

Connect the Dots Explorations

Several explorations can be based on this activity. Possible math goals of each game are indicated in parenthesis.

Exploration 1: (generate sets of specific instances, organize them, and identify patterns within the sets)

Have the students explore sets of tessellations and identify a pattern in the results, using the "Connect the Dots" activity. Possible sets could include: three tessellations formed from bending the lines of a triangle; three tessellations formed from bending the lines of a square; three tessellations formed from bending the lines of a hexagon; and a set of one triangle, one square, and one hexagon.

Exploration 2: (identify, describe, compare, and classify geometric figures)

Have students explore making tessellations from polygons of different numbers of sides, and identifying what kind of polygon it is, *e.x.*, octagon, nonagon, dodecagon.... Students can compare their tessellations, and finally perform the "Connect the Dots" activity to see which original polygon shape was used to make the tessellation.

Exploration 3: (understand and apply geometric properties and relationships)

After students have completed the "Connect the Dots" activity many times and learn what results to expect, the teacher or other students can provide new tessellations for the student to make a prediction about the results and then test it. The student can write a paragraph explaining the outcome of the prediction.