

Architecture - Mapping a Floor Plan

Answer Key

Name: _____

Date: _____

Vocabulary

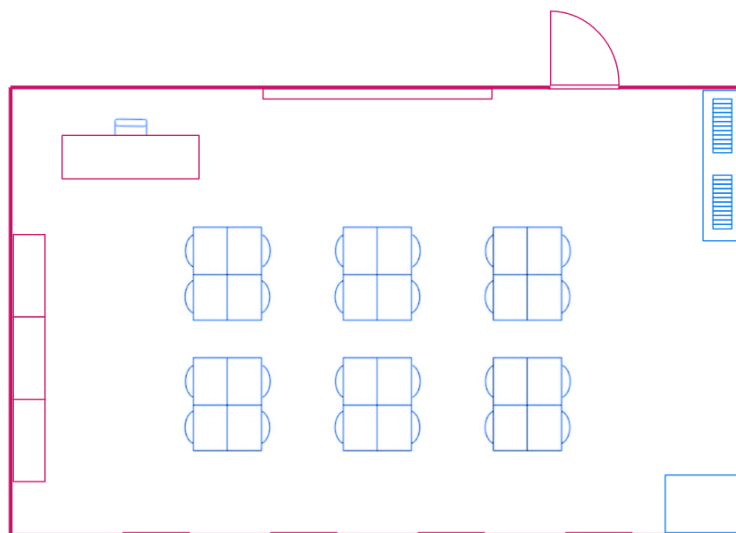
Floor Plan - A drawing that shows the layout and arrangement of a room or building.

Activity 1

For this activity, you will use Ari's distance app to take measurements of your classroom and start drawing a floor plan, which will then be redesigned to create your dream learning environment.

- ☐ Measure your classroom's outer walls, windows, and doors using Ari's distance app, using centimeters as the unit.
- ☐ Decide how much distance each square will represent and note this on the next page.
- ☐ Draw your classroom's walls, windows, and doors on the graph paper on the next page.
- ☐ Measure any fixed structures in the classroom and add those to your floor plan. Fixed structures include any objects or furniture that cannot be moved. Make sure that these are drawn to scale.

For example, in the image on the right, the objects that are fixed are red and include the walls, windows, door, teacher's desk, and the 3 cabinets on the left.



