

Ratio and Scale: A Model-Making Studio

KS3 / Year 8 - Mathematics

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Parent & Teacher Guidance

Curriculum focus

Topic: Ratio. Develop accurate observation, subject vocabulary and evidence-based explanation. Mapped scope: KS3 Mathematics: use ratio notation, reduce ratios, divide quantities in a ratio and understand multiplicative relationships and scale factors..

Before you begin

Review the picture together and ask the learner what they already notice about Ratio. Read the activity aloud, explain unfamiliar vocabulary, and agree which details need special attention.

Solo activity

The learner can complete the colouring independently, then use the finished page to explain three details linked to Ratio. Encourage accurate colour choices where they carry meaning, but allow creative choices elsewhere.

Group activity

Give pairs or small groups different areas to inspect. Ask them to agree on evidence before colouring, compare their findings, and present one curriculum fact to the class. Finish with a whole-group check against the guidance below.

Questions to guide discussion

What evidence can you see? Which feature is most important and why? How does one part connect to another? What new fact about Ratio can you explain using the picture?

Answers and checking

Answers depend on selected visible groups. Ratios must compare named quantities in a consistent order and simplify by a common factor. A scale drawing/model uses one constant multiplicative scale factor for corresponding lengths; it does not add the same amount to every length.

Learning record and next steps

☐ Completed the colouring

☐ Explained key vocabulary

☐ Completed the activity

☐ Used visible evidence

Evidence noticed / vocabulary used

Next step:
