

Unit 1 Rates of Change

Lesson 1 *Instantaneous Rates of Change* 2

INVESTIGATIONS

- 1 Walk That Graph 3
- 2 Chilling Out 7
- 3 In the Swing of Things 9

MORE 12

PUMP 20

Lesson 2 *Rates of Change for Familiar Functions* 22

INVESTIGATIONS

- 1 Reasoning with Rules about Rates 23
- 2 The Linear Connection 29
- 3 Finding Derivative Functions 32
- 4 Derivatives of Other Function Types 35
- 5 From Function Graphs to Derivative Graphs 37

MORE 41

PUMP 50

Lesson 3 *Accumulation at Variable Rates* 52

INVESTIGATIONS

- 1 What's the Total? 53
- 2 Velocity and Net Change 56
- 3 Net Change, Areas, and Definite Integrals 60

MORE 65

PUMP 72

Lesson 4 *Looking Back* 74