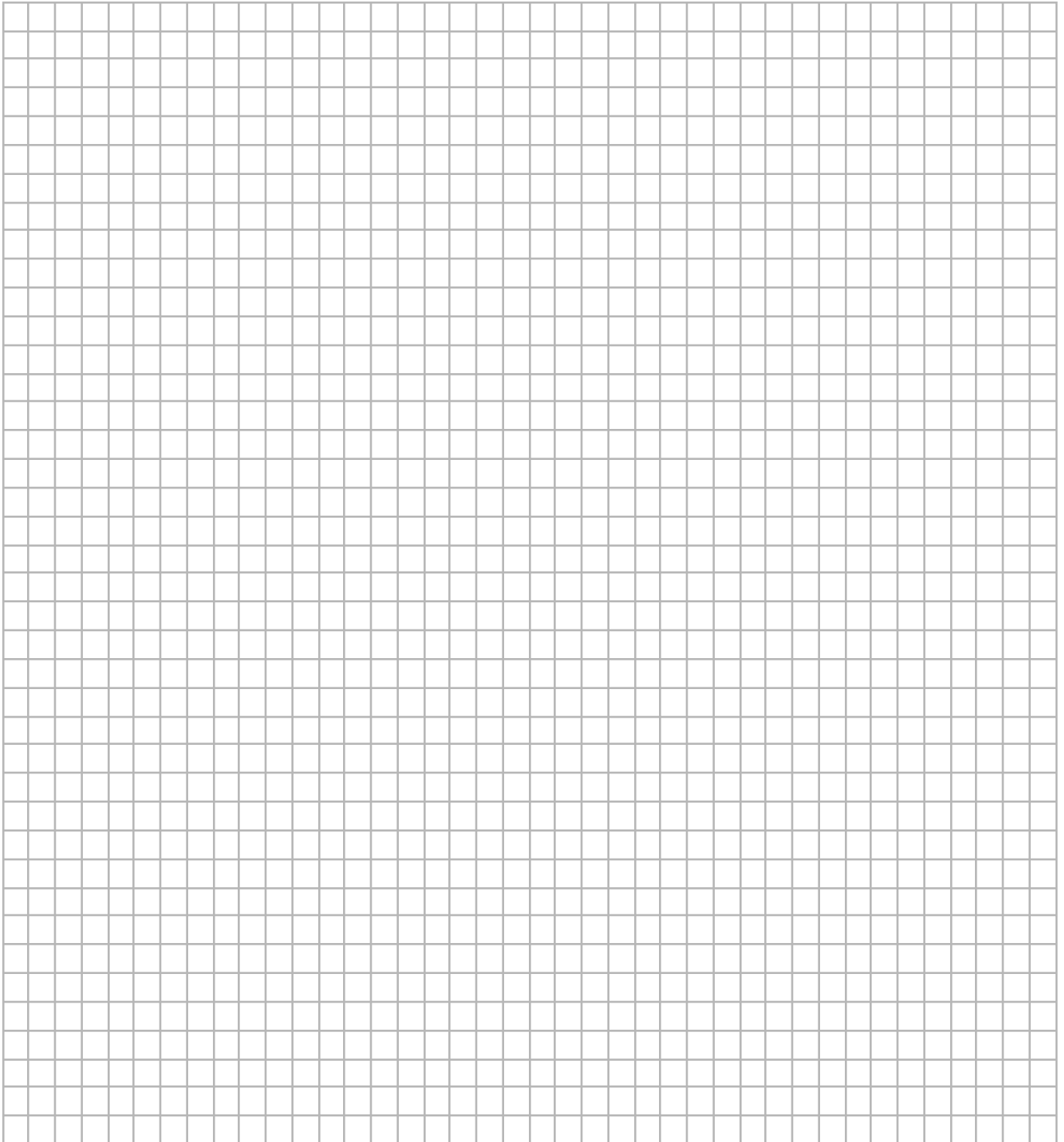
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Scale: 1 square = _____ centimeters



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Activity 2

For the second activity, you will channel your inner interior designer to create the layout for the classroom of your dreams.

You are encouraged to get creative with it but make sure that your layout creates a nice learning environment and has enough seating for everyone in the class. Below are the requirements for your floor plan.

- ☐ The floor plan should include enough seating for every student in the class
- ☐ The floor plan elements (chairs, tables, etc) should be proportional and drawn to scale
- ☐ The floor plan should include other elements like plants and decorations, bookshelves, reading/study nooks, etc.
- ☐ Floor plan elements should be clearly identifiable or labeled

As you are creating your floor plan, make sure that you are using Ari to measure and draw objects to scale.

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Exit Ticket

Please answer the following prompts.

Do not forget to include your **name** and **date** on this paper!

1. An architect is drawing a floor plan of a client's office. The floor plan is drawn at a 1:60 scale. If the client's desk has a width of 120 cm and a length of 60 cm, what are the dimensions of the desk when drawn at 1:60 scale?

$$\frac{120 \text{ cm}}{60} = 2 \text{ cm (width)}$$

$$\frac{60 \text{ cm}}{60} = 1 \text{ cm (length)}$$



2. A home builder is trying to calculate the area of a living room from a floor plan. He knows that the floor plan is drawn at a 1:15 scale.

If the dimensions of the floor plan are 0.36 m x 0.30 m, calculate the total area of the living room after construction. ($area = length \times width$)

$$0.36 \text{ meters} \times 15 = 5.4 \text{ meters}$$

$$0.30 \text{ meters} \times 15 = 4.5 \text{ meters}$$

$$area = length \times width = 5.4 \text{ meters} \times 4.5 \text{ meters} = 24.3 \text{ m}^2$$