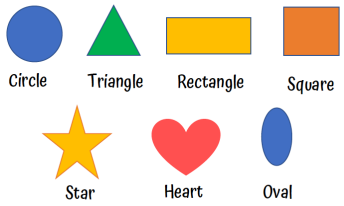
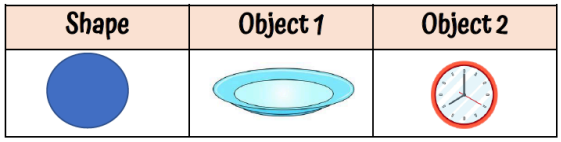
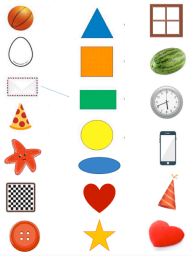
Beauty in Shapes Project (Level 0)

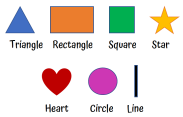
Description:	Learners will learn about shapes while using readily available examples within their homes and their bodies. Learners will also use their body parts to measure various things, learn about the need for standardized measurements, and use what they have learned to create geometric patterns.
Leading question:	Can shapes and measurements be beautiful?
Subjects:	Mathematics, Art and design, physical exercise, and wellness
Total time required:	~4 hours over 4 days
Self-guided / Supervised activity:	Medium supervision from educator/guardian/parent
Resources required:	Paper and pencil, (optional: removable stickers like sticky notes).
Learning outcomes	By the end of this project, learners will be able to: 1. List the characteristics of 2-D shapes 2. Draw 2-D shapes 3. Write down letters of the alphabet in upper case 4. Match 2-D shapes with objects that look like those shapes as well as letters of the alphabet that look like those shapes 5. Learn and practice how to draw a circle, triangle, rectangle, and a square
Previous Learning	None

Day 1 -

Today, you will explore different aspects of 2D shapes.

Time	Activity and Description
15 minutes	Learners will learn about and explore different aspects of 2D shapes Guide the learners' attention to the shapes below:  Source: https://resources.educationaboveall.org/learning-packages/level-0-ages-4-5 Spend some time looking closely at each one of them. For each case, ask learners: ▪ What do you see? ▪ Can you give one characteristic for each of these shapes?

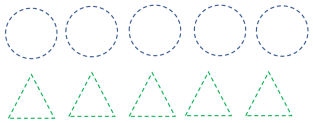
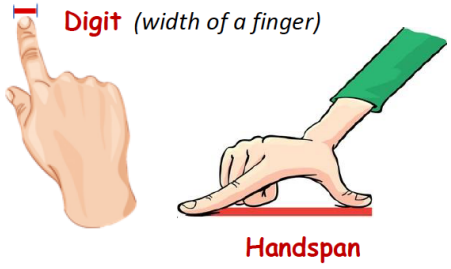
25 minutes	Use the learners' responses to arrive to the following conclusions: ▪ A triangle is made of 3 sides, and it has 3 angles or corners. ▪ A circle is a set of points that are all exactly the same distance from one point, which we call the center. ▪ A square has 4 equal sides and 4 right (90 degree) angles. ▪ A rectangle has 4 right angles, but its sides are not all equal. It has two long sides and two short sides. ▪ A star has 5 pointed sides. It is like 5 triangles combined. ▪ A heart has a double rounded top and is pointed at the bottom. ▪ An oval is a stretched-out circle with two long sides and two short sides. **Find the Shapes:** For each of the shapes, find and draw at least two objects that look like that shape. **Example**  Source: https://resources.educationaboveall.org/learning-packages/level-0-ages-4-5 Do the same for all the shapes you have learnt about above. **Shape Matching:** Make a copy of the Shape-Object Matching Worksheet for the learner. Ask the learner to match up the different objects to the shapes they look like. See example below: 
15 minutes	**Critique and revision:** Learners present their objects for each shape to their parents or family members for feedback and suggestions for improvement. The parents or family members provide feedback using the following format: ● Praise: What did you like about the learner's work done? ● Question: Any questions or clarifications you have about the work?

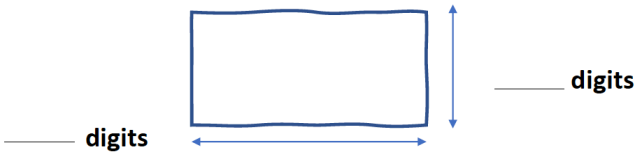
10 minutes	• Suggestions: In what areas does the learner need to improve their work? **What shape are you?** **How to play the game:** To play the game, you will need at least 4 or more players. Instructions: ▪ Each player acts out these shapes and lines:  Source: https://resources.educationaboveall.org/learning-packages/level-0-ages-4-5 ▪ If others guess the shape correctly, the player gets a point. ▪ The player with the most points wins the game. Examples of how the learners can act out some of the shapes can be seen below.  Triangle Square Star

Day 2 -

Today, you will identify shapes around you.

