

DISCRETE MATHEMATICS
Knowledge has Organizing Power

Theme 2
GRAPHS
From Point to Whole

LESSON 3
PATHS IN GRAPHS
Finding Dynamism within Silence

Wholeness of the Lesson

Paths and circuits give ways to travel through graphs, creating a dynamism within the nonactive silent structure of a graph. Paths and circuits model many real-world situations, like transportation and delivery services, telecommunications, electrical circuits, and database searches.

Science and Technology of Consciousness: Rest is the basis of activity; the rest gained in our practice of the Transcendental Meditation technique is the basis of successful activity.

Main Points

1. Paths and circuits in graphs give ways to travel through a graph and give a dynamic aspect to the stability or silence of the graph. Properties of the graph—like degrees of the vertices, subgraphs, and adjacency matrices—give information about the possible paths in the graph.

Science and Technology of Consciousness: After contacting the silence of our own consciousness during the practice of the Transcendental Meditation technique, our activity is more successful.

2. Euler paths and circuits traverse each edge once and only once and Hamilton paths and circuits pass through each vertex once and only once. Such paths and circuits give us efficient ways to travel through a graph.

Science and Technology of Consciousness: The deep rest we gain during the practice of the Transcendental Meditation technique leads to greater efficiency in action.

UNITY CHART

Connecting the Parts of Knowledge
with the Wholeness of Knowledge
Paths in Graphs

1. A path or circuit gives a way to travel through a graph, going from one vertex to the next along an edge that connects them.
2. Euler paths and Hamiltonian paths are special because of their efficiency—they cover each edge or vertex just once.

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3. **Transcendental Consciousness** is a field of pure silence.
 4. **Impulses within the transcendental field:** create dynamism within the silence of the transcendental field.
 5. **Wholeness moving within itself:** In Unity Consciousness, we see silence and dynamism as two integrated aspects of life, like the two sides of a coin.

