

North Bend Elementary Computer Lab Curriculum

**SVSD Elementary Tech Lab instructors are currently working to create a district-wide set of expectations that will guide our instruction across all elementary schools. Below is a draft of our working document.*

Goal:

Elementary school students at North Bend Elementary will develop basic computer technology skills, knowledge, and competencies that will enhance opportunities for learning in all areas of the classroom curriculum.

Rationale:

Computers are being used as tools to enhance the learning process. Computer use is being integrated into all areas of the curriculum and classroom. Students need to develop basic competencies with computers to be successful in the regular classroom.

Resources:

NBES has a computer lab of 30 computers manned half-time by an Elementary Tech Lab Teacher. Every student is provided 30 minutes of instruction with the Tech Lab Teacher during a normal 5-day week. In addition, many classroom teachers opt to bring their students to the lab on a weekly basis in order to provide additional computer time. Grade-level sets of Chromebooks are also available for in-classroom use.

Elementary Computer Lab Curriculum Grade Level Goals

First Grade

Students in first grade will build on skills learned in Kindergarten. They will use home row keys and will learn more function keys. They will begin saving, printing, formatting, and inserting graphics into simple word processing documents. They will explore ethical computer use. They will continue to demonstrate proper etiquette, behavior, and body position when using computers. They will begin to program using drag and drop block-style programming.

Second Grade

Students in second grade will focus on learning proper keyboarding skills. By the end of second grade they will have learned all letter keys and proper keystrokes to use them. They will be able to use shift to capitalize letters. They will use a word processor to produce simple paragraphs, create a one slide

presentation, and a browser to navigate a website. They will discuss ethical computer use. They will continue to demonstrate proper etiquette, behavior, and body position when using computers. They will build on their coding and algorithm skills.

Third Grade

Students in third grade will improve their speed and accuracy in keyboarding. They will create, edit, and do more advanced formatting in word-processing documents. They will create a multi-slide PowerPoint presentation and also get used to Google Drive, Google Slides and Docs. They will discuss ethical computer use. They will study ownership and authorship issues. They will continue to demonstrate proper etiquette, behavior, and body position when using computers. They will continue to build on their coding, algorithm and debugging skills.

Fourth Grade

Students in fourth grade will continue to improve speed and accuracy in keyboarding, while focusing on becoming proficient in application tools. They will become proficient using a word processor (headers and footers, spell and grammar check, margins, etc.) They will create more advanced presentations. They will learn to acquire and evaluate information on the Internet. Activities in the lab will be closely tied to real-life classroom topics. Students will explore ethical computing issues in more depth. They will continue to demonstrate proper etiquette, behavior, and body position when using computers. They will be able to pre-write an algorithm for a program, and continue to build their programming skills.

Fifth Grade

Students in fifth grade will focus on using application tools to produce a product. They will begin by improving keyboarding and by practicing using word processors, presentation software, search strategies with browsers, and spreadsheets. Activities in the lab will be closely tied to real-life classroom topics. Students will continue to demonstrate proper etiquette, behavior, and body position when using computers. They will be able to predict where a program will fail, and adapt a program to a new use, as well as continuing to build on prior programming.

Objectives/Competencies

1. Computer Basics

- ❖ **Computer Awareness:** Students will learn:
 - to login and logout of a network
 - general computer terminology and skills
 - proper use and care of computer hardware and software
 - acceptable behavior at the computer
 - to identify computer parts and their uses
 - copyright issues

- computer etiquette/netiquette
- navigate software
- proper hand and body position at the computer
- respect for rights of others while using the computer
- appropriate use of technology at home and school
- multitasking

❖ **Keyboarding:** Students will learn:

- letters/numbers on the keyboard
- proper keystrokes for letters
- home row keys
- caps lock, shift, enter, and spacebar keys
- to use keyboarding skills to improve speed and accuracy

2. Application

❖ **Word Processing:** Students will learn to:

- enter simple/complex text on a document
- identify and use appropriate keys to edit text
- use a mouse to navigate menus, toolbars, scrollbars
- maximize and minimize windows
- format text by choosing font color, styles, size and alignment
- create and format original documents
- use application tools to edit work

❖ **Paint/Presentation:** Students will learn to:

- select and use drawing and painting tools
- insert and resize graphics
- create simple and complex presentations
- use a storyboard to create a presentation
- research, create, and publish products related to district curriculum

❖ **Database/Spreadsheet:** Students will learn to:

- store, organize, analyze and manipulate data
- sort, interpret and communicate data by inserting graphs and charts

3. Information Gathering

❖ **Internet/Online:** Students will learn to:

- navigate a Web site to gather information
- use educational search engines to acquire information
- use electronic reference tools

- perform searches for text, audio, video, and graphics
- evaluate acquired information for validity and usefulness
- use Web sites activities to support curriculum
- understand copyright issues
- navigate etiquette/netiquette

4. Coding

❖ **Computer Science Themes:** Students will learn to use:

- Algorithms
- Data
- Abstraction
- Computing Practice and Programming (Use of computational tools)
- Computers and Communication Devices
- Community, Global, and Ethical Impacts

❖ **Computer Science Themes:** Students will learn to use:

- Creativity
- Collaboration
- Communication
- Persistence
- Problem Solving

Benchmarks/Competencies

K-5

First Grade

Benchmarks: Expectations for year-end ability

1. Demonstrate proper etiquette in the use of computers.
2. Use and apply appropriate computer terminology.
3. Use home row keys with proper hand position.
4. Use proper hand and body position for computer use.
5. Use grade appropriate curriculum related software with assistance.
6. Use the computer as a writing tool.
7. Use graphics in documents.
8. Use the mouse.
9. Use age appropriate coding software.
10. Keyboarding targets

* 1 WPM, 80%accuracy

. ** 3 WPM, 85% accuracy

. *** 7 WPM, 90% accuracy

Strands	Competencies
Computer Basics	<ul style="list-style-type: none">● Demonstrate proper care of equipment.● Demonstrate respect for the rights of others while using the computer. Identify uses of technology at home and at school.● Demonstrate acceptable behavior at the computer and in the lab.● Use Caps Locks, Shift, and punctuation keys.● Use instructional software to practice and reinforce academic skills.● Identify toolbar, scroll bar, menu bar, and font.● Open, save/save as, and print a document.● Use mouse to select text and objects.● Use proper finger placement on home row keys.● Demonstrate proper hand position on the keyboard.● Demonstrate proper body posture at the computer.
Application	<ul style="list-style-type: none">● Enter simple sentences.● Format text by choosing font color, styles and size, alignment.● Insert and resize graphics.
Coding	<ul style="list-style-type: none">● List steps to move character around a map.● Arrange directions to reach predetermined goal.● Predict where character will land, given a list of steps

Second Grade

Benchmarks: Expectations for year-end ability

1. Demonstrate proper etiquette in the use of computers.
2. Use and apply appropriate computer terminology.
3. Use home row keys with proper hand position.
4. Use proper hand and body position for computer use.
5. Use grade appropriate curriculum related software with assistance.
6. Use the computer as a writing and presentation tool.
7. Use age appropriate coding software.
8. Identify the Internet as a source of information
9. Keyboarding targets
 - * 3 WPM, 80%accuracy
 - ** 7 WPM, 85% accuracy
 - *** 10 WPM, 90% accuracy

