Position the thick yellow 10 x 10 grid on a black felt board. Mask out the two left columns and the top two rows with the square yellow tiles (from the 10 x 10 grid) to create an 8 x 8 game board. Use the square tiles from the thick or thin red 10 x 10 grid to create an alternating checkerboard pattern on the grid. The black squares will serve as landing spots for hook-backed game tokens during game play. Provide two tactually and visually different game tokens (12 each) to assign to game players. "Kings" can be represented by slightly larger size pieces of the same shape that fit within the grid openings.

#### **Suggested Activity:**

 Follow the conventional rules for playing a game of checkers and encourage skills related to systematic scanning and shape or texture discrimination during gameplay.



# **Grid and Go** Concentration

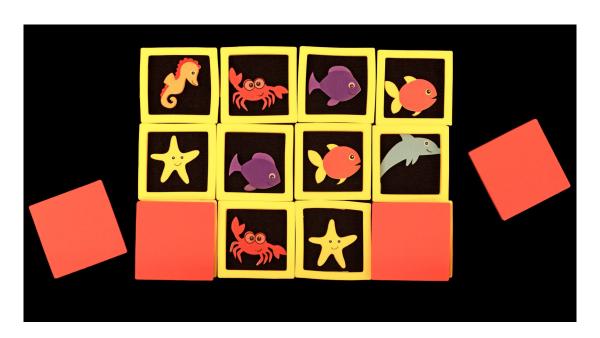
Main Objective: Use memory and exploration skills to identify and complete pairs randomly hidden in a grid.

Skills and Concepts: Tactile and visual memory; spatial concepts; scanning and tracking; shape identification; texture discrimination; turn taking

Grid Setup: Create any size grid configuration with the individual yellow frames on a black felt board to accommodate a classic game of Concentration. Randomly place matching pairs of shapes inside the frames. Cover the frames with the masking tiles.

## **Suggested Activity:**

 Play a classic game of Concentration by having players take turns locating matching pairs (shapes, textures, or pictures). The player finding the most matching pairs wins the game.



## **Grid and Go Word Jumble**

Main Objective: Decode a scrambled word using individual letters.

Skills and Concepts: Word decoding; vocabulary; spelling; problem solving; focus and attention

Grid Setup: Represent each letter of a word with a separate individual yellow frame and place the necessary number of frames in a row on a black felt board. Scramble the letter tiles (in print or braille) within the frames.

- Have the student unscramble a variety of words.
- Present several word jumbles and give the student a time limit to solve as many as possible.



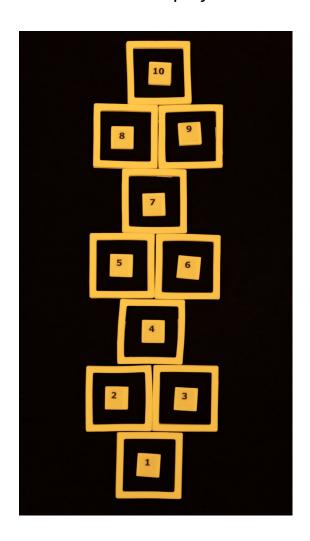
# **Grid and Go Hopscotch Layout**

Main Objective: Explore a traditional hopscotch layout on a small scale.

Skills and Concepts: Familiarity with a common recreational game and related layout

Grid Setup: Use 10 individual yellow frames to display the common layout of a hopscotch game. Insert braille-print number tiles into the corresponding frames to represent the hopscotch layout.

- Orient a student to the layout of the hopscotch game and use it as a tactile or visual reference or map during actual gameplay on the playground.
- Use the same frames and tiles to display variations on a hopscotch layout.



# **Grid and Go A-MAZE-ing**

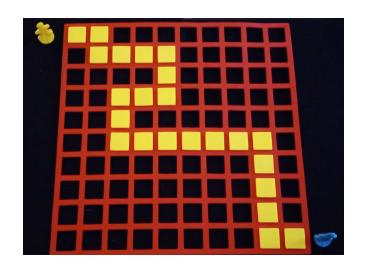
Main Objective: Find your way out of a maze using tracking and spatial skills.

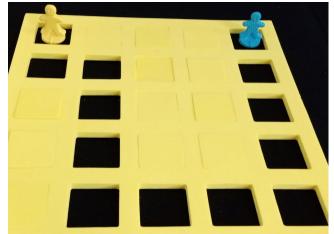
Skills and Concepts: Line tracking; spatial concepts (left, right, down, etc.); identifying "start" and "end" locations

#### **Grid Setup:**

- Game option A: Place a thin yellow 10 x 10 grid on a black felt board. Insert square tiles from the thick red 10 x 10 grid into the square openings to create a maze or path from a starting location to a destination.
- Game option B: Place a thick 10 x 10 or 5 x 5 grid (red or yellow) on a black felt board and insert square tiles of the same color and thickness to create a walking path using the remaining open squares. The open squares will create a path from a starting location to a destination.

- Create different types of a paths or mazes and have the student "walk" a 3-D figure of a person from the starting location in the upper-left corner to an ending location (e.g., a friend represented by another 3-D model) to the lower-right corner.
- Surround the path with landmarks (e.g., house models) that can be used to provide directional cues.
- Increase the complexity of the walking path or maze by incorporating detour paths that do not lead to the destination.
- Replace the square tiles with other types of tactile markers to add interest and diversity to the mazes or paths.





## **Related APH Products**

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