SUSTAINABLE JERSEY
DIGITAL SCHOOLS

REMOTE DIGITAL LEARNING

ROADMAP 1.0

GUIDELINES FOR REMOTE INSTRUCTION

Summer - Fall 2020

PREPARED BY

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Acknowledgements

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Foreword

IF WE COULD SEE the beauty in digital pedagogy, would we be able to elevate the entire process of teaching and learning? Compare the integration of digital learning to the performance art-form of dance. Observing experienced salsa dancers can ignite a desire to get up and join in, but watching your principal at the faculty talent show may bring about a different feeling. The difference between the two scenarios may appear to be natural talent, but it is the preparation in the choreography that creates the artform, not exclusively the innate ability of the dancers.

In order to develop a well-choreographed virtual learning process, routine planning and practice are imperative, especially if you are an emergent digitarian. Familiarity with digital tools creates fluency, but the pedagogical elegance is in the sequence of each step, just like dancing. To gracefully arrange pedagogical movements in the digital environment, consideration must be made for starting the first sequence with "getting children ready to learn." This might be a synchronous session for the whole group with a healthy buzz in the chatroom for approximately 10-15 minutes. Start with a warm welcome and 'magic mirror' type address recognizing different children each lesson. Next step, an SEL check-in through chat, which will allow follow up with individuals if necessary. Then end the sequence with a brief recap of previously taught concepts and using the chatroom as an exit slip. Now that's a beautiful sequence.
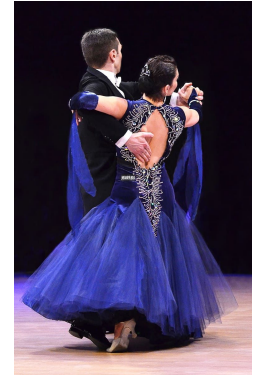
The next movements will be using screen-sharing capabilities to present content that creates a sense of anticipation and expectancy. Present the purpose for learning along with specific objectives for this session. Chat engagement strategies such as "text two in two," which directs learners to review the comments of two peers and provide feedback in two minutes will help to engage students. This promotes independent learning of comprehension and summarization while giving passive learners a voice that otherwise would not be exposed. The time expectancy for this sequence of moves should not exceed 15-20 minutes.

Now the big move that draws the applause, the direct instruction that seamlessly brings the objectives to life. This step involves heavy teacher talk (5-10 minutes) connected to the previously learned material and provides directions, rules, and explanations. This can be synchronous or a pre-recorded video dropped in the chat feature. Some teachers have even directed learners to their postings in learning management systems, e-classroom portals, digital portfolios, and/or webpages. Close the sequence with modeling and input from learners.

Next sequence, the students log-off the synchronous platform and complete an asynchronous practice session (10-40 minutes). Students can reconnect with peers during this time through various digital platforms or work independently on the assignment. The direct instruction video should be reviewed again by the students if necessary. Once the assignment is complete, students should be directed to submit the finished work.

In order to salsa through this next stage, a series of small group sessions (4-6 students) will allow teachers to check for understanding. Also these small group sessions should be used to provide direct skill-based instruction, individual goal setting, and modification of content if necessary. Each day teachers can work through two-four small groups per content area.

Finally, every good dance has a dramatic finish, and the final step of this pedagogical foxtrot is the reconnection of the entire class synchronously to close the lesson. This should be a 10-15 minute session that allows students to share their feedback using the chat feature or a 60-second student summary video. Directions should be provided for additional learning opportunities (enrichment, remediation, and practice) as well as information regarding the next session. The aforementioned choreography of digital pedagogy requires practice to gain fluency. The research associated with each step is deeply-rooted in promising practices and educational frameworks compiled over the past three decades.

Mike Salvatore, Ph.D.
Superintendent, Long Branch Public Schools
NJASA 2019 Superintendent of the Year

Introduction to the Remote Digital Learning Roadmap

Why a Roadmap? While many of the over 600 districts across New Jersey had dabbled in some form of online learning prior to the coronavirus pandemic, sudden statewide school closings in spring 2020 forced all to discover how well we were (or weren't) prepared for it. Experts agree that the social and academic benefits of in person schooling surpass remote learning as practiced to date. The purpose of this document is to identify remote learning issues, recommend improvements, address potential deficiencies, and foster larger conversations about teaching, learning, technology, and equity. It uses research and gathers what many districts learned to characterize the current state of the field and provide guidance and examples for schools implementing remote digital learning, whenever and whatever the reason. The roadmap is the first product to come out of the new Sustainable Jersey Digital Schools program, a multi-agency partnership formed to help schools and their students prepare for a future of new challenges, during and beyond the pandemic.

How to Use the Roadmap

This document was written especially for school leaders, teachers, and tech specialists. It was designed to be a comprehensive, practical, and user friendly manual on effective remote digital learning. Each topic is covered as a single standalone page that can be shared with and used by its target audience. We recommend that all users begin with "What is Digital Learning?", peruse the resources, and then absorb what is useful elsewhere.

Where We Go from Here

Remote digital learning is an emerging field, with more questions than answers. There is still a great need for additional resources in the form of models, toolkits, research, professional development, and technical assistance to make our vision of high-value remote digital learning a reality. We look forward to working with funders, state agencies, non-profits, administrators, teachers, and students to build the new resources needed.

