Design and create algorithms involving a sequence of steps and...

design and create algorithms involving a sequence of steps and decisions that will sort and classify sets of shapes according to their attributes, and describe how the algorithms work

Learning intention

- design and create algorithms involving a sequence of steps and decisions that will sort and classify sets of shapes according to their attributes, and describe how the...

Teach and model

- creating a classification scheme for triangles based on sides and angles, using a flow chart using sequences and decisions
- creating a flow chart or hierarchy for quadrilaterals that shows the relationships between trapeziums, parallelograms, rhombuses, rectangles, squares and kites
- creating a classification scheme for regular, irregular, concave or convex polygons that are sorted according to the number of sides

Check understanding

- Explain the main idea in design and create algorithms involving a sequence of steps and... using an example.
- Show the idea in a second way: with words, a model, a diagram or symbols.
- Apply the idea to a short unfamiliar situation and justify the result.

Teaching cautions

- Ask the student to explain their choice, not only state an answer.
- Check that key vocabulary is understood in a new example.
- Mix representations so the skill is transferred rather than copied.

Quick lesson sequence

- Connect to prior knowledge and introduce the key vocabulary.
- Model one clear example, then solve a second example together.
- Finish with an independent check and a short student explanation.