Simulation/Task 2: Random Walks 1

A **random walk** is a path traced out by a walker who next step is taken randomly. We look at random walks on the rectangular (Cartesian) grid and on a triangular grid. In the former case we use the tosses of two coins to determine the randomness. In the latter case we use spinners.

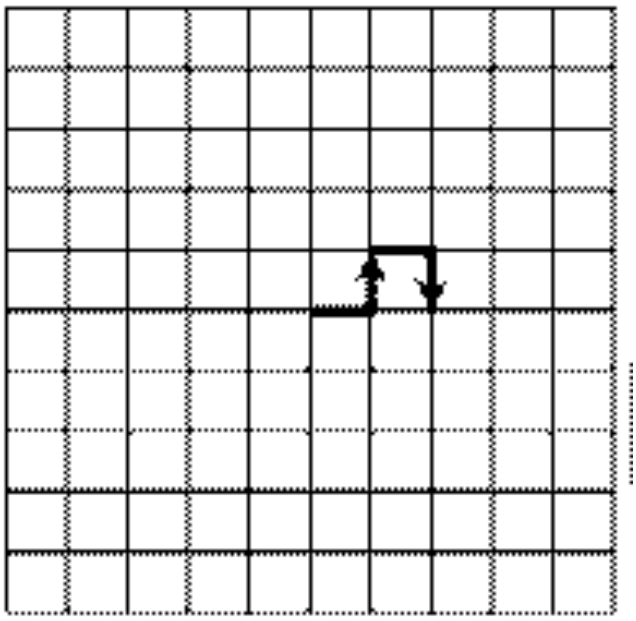
Investigation Sequence:

1. In your groups, use a grid like (see Copymaster 3) or make your own. You will need a pair of dice. You can use (https://www.random.org/dice/?num=2) if you don't have dice at home.

2. Start a random walk in the middle of the grid.

   A score of 1-3 on dice one sends you one step **left**.
   A Score of 4-6 on dice one sends you one step **right**.
   A score of 1-3 on dice two sends you one step **up**.
   A score of 4-6 on dice two sends you one step **down.**

   Roll the dice and the 2 steps – first in the horizontal direction and then in the vertical direction – are taken. Repeat many times and see where the random walk takes you. E.g. see diagram.



Include your most impressive (not necessarily longest) random walk in your write up.