

# CodeHS

Introduction

Course Overview

Prerequisites:

**Learning Environment:**



#### Big Idea 4: Computing Systems and Networks (CSN)

Computer systems and networks are used to transfer data. One of the largest and most commonly used networks is the Internet. Through a series of protocols, the Internet can be used to send and receive information and ideas throughout the world. Transferring and processing information can be slow when done on a single computer but leveraging multiple computers to do the work at the same time can significantly shorten the time it takes to complete tasks or solve problems.

#### Big Idea 5: Impact of Computing (IOC)

Computers and computing have revolutionized our lives. To use computing safely and responsibly, we need to be aware of privacy, security, and ethical issues. As programmers, we need to understand how our programs will be j i env esp erri ing to sd. alre d rs

## Course Breakdown

Unit 1: Introduction to Programming with Karel the Dog (3 weeks, 15 hours)

<b>Subsection</b>	<b>EKs</b>	<b>Lessons / Topics</b>
<b>Abstraction</b> <hr/> <b>Abstraction</b>		
<b>Programming Style</b> <hr/> <b>Intro to Programming</b> <b>Super Karel</b> <b>Ultra Karel</b> <b>Top-Down Design</b> <b>Commenting Your Code</b>		
<b>Control Structures</b> <hr/> <b>If/Else Statements</b> <b>For Loops</b> <b>While Loops in Karel</b>		
<b>Debugging Strategies</b>		

**Functions in Karel**  
**Debugging Strategies**

**Designing Algorithms**

**Karel Algorithms**

**Example Activities and Big Idea/Computational Thinking Practice**  
**The Two Towers**

[Big Idea CRD][Computational Thinking Practice 2]

Unit 3: Programming with JavaScript (2 weeks, 10 hours)

Subsection	EKs	Lessons / Topics
<p>Programming Languages</p> <hr/> <p><b>What is Code?</b> <b>Uses of Programs</b></p>		
<p>Variables</p> <hr/> <p><b>Variables</b></p>		





