Mathematics

Year 5
Satisfactory

Geometry: Location and transformation

Year 5 Mathematics achievement standard

The parts of the achievement standard targeted in the assessment task are highlighted.

By the end of Year 5, students solve simple problems involving the four operations using a range of strategies. They check the reasonableness of answers using estimation and rounding. Students identify and describe factors and multiples. They explain plans for simple budgets. Students connect three-dimensional objects with their two-dimensional representations. They describe transformations of two-dimensional shapes and identify line and rotational symmetry. Students compare and interpret different data sets.

Students order decimals and unit fractions and locate them on number lines. They add and subtract fractions with the same denominator. Students continue patterns by adding and subtracting fractions and decimals. They find unknown quantities in number sentences. They use appropriate units of measurement for length, area, volume, capacity and mass, and calculate perimeter and area of rectangles. They convert between 12 and 24 hour time. Students use a grid reference system to locate landmarks. They measure and construct different angles. Students list outcomes of chance experiments with equally likely outcomes and assign probabilities between 0 and 1. Students pose questions to gather data, and construct data displays appropriate for the data.
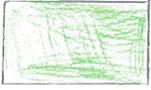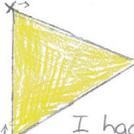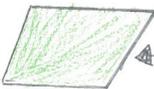
Summary of task

Students had completed a unit of work about line and rotational symmetry, translation, rotation, reflection and the enlargement transformation of two-dimensional shapes.

Students were asked to draw two-dimensional shapes and follow the language of position to transform, enlarge and record the lines of symmetry in the shapes. They were then asked to enlarge a two-dimensional shape using grid paper.

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Geometry: Location and transformation

Annotations

Location & Transformation – Year 5

- Draw three different 2 dimensional shapes in the first column.
- In the first row, show how the shape can be translated in different ways. Describe what you did.
- In the second row, show how the shape can be rotated in different ways. Describe what you did.
- In the third row, show how the shape can be reflected. Describe what you did.
- Show how many lines of symmetry each shape has.

Shape 1 (Translate)

I have to slide it so I just did the same thing

because if you slide a rectangle it will look the same

Demonstrates that shape remains the same under translation.

Shape 2 (Rotate)
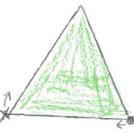
I had to rotate the shape through 90° so I did and this is what it makes

Understands that rotating changes position but not shape.

Shape 3 (Reflect)

Over hear I reflected these shapes and it makes a mirror image

Explains the effects of reflection.

On the left side of the grid draw a simple picture. Enlarge the same picture on the right side of the grid. By how much have you enlarged it? Explain your thinking.
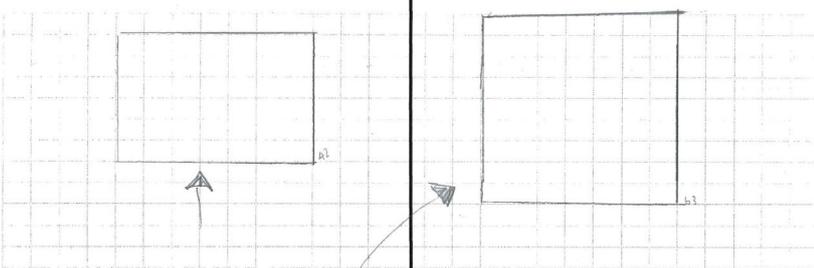
I have enlarged this shape to this shape so if I want to see the difference I count the squares in the grid and I work out the difference

Attempts to explain how the enlarged figure was created.