Subject	Year	Month	
Mathematics	7	December	**Balcarras** From strength to strength

Topic:

CONSTRUCTING AND LABELLING
4 LESSONS

Content (Intent)

Prior Learning

KEY STAGE 2:
- Use a ruler to measure and draw lengths to the nearest millimetre
- Use a protractor to measure and draw angles to the nearest degree
- Know the definition of parallel and perpendicular
- Use a compass to draw circles and arcs of prescribed radii

Future Learning
- Y7 later in the year: 2D and 3D shapes
- Year 9 - Constructing Bisectors and Loci

Objectives
- Label notation for parallel and perpendicular lines
- Labelling for angles (+ recap different types of angles)
- Constructing lines and angles
- Use ruler and protractor to construct triangles, and other shapes, from written descriptions
- (Challenge: Use compasses to construct triangles when all three sides known - SSS)

For teaching purposes

POSSIBLE QUESTIONS
- Always / Sometimes / Never: to draw a triangle you need to know the size of three angles; to draw a triangle you need to know the size of three sides.
- Convince me that a hexagon can have rotational symmetry with order 2.

POSSIBLE MISCONCEPTIONS
- may use the wrong scale of a protractor. For example, they measure an obtuse angle as 60° rather than 120°.
- Two line segments don't meet because they're not long enough
- may incorrectly use ONE letter to name an Angle.
- may believe, incorrectly, that:
  - perpendicular lines have to be horizontal / vertical
  - only straight lines can be parallel
  - all triangles have rotational symmetry of order 3
  - all polygons are regular

Pedagogical notes (implementation)

Notation
- Measurements labelled central of the line segment
- The line between two points A and B is AB
- The angle made by points A, B and C is ∠ABC
- Arrow notation for sets of parallel lines
- Dash notation for sides of equal length

Pencil, Protractor, ruler, compasses are part of the daily required equipment
Diagrams should always be drawn in pencil (min. standards)

How will understanding be assessed & recorded (Impact)

End of term Assessment in February
End of Year Assessment in June/July

How can parents help at home?

MathsWatch clips (Qualification KS3)
G1, G10a, G10b

Further reading/discussion

Reading / Enrichment

KM: Shape work (selected activities)

KM: Rotational symmetry

NRICH: Notes on a triangle

Literacy

Vertex (Vertices)
Parallel
Perpendicular
Right angle
Acute angle
Obtuse angle
Reflex angle
Protractor

Numeracy Links

Careers Links

Architect
Groundsman
Landscape Gardener