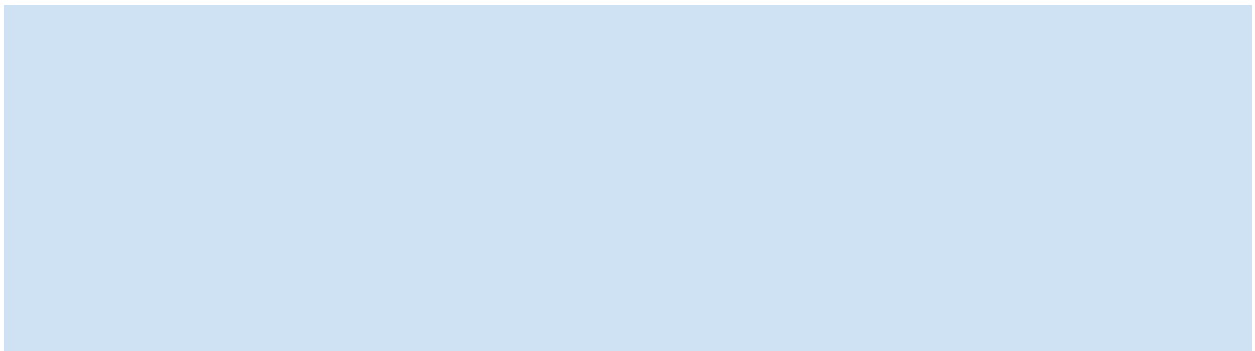




## Traversing a List

**Array Length and Looping**  
**Iterating Over an Array**  
**Removing an Element**

Algorithm



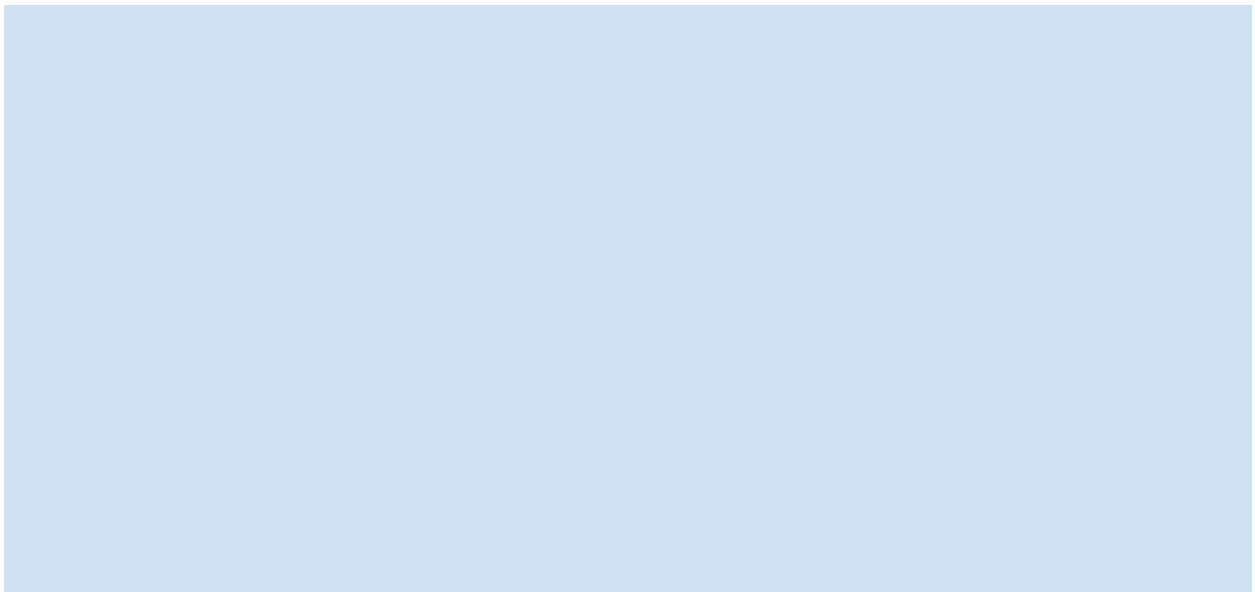
**Subsection**

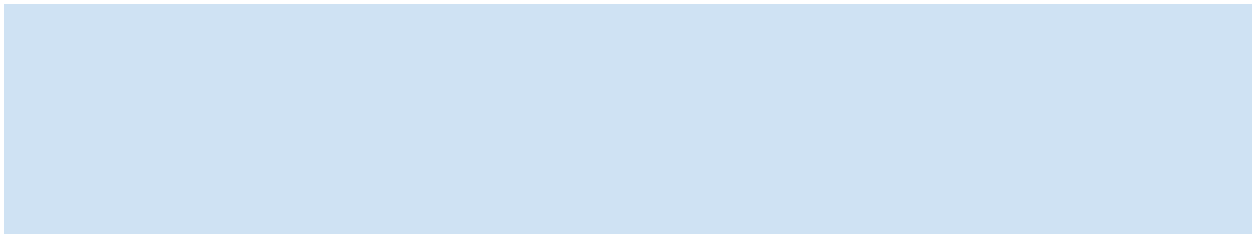
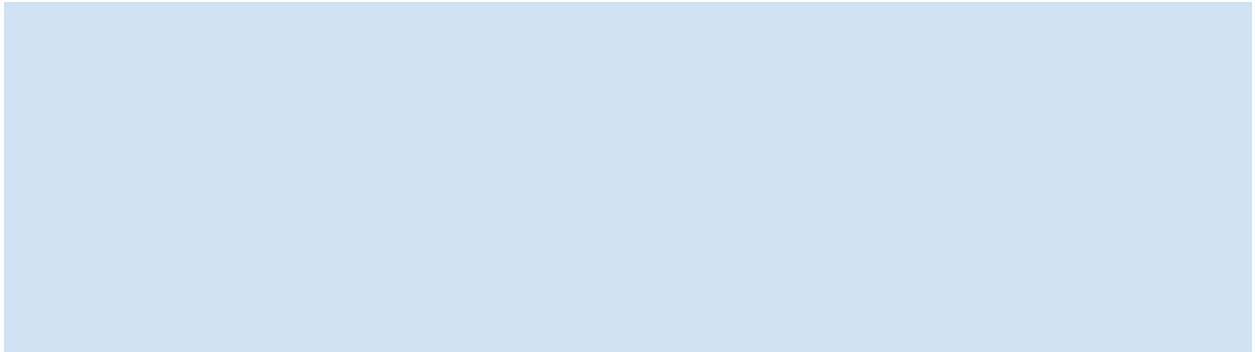
**EKs**

