TEALS Program

1 Unit 8: 2D Array

The following curriculum map is a day-by-day listing of the AP Computer Science course in chronological order. The order has been adapted to follow the College Board AP CS A Curriculum. The lesson plans numbers follow the original TEALS curriculum which was taught in the order of the Building Java Programs textbook.

- Unit 4 Slides
- Unit 8 Slides
- Unit 4 Word Bank
- Curriculum Assets
- Magpie Chatbot Lab

LP	Title	In Class	Reading	Homework	Enduring Understanding	Learning Objective	
4.06	Nested Loop Algorithms & Rectangular Arrays	WS 4.6	12.1 up to "Structure of recursive solutions"	SC?	VAR-2, CON-2	VAR-2.F, VAR-2.G, CON-2.N	
4.07	Arraylists	Grudgeball Poster 4.7	10.1 up to "*Adding to and Removing from an ArrayList*"	Outline ch 7 and 10.1			
4.08	Finding & Fixing Errors	Fix HW	Review ch 7, 10.1 for Magpie lab	Submit questions for review			
4.09 01	Magpie Chatbot Lab (day 1)	Magpie Chatbot Lab Activity 1 & 2	Barrons ch 6 (8th or later: ch 7)				
4.09 02	Magpie Chatbot Lab (day 2)	Magpie Chatbot Lab Activity 2	Barrons ch 6 (8th or later: ch 7)				
4.09 03	Magpie Chatbot Lab (day 3)	Magpie Chatbot Lab Activity 3	Barrons ch 6 (8th or later: ch 7)				
4.09 04	Magpie Chatbot Lab (day 4)	Magpie Chatbot Lab Activity 4		Barrons ch 6 (8th or later: ch 7)practice questions			
4.09 05	Magpie Chatbot Lab (day 5)	Magpie Chatbot Lab Activity 5		Check and correct Barrons ch 6 (8th or later: ch 7) questions			
4.09a 01	Steganography Lab (day 1)	Steganography Lab Activity 1	Barrons ch 6 (8th or later: ch 7)				
4.09a 02	Steganography Lab (day 2)	Steganography Lab Activity 2	Barrons ch 6 (8th or later: ch 7)				
4.09a 03	Steganography Lab (day 3)	Steganography Lab Activity 3	Barrons ch 6 (8th or later: ch 7)				
4.09a 04	Steganography Lab (day 4)	Steganography Lab Activity 4	Barrons ch 6 (8th or later: ch 7)				
4.09a	Steganography	Steganography		Barrons ch 6			

	05	Lab (day 5)	Lab Activity 5		(8th or later: ch 7)practice questions		
4.09a	06	Steganography Lab (day 6)	Steganography Lab Activity 5 (day 2)		Check and correct Barrons ch 6 (8th or later: ch 7) questions		
4.10		Review	Review questions WS 4.10 practice test		Study		
4.99		Unit 4 test	Test 3 Section I Test 3 Section II				
5.00		Test Review & Reteach	Review test		Test corrections		
4.XX		?(Magpie Alternative)				VAR-2, CON-2	VAR-2.F, VAR-2.G, CON-2.N
5.06	01	? (day 1)	Picture Lab Activity 1 & 2 Picture Lab		Summarize notes since last exam		
5.06	02	? (day 2)	Picture Lab Activity 3 & 4, notebook checks		Outline ch 8		
5.06	03	? (day 3)	Picture Lab Activity 5, notebook checks				
5.06	04	? (day 4)	Picture Lab Activity 5 & 6, notebook checks	Read and highlight Barrons ch 2, skip this keyword	Barrons ch 2 exam, skip #20		
5.06	05	? (day 5)	Picture Lab Activity 6, Barron's checks				
5.06	06	? (day 6)	Picture Lab Activity 7	Read and highlight Barrons ch 5	SC 8.28, 8.30		
5.06	07	? (day 7)	Picture Lab Activity 8		Finish Picture Lab Activity 8		
5.06	08	? (day 8)	Picture Lab Activity 9	8.5	Cont. Picture Lab Activity 9		

| 5.06 09 | ? (day 9) | Picture Lab Activity 9, cont. | | Submit questions for review | | |
| 8.PP | Unit 8 Personal Progress Check 2D Array | | | | | |

