Arizona Computer Science

Grade 6

Concept: Computing Systems (CS) 6.CS

D. Subconcept: Devices (D) 6.CS.D

1 Compare computing device designs based on how humans interact with them. 6.CS.D.1

HS. Subconcept: Hardware and Software (HS) 6.CS.HS

1 Explain how hardware and software can be used to collect and exchange data. 6.CS.HS.1

T. Subconcept: Troubleshooting (T) 6.CS.T

1 Identify problems that can occur in computing devices and their components within a system. 6.CS.T.1

Concept: Networks and the Internet (NI) 6.NI

C. Subconcept: Cybersecurity (C) 6.NI.C

1 Identify multiple methods of encryption to secure the transmission of information. 6.NI.C.1

2 Identify different physical and digital security measures that protect electronic information. 6.NI.C.2

NCO. Subconcept: Network, Communication, and Organization (NCO) 6.NI.NCO

1 Discuss how protocols are used in transmitting data across networks and the Internet. 6.NI.NCO.1

Concept: Data and Analysis (DA) 6.DA

CVT. Subconcept: Collection, Visualization and Transformation (CVT) 6.DA.CVT

1 Compare different computational tools used to collect, analyze and present data that is meaningful and useful. 6.DA.CVT.1

S. Subconcept: Storage (S) 6.DA.S

1 Identify multiple encoding schemes used to represent data, including binary and ASCII. 6.DA.S.1

IM. Subconcept: Inference and Models (IM) 6.DA.IM

1 Discuss the validity of a computational model based on the reliability of the data. 6.DA.IM.1

Co Skip to main content **Subconcept: Algorithms (A)** 6.AP.A

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1 Identify planning strategies such as flowcharts or pseudocode, to simulate algorithms that solve problems. 6.AP.A.1

V. Subconcept: Variables (V) 6.AP.V

1 Identify variables that represent different data types and perform operations on their values. 6.AP.V.1

C. Subconcept: Control (C) 6.AP.C

1 Design programs that combine control structures, including nested loops and compound conditionals. 6.AP.C.1

IM. Subconcept: Modularity (M) 6.AP.IM

1 Decompose problems into parts to facilitate the design, implementation, and review of programs. 6.AP.IM.1

2 Use procedures to organize code and make it easier to reuse. 6.AP.IM.2

PD. Subconcept: Program Development (PD) 6.AP.PD

1 Seek and incorporate feedback from team members and users to refine a solution that meets user needs. 6.AP.PD.1

2 Incorporate existing code into programs and give attribution. 6.AP.PD.2

3 Test programs using a range of inputs and identify expected outputs. 6.AP.PD.3

4 Maintain a timeline with specific tasks while collaboratively developing computational artifacts. 6.AP.PD.4

5 Document programs in order to make them easier to follow, test, and debug. 6.AP.PD.5

Concept: Impacts of Computing (IC) 6.IC

C. Subconcept: Culture (C) 6.IC.C

1 Identify some of the tradeoffs associated with computing technologies that can affect people's everyday activities and career options. 6.IC.C.1

2 Identify issues of bias and accessibility in the design of existing technologies. 6.IC.C.2

SI. Subconcept: Social Interactions (SI) 6.IC.SI

1 Identify the advantages of creating a computational product by collaborating with others using digital technologies. 6.IC.SI.1

SLE. Subconcept: Safety, Law, and Ethics (SLE) 6.IC.SLE

1 Describe how some digital information can be public or can be kept private and secure. 6.IC.SLE.1