**Lessons / Topics**

**Number Systems**

**Intro to Digital Information  
Number Systems**





## Subsection

## EKs

## Lessons / Topics

Internet Hardware and  
Addresses

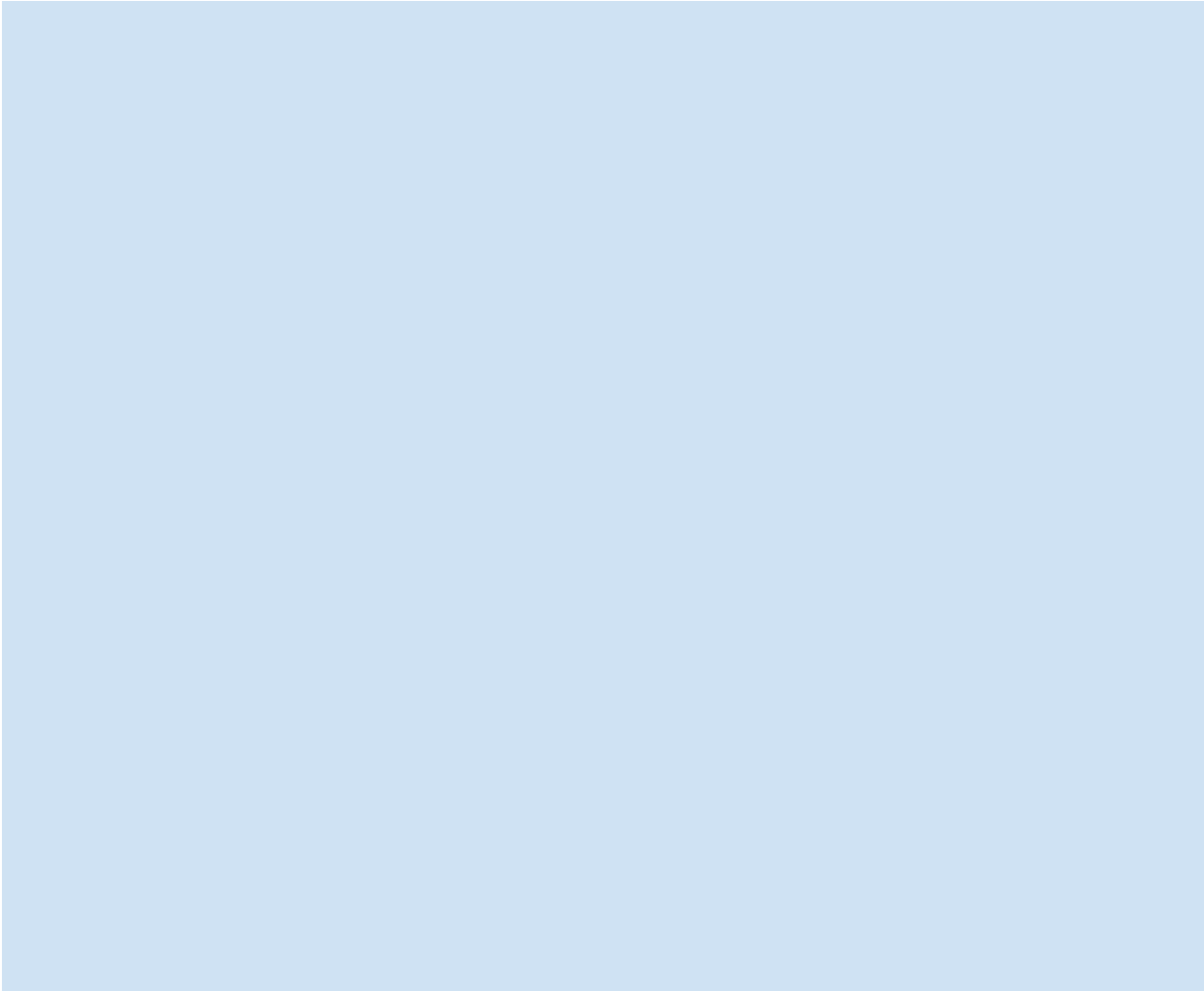
Welcome to the Internet  
Internet Hardware  
Internet Addresses

Routing

Routing

Scale  
Packets and Protocols

Cybersecu



Unit 12: Practice PT: The Effects of the Internet (3 days, 3 hours)

Example Activity and Big Idea/Computational Thinking Practice  
**The Effects of the Internet**

[Computing Innovation 3, Prompt C][Big Idea IOC][Computational Thinking Practice 5]

Unit 13: Data (1 week, 5 hours)

<b>Subsection</b>	<b>EKs</b>	<b>Lessons / Topics</b>
<b>Visualizing and Interpreting Data</b> <hr/> <b>Getting Started with Data</b> <b>Visualizing and Interpreting Data</b>		
<b>Collecting Data and Data Limitations</b> <hr/> <b>Data Collection and Limitations</b>		



Example Activity and Big Idea/Computational Thinking Practice

**Importance of Metadata:**

[Big Idea DAT][Computational Thinking Practice 5]

Unit 14: Practice PT: Present a Data-Driven Insight (3 days, 3 hours)

Example Activity and Big Idea/Computational Thinking Practice

**Present a Data-driven Insight:**

[Big Idea DAT][Computational Thinking Practice 6]

Unit 15 & 16: Explore MCQ Practice and Create Performance Task (3 weeks, 15 hours)

<b>Subsection</b>	<b>EKs</b>	<b>Lessons / Topics</b>
AP CSP Explore Task Practice		
Prepare for Create PT		

## Create PT

Example Activity and Big Idea/Computational Thinking Practice

**Create Performance Task**

[Big Idea AAP][Computational Thinking Practices 1-4]

Unit 17: Review for the AP Exam (1 week, 5 hours)