1.1 4.06

Lesson 4.06	Nested Loop Algorithms & Rectangular Arrays
Objectives	Students will correctly adjust nested loop headers for use with arrays Students will correctly construct two-dimensional arrays
Assessments	Students will complete WS 4.6
In Class	WS 4.6
Reading	12.1 up to "*Structure of Recursive Solutions*"
Homework	

1.2 4.07

Lesson 4.07	ArrayList
Objectives	Students will construct code using ArrayList Students will predict the output of methods that take arrays as parameters and/or return arrays.
Assessments	Students will evaluate statements and predict output during a game of Grudgeball.
In Class	Grudgeball Poster 4.7
Reading	10.1 up to "*Adding to and Removing from an ArrayList*"
Homework	Outline ch 7 and 10.1

1.3 4.08

Lesson 4.08	Finding & Fixing Errors
Objectives	Students will find errors in their returned homework assignments, and correct their code.
Assessments	Students will re-submit all homework assignments with corrected answers.
In Class	Fix homework
Reading	Review ch 7, 10.1 for Magpie lab
Homework	Submit questions for review

Lesson 4.09	Magpie Lab (Day 1)
Objectives	Students will complete a long-form lab, using if statements, algorithms, the String class, arrays, and ArrayLists.
Assessments	Students will complete the College Board's AP CS A Magpie Chatbot Lab. Students will answer assessment questions on the fourth class exam.
In Class	Lab: Magpie Chatbot Lab Magpie Chatbot Lab Activity 1 & 2
Reading	
Homework	

Lesson 4.09	Magpie Lab (Day 2)
Objectives	
Assessments	
In Class	Magpie Chatbot Lab Activity 2
Reading	Barrons ch 6 (8th or later: ch 7)
Homework	

Lesson 4.09	Magpie Lab (Day 3)
Objectives	
Assessments	
In Class	Magpie Chatbot Lab Activity 3
Reading	Barrons ch 6 (8th or later: ch 7)
Homework	

Lesson 4.09	Magpie Lab (Day 4)
Objectives	
Assessments	
In Class	Magpie Chatbot Lab Activity 4
Reading	Barrons ch 6 (8th or later: ch 7)
Homework	Barrons ch 6 (8th or later: ch 7)practice questions

Lesson 4.09	*Magpie Lab (Day 5)*
Objectives	
Assessments	
In Class	Magpie Chatbot Lab Activity 5
Reading	
Homework	Check and correct Barrons ch 6 (8th or later: ch 7) questions

Lesson 4.09a	*Steganography Lab (Day 1)*
Objectives	Students will complete a long-form lab, using arithmetic expressions, methods, if statements, algorithms, while/for loops, arrays, and ArrayLists.
Assessments	Students will complete the College Board's AP CS A Steganography Lab. Students will answer end of activity Check your understanding and open-ended activity.
In Class	Lab: Steganography Lab Steganography Lab Activity 1
Reading	
Homework	

Lesson 4.09a	*Steganography Lab (Day 2)*
Objectives	
Assessments	
In Class	Steganography Lab Activity 2
Reading	Barrons ch 6 (8th or later: ch 7)
Homework	

Lesson 4.09a	*Steganography Lab (Day 3)*
Objectives	
Assessments	
In Class	Steganography Lab Activity 3
Reading	Barrons ch 6 (8th or later: ch 7)
Homework	Barrons ch 6 (8th or later: ch 7)practice questions

1.12   4.09a.4

Lesson 4.09a	Steganography Lab (Day 4)
Objectives	
Assessments	
In Class	Steganography Lab Activity 4
Reading	
Homework	Check and correct Barrons ch 6 (8th or later: ch 7) questions