Time	Activity and Description
5 minutes	Learners will continue to learn how to identify shapes within their environment, practice drawing the circle and triangles and learn above some measurements that were used in the past. Guide the learners' attention to the drawing below:  Ask the learners: What shapes do you see in the drawing above? (Answers: Circle, triangle, square etc.)

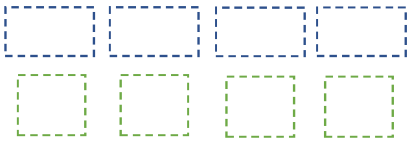
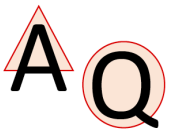
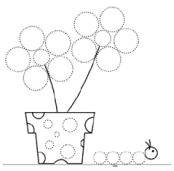
10 - 15 minutes	**Drawing shapes:** Let us practice drawing shapes! Trace the following:  You can print a copy of the Circle and Triangle Tracing Worksheet for the learner to be able to do this activity or draw the shapes yourself ***Drawing activity:*** Draw the sun and the clouds at the top of the page using shapes and lines.
15 minutes	**Critique and revision:** Learners present their work to their parents or family members for feedback and suggestions for improvement. The parents or family members provide feedback using the following format: ● Praise: What did you like about the learner's work done? ● Question: Any questions or clarifications you have about the work? ● Suggestions: In what areas does the learner need to improve their work?
30 minutes	**Measurements:** **Say to the learner: Measuring lets us know how long or short an object is. Or how heavy or light. Today, we'll learn how to measure how long an object is.** In the past, people used their bodies to tell how long something was. Today we are going to learn about 2 of these ways: The first one is the digit (width of the finger) and the second one the handspan. See the image below:  Ask the learner: ▪ How many digits are in your handspan? (Answer: _____) ▪ Which other body parts can we use to measure things?

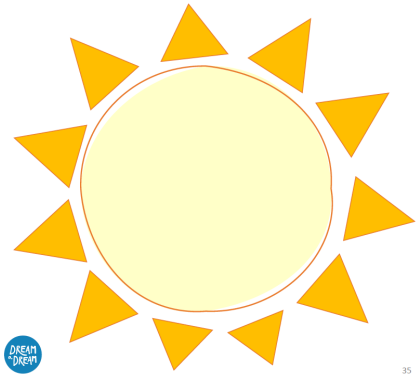
10 minutes	*Exercise: Using Digits for measurements.* How many digits is your drawing sheet? Use your finger to find out  *Exercise: Using hand spans for measurements.* Ask the learners to draw an outline of a friend's body (it can also be from a family member). Like the image below:  Ask the learners to measure the following using their handspans: ▪ Hand Length ▪ Leg Length ▪ Full Body Length **Reflection on measurement:** Educator/parent meets with the learner(s) and have them reflect on the following questions: - What have you learnt from the measurement activities? - What do you remember the most from the measurement activities? - What questions about measurement do you still have? Educator/parent ensures to respond to any questions the learner(s) may still have above measurement.

Day 3 -

Today, you will practice drawing shapes.

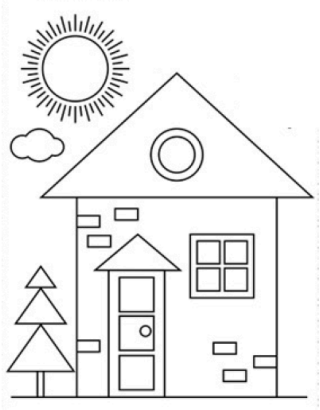
Time	Activity and Description
10 minutes	**Drawing shapes:** Let us practice drawing rectangles and squares! Trace the following:

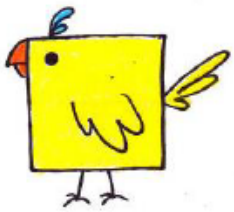
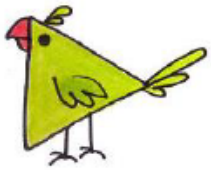
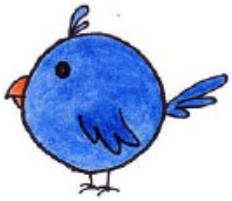
10 minutes	 Print a copy of the Circle and Triangle Tracing Worksheet for the learner to be able to do this activity or draw the shapes yourself. **Literacy extension:** Shapes in the alphabet: Ask the learner to write down all the letters of the alphabet in the upper case. Next, ask the learner to identify the different shapes they can see in the different letters of the alphabet. See example below:
10 minutes	 Next, we are going to draw some objects using the shapes we know and have been learning throughout this project. 1. Ask the learners to draw a house using triangles, rectangles, and squares. They will need to add details to the house and compound such as a door, windows, roof, trees etc. 2. Ask the learners to draw two potted plants using shapes of their choice. See examples below:
10 minutes	  **The Sunny Side:** Ask the learner to get in a relaxing position and then: ▪ Take 3 deep breaths. ▪ Close your eyes and think of all the things that make you happy. ▪ What comes to mind? What are you thinking about? Draw what comes to mind in the sun below:

10 minutes	 **Critique and revision:** Learners present their work for the day to their parents or family members for feedback and suggestions for improvement. The parents or family members provide feedback using the following format: ● Praise: What did you like about the learner's work done? ● Question: Any questions or clarifications you have about the work? ● Suggestions: In what areas does the learner need to improve their work?

Day 4 -

Today, you will identify and count and draw more shapes.

Time	Activity and Description
10 minutes	Learners will count the number of shapes in a house and match objects to shapes they resemble. Ask the learners to study the picture below and identify what shapes they can see in the picture. Once they have identified the shape, then ask them to count how many of that shape they can find in the picture. 

5 minutes	Learners can use a table like the one below to summarize their responses. **Bird Shapes:** Ask the learner: - What is your favorite bird or animal? - Can you draw your favorite bird or animal using shapes? See some examples below:   
15 minutes	**Story Time: Who will win?** This is the Shapes Family. In their town, there is a Lantern Competition.  The Shapes are getting ready for it. Circle and his sister, Triangle, got to work.

Name of shape identified	Number of shapes found
Circle	4

Circle made a lantern with circles. Triangle made one with triangles.

Mr. Square and Mrs. Rectangle said, “Isn’t it boring to use the same shapes all the time?”

“Let us try something new!” said Circle.

Together, they made a lantern with circles and triangles.

Mr. Square loved the new lanterns. Who do you think won the competition?

Ask the learner some comprehension questions:

15 minutes	▪ Name the characters in the story. ▪ What was the name of the competition? ▪ What did the circle use to make lanterns? ▪ What did Mr. Rectangle and Mr. Square say? ▪ Can you draw your own lantern using shapes? **Overall Project Reflection:** The learner will now think about all the exercises they have done for the past 3 days and take note of "TWO" of the following: ▪ What is the most important lesson you have learnt through this project? ▪ What are you found challenging, puzzling, or difficult to understand? ▪ What question would you most like to discuss? ▪ What is something you found interesting?

Additional enrichment activities:	● **Shape Scavenger Hunt:** Have learners go on a shape scavenger hunt around their home or school to find real-world objects that match different shapes. They can create a collage or presentation showcasing their discoveries. ● **3D Shape Exploration:** Introduce three-dimensional shapes (cylinder, sphere, cube) and have learners identify and create objects using these shapes. This adds complexity to their understanding of shapes. ● **Geometry in Nature:** Explore how shapes exist in nature. Encourage learners to find and photograph shapes in leaves, flowers, and other natural elements. Discuss the role of shapes in the environment. ● **Shape Art Project:** Challenge learners to create a piece of art using only geometric shapes. This can be a collaborative project where they combine shapes to form a larger artwork.
Modifications for simplification	● For learners who find drawing shapes challenging, start with simpler shapes like circles and squares. Gradually introduce more complex shapes as they gain confidence. ● Foster a collaborative learning environment where learners can work together on shape-related activities. Peer support and interaction can provide additional assistance and motivation.