Strands	Competencies
Computer Basics	<ul style="list-style-type: none"> ● Demonstrate proper care of equipment. ● Demonstrate respect for the rights of others while using the computer. ● Identify uses of technology at home and at school. ● Learn and use proper keystrokes for all letters of the alphabet. ● Use proper keystroke for shift keys to capitalize letters. ● Use instructional software to practice and reinforce academic skills. ● Continues to demonstrate proper body posture and hand position. ● Understand vocabulary: text box, object, insert, and navigate. ● Demonstrate acceptable behavior at the computer and in the lab.
Application	<ul style="list-style-type: none"> ● Keyboard simple paragraphs. ● Produce a simple one slide presentation.
Information Gathering	<ul style="list-style-type: none"> ● Launch the Internet ● Use URLs to visit Web sites. ● Navigate a Web site to gather information
Coding	<ul style="list-style-type: none"> ● Express movement as a series of commands. ● Order movement commands as sequential steps in a program. ● Represent an algorithm as a computer program. ● Count the number of times an action should be executed and represent it as instructions in a program

Third Grade

Benchmarks: Expectations for year-end ability

1. Demonstrate proper etiquette in the use of computers and other technologies.
2. Use and apply appropriate computer terminology.
3. Use home row keys with proper hand position.
4. Use proper hand and body position for computer use.
5. Use grade appropriate curriculum related software with assistance.
6. Use the computer as a writing/presentation/coding tool.
7. Work with more than one software application at a time.
8. Use presentation software to create a product with assistance.
9. Keyboarding targets
 - . * 7 WPM, 80%accuracy
 - . ** 10 WPM, 85% accuracy
 - . *** 15 WPM, 90% accuracy

Strands	Competencies
Computer Basics	<ul style="list-style-type: none"> ● Demonstrate proper care of equipment. ● Demonstrate respect for the rights of others while using the computer. ● Identify uses of technology at home and at school. ● Demonstrate acceptable behavior at the computer and in the lab. ● Recognize ownership and authorship of software and student/teacher products. ● Identify and use: title bar, task bar, maximize, minimize, slide background, columns, cut, copy, paste, tab. ● Continues to demonstrate proper body posture and hand position.
Application	<ul style="list-style-type: none"> ● Create a simple multi-slide presentation. ● Use a word processing application to create and format documents. ● Format text by choosing font color, styles, size and alignment. ● Use application tools to edit work
Information Gathering	<ul style="list-style-type: none"> ● Use URLs to get to a specific website. ● Use hyperlinks to move from one website to another. ● Conduct simple searches using educational search engines. ● Evaluate Web site validity.
Coding	<ul style="list-style-type: none"> ● Express movement as a series of commands. ● Order movement commands as sequential steps in a program. ● Represent an algorithm as a computer program. ● Identify the benefits of using a loop structure instead of manual repetition. ● Create a program for a given task which loops a single command.

Fourth Grade

Benchmarks: Expectations for year-end ability

1. Demonstrate proper etiquette in the use of computers and other technologies.
2. Use and apply appropriate computer terminology.
3. Use keyboarding skills to improve speed and accuracy.
4. Use proper hand and body position for computer use.
5. Use the computer as a /presentation/coding tool.
6. Model ethical and safe behavior relating to security, privacy, passwords, and personal information.

7. Work with more than one software application at a time.
8. Use presentation software to create a product.
9. Use search strategies with guidance to locate information from the Internet.
10. Use a pre-made spreadsheet to organize and interpret information.
11. Keyboarding targets
 - * 10 WPM, 80%accuracy
 - ** 15 WPM, 85% accuracy
 - *** 20 WPM, 90% accuracy

*Computer Lab Tech will co-plan with classroom teachers to support research efforts and product creation.

