

Minecraft School Tours

Focus Questions

1. Briefly summarise the BTN *Minecraft School Tours* story.
2. What type of mathematical formulas did the kids use to help build their school in Minecraft?
 - a. Area
 - b. Perimeter
 - c. Ratio
 - d. All of the above
3. What is a trundle wheel?
4. What ratio did the kids use in Minecraft to create a room?
5. What did the kids find difficult during the project?
6. How long did it take the kids to finish the project?
7. Describe one aspect of the virtual school in the BTN story.
8. Why did the kids build their school in Minecraft?
9. What do you like about Minecraft?
10. Draw a plan of your classroom. Calculate the area and perimeter.

Key Learning

Students will use mathematical formulas like area and perimeter to create a scale drawing of their classroom.

Curriculum

Mathematics – Year 5

Calculate perimeter and area of rectangles using familiar metric units.

Choose appropriate units of measurement for length, area, volume, capacity and mass.

Mathematics – Year 6

Solve problems involving the comparison of lengths and areas using appropriate units.

Mathematics – Year 7

Establish the formulas for areas of rectangles, triangles and parallelograms, and use these in problem-solving.

Draw different views of prisms and solids formed from combinations of prisms.

Classify triangles according to their side and angle properties and describe quadrilaterals.

Activity

What do you think?

Students will respond to one or more of the following questions after watching the BTN story:

- What do you THINK about what you saw in the BTN *Minecraft School Tours* story?
- What does this story make you WONDER?
- Think of three questions you have about the story.
- What did you learn from the BTN story?



Activity

Glossary

Students will brainstorm a list of key words that relate to the BTN *Minecraft School Tours* story. Students may want to use pictures and diagrams to illustrate the meaning and create their own glossary. Here are some words to get you started.

Area	Perimeter	Scale
Dimensions	Unit	Formula

Activity

KWLH

Hold a class discussion after watching the BTN *Minecraft School Tours* story. What questions were raised in the discussion (what are the gaps in their knowledge)? The following KWLH organiser provides students with a framework to explore their knowledge on this topic and consider what they would like to know and learn.

<i>What do I <u>know</u>?</i>	<i>What do I <u>want to know</u>?</i>	<i>What have I <u>learnt</u>?</i>	<i><u>How will I find out</u>?</i>

Questions for inquiry

Students will develop their own question/s for inquiry, collecting and recording information from a wide variety of sources. Students may develop their own question for inquiry or select one or more of the questions below.

- What tools do you use to measure things? Make a list and give examples of when they are used.
- How is perimeter different to area? What mathematical formula is used to calculate perimeter and what formula is used to calculate area? Give examples. Write your own lesson to help teach other kids how to calculate the area and perimeter of a rectangle.
- Why is scale important when drawing plans? How do you draw a plan to scale? Draw a plan of your classroom on graph paper and include the scale.
- What does tessellation mean? Which shapes tessellate and which shapes don't tessellate? Can you find examples of shapes that tessellate in nature?
- What is virtual reality? What is the difference between virtual reality (VR) and augmented reality (AR)? Give examples. Explore the ABC's [Kokoda VR experience](#) (for students aged 11+) with teacher resources provided.
- Think of a unique virtual reality (VR) or augmented reality (AR) experience you could create to help people explore new environments. Write a summary of your idea and explain why it would be useful.

Activity

Create a plan of your classroom

In this activity students will create a scale drawing and model of their classroom. Use the following as a guide. Students may work individually or collaborate in small groups.

Class discussion

Before starting this activity, use the following questions to start a class discussion to find out what your students know perimeter and area.

- What is a floor plan? Have you seen a floor plan before? Why are floor plans useful? Who draws and uses floor plans?
- How will go about measuring your classroom? Discuss in pairs and then share your ideas as a class.
- How can you make sure the drawing closely represents the real layout?
- How will you draw your classroom to scale?

- What mathematical formulas can you use to draw a scale plan of your classroom? (Discuss area, perimeter, ratio, unit).

Plan

- Explore your classroom, do you think there will be any challenges when you measure your classroom? Explain.
- What tools and materials will you need to measure your classroom? Make a list (E.g. trundle wheel, measuring tape, pencil, ruler, graph paper).

Measure

- Measure your classroom using the method you have written.
- Sketch a rough plan of the classroom and write notes as you measure your classroom.
- Collect as much data as you can and record what you find. Measure the perimeter of your classroom. You will need to include doors, windows, furniture, and any other features that you come across.

Draw

- Draw a floor plan of your classroom, including as much detail as possible.
- What scale will you use? Each square on your graph paper needs to represent a unit of measurement so your drawing is to scale. For example, 1 square on your graph paper represents 1 square metre.
- Include a scale and dimensions on your drawing.

Calculate

- Use mathematical formulas, to calculate the area and perimeter of the classroom. Show your workings.
- What shapes can you see in your drawing other than rectangles? How would you calculate the area for each of these shapes?

Analyse

- Share and compare your findings with the class.
- Were your findings the same of different?
- How accurate were your measurements?

Reflect

Students will reflect on the investigation by responding to one or more of the following questions:

- What did you enjoy about this investigation?
- What did you find surprising?
- What would you do differently next time?

Challenge

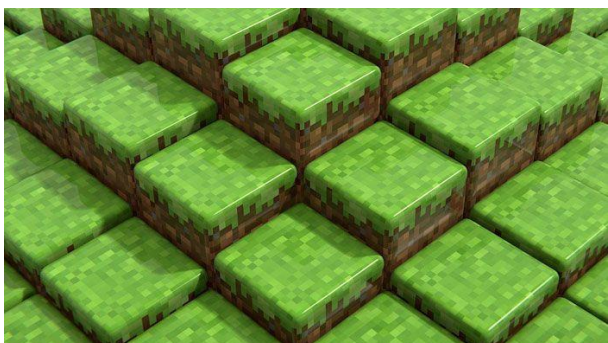
Challenge your students by giving them the opportunity to create a diorama of their classroom or a virtual tour of their classroom using Minecraft. Alternatively, they may want to design and create one of the following using Minecraft:

- A new school playground
- Your dream house
- A habitat for a native animal

Activity

BTN Stories

Watch the following BTN stories to find out how some students are using Minecraft in the classroom to design a playground.



[BTN Minecrafting Parks](#)



[BTN Minecraft Playground](#)

Useful Websites

Minecraft Playground – BTN

<https://www.abc.net.au/btn/classroom/minecraft-playground/10522342>

Minecrafting Parks – BTN

<https://www.abc.net.au/btn/classroom/minecrafting-parks/10526628>

ABC Education – Measuring

<http://education.abc.net.au/home#!/topic/495512/measuring>

ABC Education – Area

<https://education.abc.net.au/home#!/topic/494346/area>