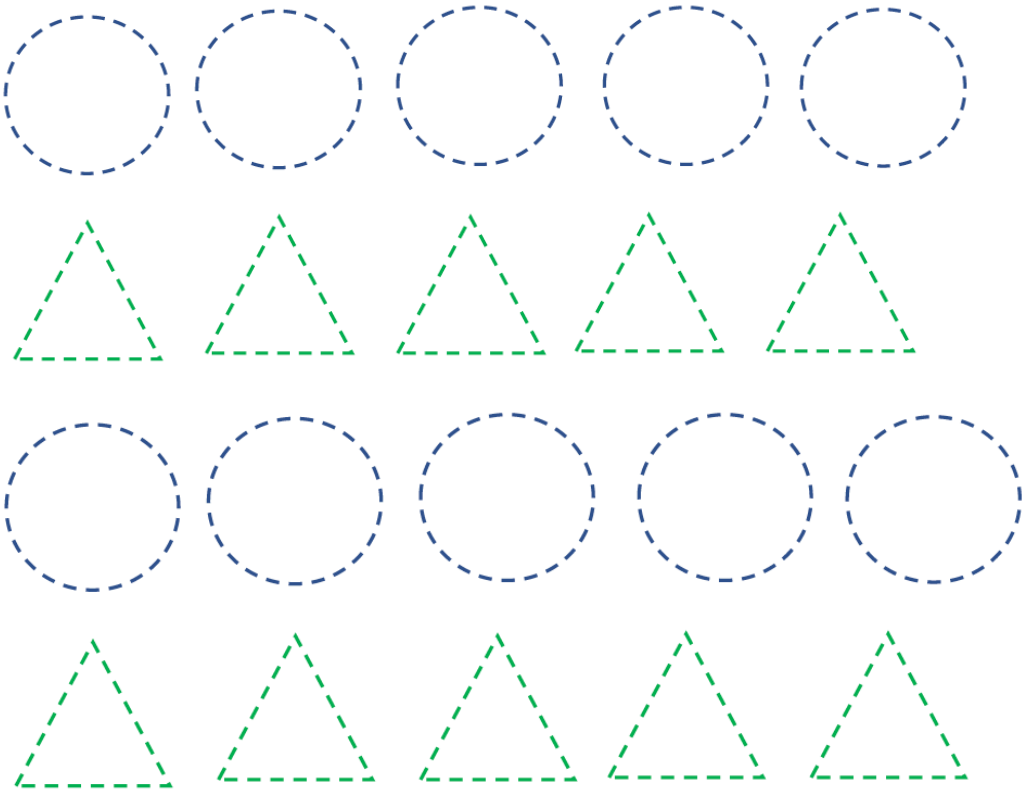
ASSESSMENT CRITERIA

☐ Learners understand the differences between 2D shapes (number of sides, number of angles, etc.)

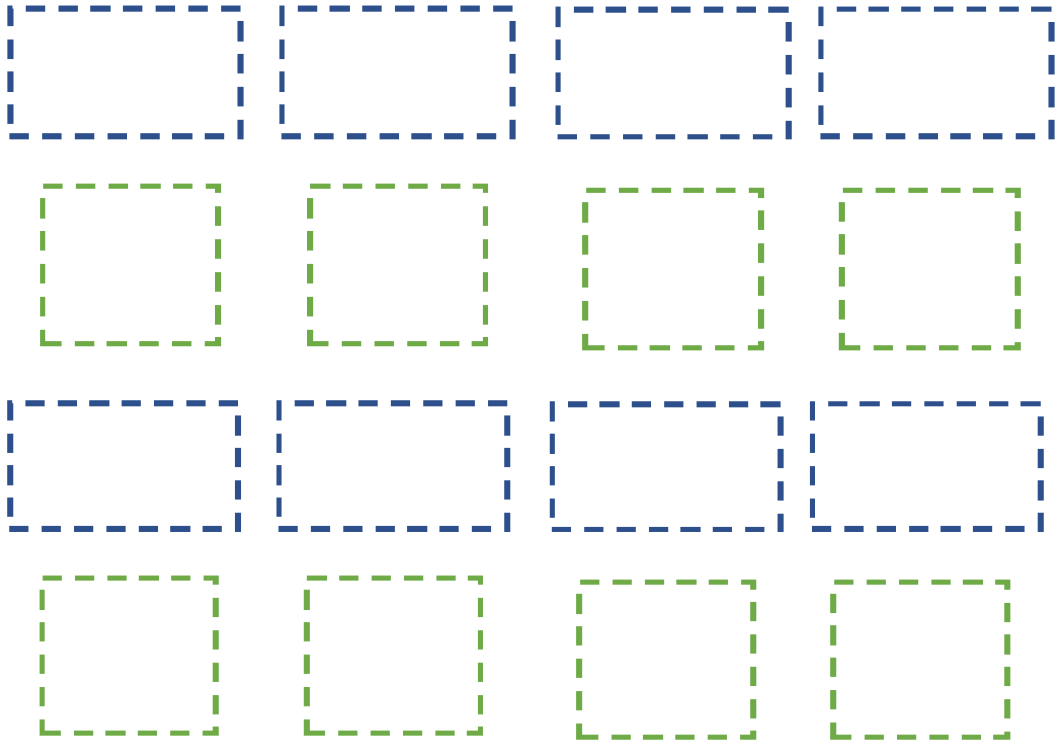
- ☐ Learners recognize shapes in objects around them
- ☐ Learner's answers about their conclusions and reflections
- ☐ Learner's creativity in the daily activities
- ☐ Learners review and improve their work based on feedback
- ☐ Learner's engage in a brief conversation based on their comprehension of a story.