1.13   4.09a.5

Lesson 4.09a	Steganography Lab (Day 5)
Objectives	
Assessments	
In Class	Steganography Lab Activity 5
Reading	
Homework	Check and correct Barrons ch 6 (8th or later: ch 7) questions

1.14   4.09a.6

Lesson 4.09a	Steganography Lab (Day 6)
Objectives	
Assessments	
In Class	Steganography Lab Activity 5 (day 2)
Reading	
Homework	Check and correct Barrons ch 6 (8th or later: ch 7) questions

1.15   4.10

Lesson 4.10	Review
Objectives	Students will identify weaknesses in their Unit 4 knowledge.
Assessments	Students will create a personalized list of review topics to guide tonight's study session.
In Class	Review questions WS 4.10 Practice test
Reading	
Homework	Study

Unit 4 Test	*Arrays, Lists & Files*
In Class	Test 3 Section I Test 3 Section II

Lesson 5.00	*Test Review & Reteach*
Objectives	Students will re-learn or strengthen content knowledge and skills from Unit 4
Assessments	Students will re-submit test answers with updated corrections for partial or full credit, depending on instructor preference.
In Class	Review test
Reading	4.1 up to "*Nested If/Else Statements*"
Homework	Test corrections

Lesson 4.XX	*Programming Project(Magpie Alternative)*
Objectives	Students will be able to conduct user-centered research, plan and create, test evaluate and share
Assessments	Students will apply if-else, String methods to implement a software application and Submit a complete, functional program.
In Class	
Reading	
Homework	Conduct user-centered research to find design opportunities and barriers.

Lesson 5.06	*Picture Lab (Day 1)*
Objectives	Students will complete a long-form lab, using two dimensional arrays of objects, array traversing algorithms, program analysis, binary numbers, and inheritance.
Assessments	Picture Lab
In Class	Picture Lab Activity 1 & 2 Picture Lab
Reading	
Homework	Summarize notes since last exam

1.20 5.06.2

Lesson 5.06	Picture Lab (Day 2)
Objectives	
Assessments	
In Class	Picture Lab Activity 3 & 4 Notebook checks
Reading	
Homework	Outline ch 8

1.21 5.06.3

Lesson 5.06	Picture Lab (Day 3)
Objectives	
Assessments	
In Class	Picture Lab Activity 5 Notebook checks
Reading	

| **Homework**

1.22 5.06.4

Lesson 5.06	Picture Lab (Day 4)
Objectives	
Assessments	
In Class	Picture Lab Activity 5 & 6 Notebook checks
Reading	Read and highlight Barrons ch 2, skip this keyword
Homework	Barrons ch 2 exam (skip #20)

1.23 5.06.5

Lesson 5.06	Picture Lab (Day 5)
Objectives	
Assessments	
In Class	Picture Lab Activity 6 Barron's checks
Reading	
Homework	

1.24 5.06.6

Lesson 5.06	Picture Lab (Day 6)
Objectives	
Assessments	
In Class	Picture Lab Activity 7
Reading	Read and highlight Barrons ch 5
Homework	SC 8.28,30

1.25   5.06.7

Lesson 5.06	Picture Lab (Day 7)
Objectives	
Assessments	
In Class	Picture Lab Activity 8
Reading	
Homework	Finish Picture Lab Activity 8

1.26   5.06.8

Lesson 5.06	Picture Lab (Day 8)
Objectives	
Assessments	
In Class	Picture Lab Activity 9
Reading	8.5
Homework	Cont. Picture Lab Activity 9

1.27   5.06.9

Lesson 5.06	Picture Lab (Day 9)
Objectives	
Assessments	
In Class	Picture Lab Activity 9, cont.
Reading	
Homework	Submit questions for review

1.28   8.PP

Lesson 8.PP	*Unit 8 Personal Progress Check*
Objectives	Identify weaknesses in student's Unit 8 knowledge
Assessments	Students will take Unit 8 Personal Progress Check

1.29 Abbreviations

- **WS** — Worksheet
- **SC** — Self-Check problem (in the textbook)
- **EX** — Exercise (in the textbook)
- **PP** — Programming Project (in the textbook)