Universal Design for Learning

Universal Design for Learning (UDL) is a set of principles designed to guide curriculum and lesson development, ensuring that all students have equal opportunities to learn and can quickly engage with the instruction.

Flexibility in Representation	• options for perception • options for language and symbols • options for comprehension
Flexibility in Expression	• options for physical action • options for expressive skills/fluency • options for executive functions (planning/monitoring)
Flexibility in Engagement	• options for recruiting interest • options for sustaining effort/persistence • options for self-regulation

Adapted from http://bit.ly/HkaWU5

National UDL Center http://www.udlcenter.org/

CAST Learning Tools http://bit.ly/17lFtNm

UDL Wheel http://udlwheel.mdonlinegrants.org

1. **Recognition Networks** – How we recognize information and categorize what we see, hear, and read. For example, students can change the font size of the reading material, use tools to change the format (e.g. from text to audio, or to braille), change the background colors, etc. Online glossaries or dictionaries are available to support vocabulary. Translation tools are provided to support multiple languages. Advance graphic organizers may be used to help students highlight big ideas, concepts, and relationships.

2. **Strategic Networks** – How we organize and express our ideas; plan and perform tasks. For example, students may produce a report in an essay format, a PowerPoint format, an audio format, or a movie format. A variety of support tools may be provided to help students engage in progress monitoring; e.g. setting goals and completing assignments on time.

3. **Affective Networks** – How we are challenged, excited, or interested. For example, students can choose topics and viewpoints to research. Assignments have a level of relevance to each student. Hands-on activities, robotics, simulations, and immersive virtual worlds may be used to support STEM instruction. Collaborative activities are used to help students connect with and work with others. Time is provided for self-assessment and reflection activities.

Reading Tools - http://tlc-mtss.wikispaces.com/Reading

- **Natural Reader** (Win) – http://www.naturalreaders.com . a free text-to-speech utility that will read selected text aloud
- **Mercury Reader** - https://mercury.postlight.com/reader/ . clean up web pages and remove clutter to help make them easier to read
- **Read&Write** (chrome extension) - http://bit.ly/29YEZkP . chrome browser extension that provides text-to-speech tools and study tools
- **Read:Outloud** (Win Mac) - http://www.donjohnston.com/readoutloud/ . reading and study support program that works with web pages, digital files, pdfs
- **Rewordify** (online) – http://rewordify.com . tool that simplifies English text
- **Online Text Summarizer** (online) – http://www.tools4noobs.com/summarize . type in an URL or paste text and get a summary
- **Newsela** (online) – https://newsela.com . provides news on current events at five different lexile levels. you will need to set up an account

Writing Tools - http://tlc-mtss.wikispaces.com/Writing

- **Free Online Graph Paper** (online) – http://incompetech.com/graphpaper/ . tools for creating a wide assortment of graph papers
- **WriteOnline** - http://bit.ly/1g6zETJ . writing tool that includes text-to-speech, word bars, and word prediction. free trial
- **Rationale** (Win) - https://www.rationaleonline.com/ . guided reasoning and argument diagramming software
- **Science Writer** (online) – http://sciencewriter.cast.org . tool to support science writing assignments. you will need to create a free account

Math Tools - http://tlc-mtss.wikispaces.com/Math

- **MoffSoft FreeCalc** (Win) – http://www.moffsoft.com/freecalc.htm . basic calculator with adjustable size, colors, and a simulated paper tape display
- **WebMath** (online) - http://www.webmath.com/ . tool that solves math problems with explanations
- **Illuminations** (online) - http://illuminations.nctm.org/ . collection of interactive activities and math lessons, e.g. Advanced Data Grapher, Dynamic Paper
- **Glencoe Virtual Manipulatives** - http://bit.ly/2lYIDA3 . online math tools

Science Tools - http://tlc-mtss.wikispaces.com/Science

- **Education Place** (online) - http://www.eduplace.com/kids/hmsc/ . collection of science resources and simulations from Houghton Mifflin
- **LearningScience** (online) - http://www.learningscience.org/ . learning community for sharing newer and emerging tools to teach science
- **Windows to the Universe** (online) - http://www.windows2universe.org . content lessons on our planet, solar system, and the universe with leveled text in English or Spanish
- **NSF Multimedia Gallery** (online) - http://1.usa.gov/22eECat . collection of science images, video, audio, and more
- **Science Buddies** (onine) - http://www.sciencebuddies.org/ . science fair project ideas, answers, and tools