APPENDIX 1:

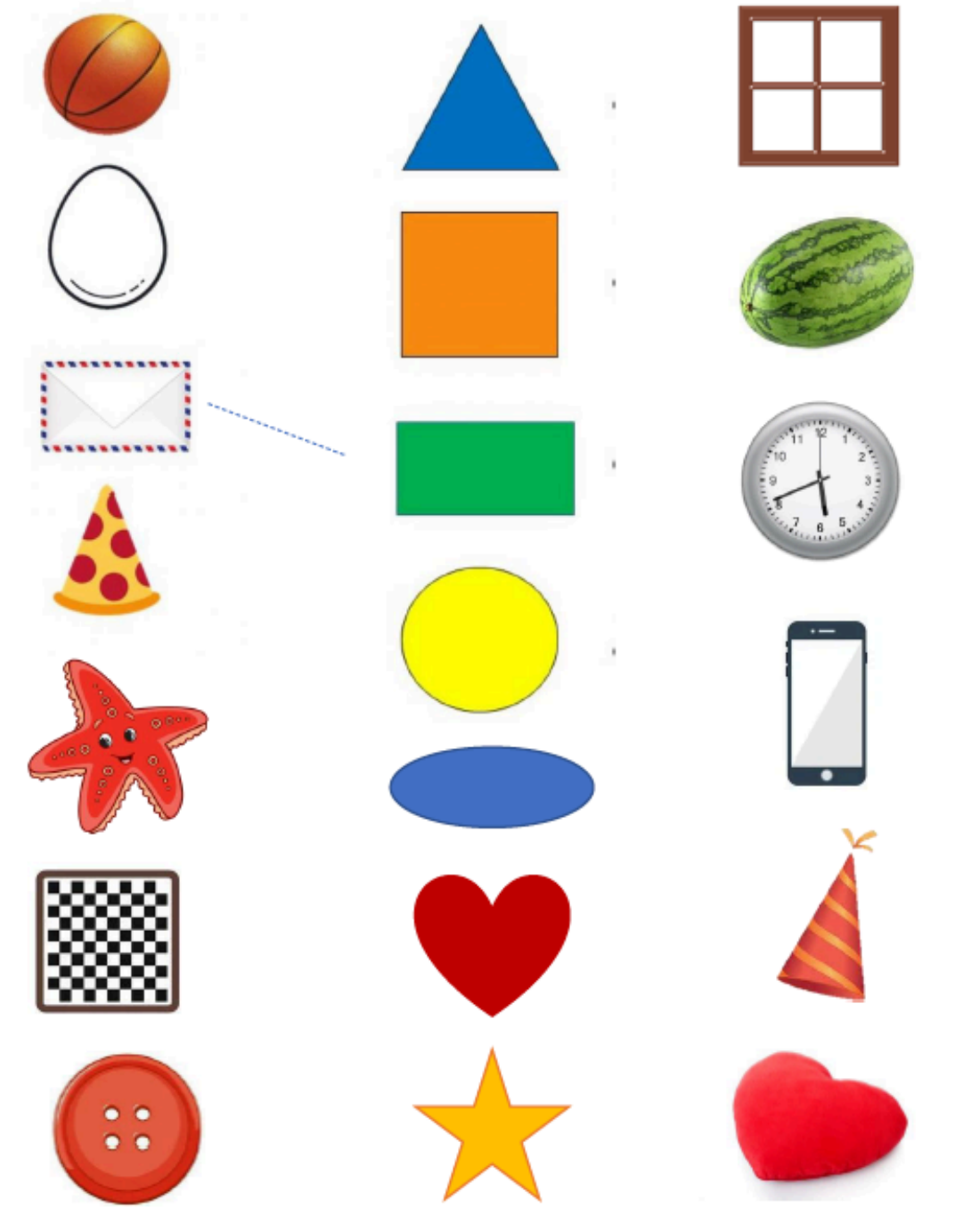
Circle and Triangle Tracing Worksheet



Rectangle and Square Tracing Worksheet



Shape Object Matching Worksheet



EAA welcomes feedback on its projects in order to improve. For feedback please use this link
https://forms.gle/pVXs3vQEufuzSShs7