Strands	Competencies
Computer Basics	<ul style="list-style-type: none"> ● Demonstrate proper care of equipment. ● Demonstrate respect for the rights of others while using the computer. ● Identify uses of technology at home and at school. ● Demonstrate acceptable behavior at the computer and in the lab. ● Recognize ownership and authorship of software and student/teacher products. ● Respect the privacy of other students work. ● Identify and use: spell/grammar check, clipboard, header/footer, edit/undo, margins, portrait/landscape, search engine, right click ● Use application commands, options, and controls from menu bars. ● Recognize the differences between non-networked and networked computers.
Application	<ul style="list-style-type: none"> ● Plan and create a multi-slide show using a storyboard. ● Format text by choosing font color, styles, size and alignment ● Use application tools to edit work ● Create and format original work on a word processor
Information Gathering	<ul style="list-style-type: none"> ● Navigate a Web site to gather information ● Use educational search engines to acquire information ● Use electronic reference tools ● Evaluate acquired information for validity and usefulness ● Demonstrate an understanding of copyright by citing sources of copyrighted materials in papers, projects, and multimedia presentations. ● Use Web site activities to support curriculum ● Use Internet to capture and insert graphics into documents
Coding	<ul style="list-style-type: none"> ● Predict where a program will fail. ● Modify an existing program to solve errors.

	<ul style="list-style-type: none"> • Identify an algorithm that is unsuccessful when the steps are out of order. • Reflect on the debugging process in an age-appropriate way. Define circumstances when certain parts of programs should run and when they shouldn't. • Determine whether a conditional is met based on criteria. • Traverse a program and predict the outcome, given a set of input
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Fifth Grade

Benchmarks: Expectations for year-end ability

1. Demonstrate proper etiquette in the use of computers and other technologies
2. Use and apply appropriate computer terminology
3. Use keyboarding skills to improve speed and accuracy
4. Use proper hand and body position for computer use.
5. Understand the purpose and limitations of application tools.
6. Model ethical and safe behavior relating to security, privacy, passwords, and personal information
7. Create a linear multimedia presentation with effective use of screen design elements.
8. Use spreadsheets to access, interpret, apply, and communicate information.
9. Use search strategies to acquire information.
10. Evaluate acquired information for validity and usefulness.
11. Keyboarding targets
 - * 15 WPM, 80%accuracy
 - ** 20 WPM, 85% accuracy
 - *** 25 WPM, 90% accuracy

* Computer Lab Tech will co-plan with classroom teachers to support research efforts and product creation.

Strands	Competencies
Computer Basics	<ul style="list-style-type: none"> ● Demonstrate proper care of equipment. ● Demonstrate respect for the rights of others while using the computer. ● Demonstrate acceptable behavior at the computer and in the lab. ● Respect the privacy of other students work. ● Identify and use: template, file management, folder, column, row, cell, sort, ascending, descending, data, formula (sum, average), transitions, builds, background, animation, border, bullets. ● Select and use software for the assigned task (presentation, spreadsheet, word processor, etc.).

Application	<ul style="list-style-type: none"> ● Enter, sort and analyze information in a spreadsheet. ● Perform searches for text, audio, video and graphics. (Internet, CD ROM) ● Research, create and publish products related to district adopted curriculum.* ● Interpret and communicate information from a spreadsheet by developing charts and graphs. ● Create and format a report using a word processor. ● Make and present high quality slide show.
Information Gathering	<ul style="list-style-type: none"> ● Evaluate acquired information for validity and usefulness. ● Demonstrate an understanding of copyright by citing sources of copyrighted materials in papers, projects, and multimedia presentations. (Discuss plagiarism) ● Navigate a Web site to gather information. ● Use educational search engines to gather information. ● Use Web site activities to support curriculum. ● Use Internet to capture and insert graphics into documents and acquire information. ● Use electronic reference tools
Coding	<ul style="list-style-type: none"> ● Predict where a program will fail. ● Modify an existing program to solve errors. ● Identify an algorithm that is unsuccessful when the steps are out of order. ● Reflect on the debugging process in an age-appropriate way. Define circumstances when certain parts of programs should run and when they shouldn't. ● Determine whether a conditional is met based on criteria. ● Traverse a program and predict the outcome, given a set of input ● Express movement as a series of commands ● Order movement commands as sequential steps in a program. ● Represent an algorithm as a computer program ● Count the number of times an action should be executed and represent as instructions in a program.