# Unit Title – Introduction to Computer Programming – Professor Alice Liddell

## STAGE 1 – DESIRED RESULTS

<table>
<thead>
<tr>
<th>Essential Question 1: What impact does learning Alice have on your understanding of the world around you?</th>
<th>Essential Question 2: How does the virtual world of Alice relate the real world around you?</th>
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</thead>
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## UNIT OVERVIEW:

The dynamic nature of technology requires an understanding of the developmental history and the need for responsible use of the technology.

### Standards:

- NBPS 9999
- NBPS 4589
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- NBPS 4589
- NBPS 4589

## APPLICABLE WEB BASED RESOURCES:

None

## RECOMMENDED PACING:

- **Day 1** – Introduction, expectations, computer terminology
- **Day 2** – Hardware timeline research
- **Day 3** – Programming languages and computer scientist research

## ENDURING UNDERSTANDINGS:

*To meet the standards, students will need to understand that*

1. Computer Science is dynamic.
2. The way you use computers can have far reaching consequences.

## ESSENTIAL QUESTIONS:

*To understand, students will need to consider such questions as*

1. How have the advances in technology affected developments in computer science?
2. Why is it important to have “rules” for computer use?

## TO UNDERSTAND, STUDENTS WILL NEED TO

### know...

1. the differences between hardware and software.
2. how computers have changed over time.
3. how computer languages have changed over time.
4. how malicious hacking affects others.
5. what the consequences to the hacker are.

### be able to...

1. identify hardware components.
2. identify software components.
3. trace the development of hardware.
4. trace the development of software.
5. formulate rules for computer use.
STAGE 3 – LEARNING PLAN

Instructional strategies and learning experiences that promote development of the targeted understandings are

RECOMMENDED PACING:
Day 1 – Introduction, expectations, AUP, computer terminology
Day 2 – Hardware timeline research
Day 3 – Programming languages and computer scientist research

RESOURCES:
1. Numerous web sites. Discourage the use of Wikipedia as a stand alone resource.
2. Virginia Beach Public Schools Acceptable Use Policy (AUP).

LESSON RECOMMENDATIONS:
1. The Pacing Guide is provided as a guide only, using the recommended pacing from each unit. It is shown for A Days only, but can be easily adapted to B days. As written, there is one review day before Semester Exams and no review days before the final exam. Unit 8 (Recursion) is not included in the pacing guide. Some units may not end at the optimal time, and no allowance was made for special events such as PSAT or SOL Testing.
2. Use the history of computers project. Have students research the history of computers on the internet and create a timeline, PowerPoint presentation, or 1 to 2 page paper.
3. Discuss programmer responsibilities and computer ethics
4. Use the Ethics Assignment.
5. Have students research a famous computer scientist and write a 1 to 2 page biography of the person.
6. Students should write the self-assessment in their journals. The use of journals is optional, but will be recommended in each