



## PA Academic Standards: Technology Education

### Introduction

The 2020–21 school year presents a unique set of opportunities and challenges due to the disruption to instruction in spring 2020 as well as the uncertainty as the school year unfolds. Educators know that every school year there are students who require support in addressing unfinished learning from prior grades, a challenge that will be felt more prominently in the 2020–21 school year. It is vitally important that educators are supported to make deliberate instructional choices that allow all students to effectively engage with grade-level work.

The most effective and equitable way to support students in their learning is to ensure that the vast majority of time is spent engaging with grade-level content, remediating with precision and only as necessary. It is entirely possible to hold high expectations for all students while addressing unfinished learning in the context of grade-level work. Since time is a scarce commodity in classrooms — made more limited by anticipated closures and remote or hybrid learning models in the fall of 2020 — strategic instructional choices about which content to prioritize must be made.<sup>1</sup>

Assessing students at the start of the year will identify learning gaps and provide data to inform grade level instruction — as well as incorporating both remediation and acceleration along the way. Diagnostic Assessments determine student strengths, weaknesses, knowledge, and skills. Diagnostic assessments allow teachers to adjust the curriculum to meet the unique needs of all students. While some concepts have greater emphasis in a particular year, all standards deserve a defined level of instruction. Neglecting concepts may result in learning gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade.

This guidance document is designed to identify and define areas of high-level focus in Technology Education instruction supported by key PA Academic Standards. Note that while all standards deserve a defined level of instruction, neglecting key concepts may result in learning gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade.

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<sup>1</sup> Adapted from 2020–21 Priority Instructional Content in English Language Arts/literacy and Mathematics, Student Achievement Partners/Achieve the Core. May 2020

## GRADE 4 FOCUS OF INSTRUCTION (2020-2021)

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Focus Areas of Instruction	PA Academic Standards
<p><b>Biotechnology</b></p> <ul style="list-style-type: none"> <li>• Identify agricultural and industrial production processes that involve plants and animals.</li> <li>• Identify waste management treatment processes.</li> <li>• Describe how knowledge of the human body influences or impacts ergonomic design.</li> <li>• Describe how biotechnology has impacted various aspects of daily life (e.g., health care, agriculture, waste treatment).</li> </ul>	<p><b>3.6.4.A</b> <i>Know that biotechnologies relate to propagating, growing, maintaining, adapting, treating, and converting.</i></p>
<p><b>Information Technology</b></p> <ul style="list-style-type: none"> <li>• Identify electronic communication methods that exist in the community (e.g., digital cameras, telephone, internet, television, fiber optics).</li> <li>• Identify graphic reproduction methods.</li> <li>• Describe appropriate image generating techniques (e.g., photography, video).</li> <li>• Demonstrate the ability to communicate an idea by applying basic sketching and drawing techniques.</li> </ul>	<p><b>3.6.4.B</b> <i>Know that information technologies involve encoding, transmitting, receiving, storing, retrieving and decoding.</i></p>
<p><b>Physical Technologies</b></p> <ul style="list-style-type: none"> <li>• Identify and group a variety of construction tasks.</li> <li>• Identify the major construction systems present in a specific local building.</li> <li>• Identify specific construction systems that depend on each other in order to complete a project.</li> <li>• Know skills used in construction.</li> <li>• Identify examples of manufactured goods present in the home and school.</li> </ul>	<p><b>3.6.4.C</b> <i>Know that physical technologies of structural design, analysis and engineering, finance, production, marketing, research, and design.</i></p>