Roadmap Architects

This document was researched and authored by the team of Evan Abramson, Laurence Cocco, Dr. Lisa Della Vecchia, Dr. Steve Gregor, Dr. Barry Haines, Dr. Stephany Hesslein, Michelle Logue, Dr. Wendy Morales, Dr. JoAnne Negrin, Sandra Paul, Bruce Preston, Dr. Elford Rawls-Dill, Debjani Roy, Dr. Michael Salvatore, and Dr. Marc Natanagara, who served as Lead Writer and Editor.

Thanks to the Practitioners

Dozens of educators and tech experts from across New Jersey were consulted on their successful-- and less successful-- practices both before and during the shift to remote learning necessitated by the COVID-19 pandemic. These conversations informed every page of the roadmap. Some asked to remain anonymous, but we thank the following for their substantive contributions: Rich Allen, Jay Attiya, John Bombardier, Chris Cox, Cara DiMeo, Joy Forrest, Adrienne Gold, Patti Hillyer, Anna Kasper, Tiffany Lucey, Elissa Malespina, Mike Miller, Heather Mills, Heather Pentifallo, Cory Radisch, Lisa Rankl, Tonya Rivera, Mike Schloff, Mona Tobia, Kelly Umbach, and Dana Weber. Authors of materials used are credited within each document.

We are grateful to all educators for their service to our students and for helping serve the greater good. At no other time in history has there been such a combination of creativity, innovation, commitment, generosity, and collaboration in the educational community to help us all weather and learn from the 2020 crisis.

What is Digital Learning?

In its 2015 authorization, the ESSA described digital learning as "any instructional practice that effectively uses technology to strengthen a student's learning experience and encompasses a wide spectrum of tools and practices." The Roadmap focuses on the use of digital methods for learning outside brick and mortar classrooms, but most recommendations here could be applied anywhere.

In Other Words Though some had dabbled prior, it's likely that during the COVID-19 crisis every NJ school implemented some form of home digital learning. Different names have been used for this subset of practices, among them **distance**, **cyber**, **online**, or **remote learning**; **digital**, **virtual,** or **flipped classrooms**. All share the practice of students engaging in instruction and accessing content from home with a teacher facilitating.

Purpose With the amount of additional data these practices generated, new resources being created and tested, and lessons shared among districts and teachers, there is no reason that future full or partial school closings couldn't be managed as well or better than in the spring of 2020. But beyond providing continuity of learning during long term closings, digital education methods can be used to effectively engage students on **homebound instruction** (for illness or other reasons); for **alternative education**, **summer**, **enrichment**, or **after school programs**; and to provide **supplemental support** for students who need it.

Scheduling Remote digital instruction can be **synchronous/live**, as with a Google Meet, Zoom, or Skype video conference, or **asynchronous**, in which content can be accessed and responded to by students whenever they choose, as with Remind, Google Classroom, and YouTube. Even in the latter, students still interact with a teacher, just not live (ex. through email or post).

Modes of Delivery

Hybrid/Blended: students learn through a mix of online and in-person instruction and content, which may be through splitting the day or week into these two components. Special attention to both a seamless experience and transitioning from home to school settings must be made.

Flipped/Inverted: students engage in content outside school hours, then apply and synthesize their knowledge with teacher guidance in the classroom.

All Virtual/Remote: students learn entirely outside of the school building and connect with teachers and peers online.

Remote digital instruction can be **whole group**, **small group**, or **individual**, depending on the identified needs.

Means of Delivery Consider creating or posting online content that can be accessed through a cell phone, computing device connected to wifi, or your district's broadcast tv station. You could even preload a unit's worth of content; many digital materials (docs, videos) and apps, once downloaded to a tablet, are accessible even when the device is offline. In a pinch, some districts distributed print packets, but be mindful of the difference in learning you may create between students engaging with interactive digital content and those with static paper media.

Resources:
Getting started: https://teaching.cornell.edu/resource/getting-started-designing-hybrid-learning-course
What is a flipped classroom? cft.vanderbilt.edu/guides-sub-pages/flipping-the-classroom

Research on Digital Learning

Online learning is being used successfully in many industries and in university education, but research in K-12 has been limited. About a decade ago, studies began in earnest and so far have been inconclusive, save for specific elements and techniques. Now thousands of schools around the globe are potentially collecting data on remote digital learning practices that are only now beginning to be analyzed. Below are major findings to date. We encourage districts to share their measures, data, and analyses to add to the ongoing body of research!

A **2009** USDOE literature meta-analysis found that students in online learning conditions performed better than those receiving face-to-face instruction. It also found online field trips had an additional positive effect, though both may be attributed to additional learning time.

A **2010** study of Baltimore schools suggested students engaged in online summer programs fared as well as peers having in-person instruction (Canzian, 2010). It also cited teacher "discomfort with technology" as a possible stumbling block to be attended to.

In **2013**, the USDOE Office of Educational Technology issued a report that noted the decreasing cost of educational technology and its increasing ability to access diverse resources, but recommended that government fund studies and practices to generate better data. That same year, Patrick et al. reviewed over 30 studies showing that blended learning can address the same issues and needs as traditional learning.

In **2016,** the USDOE issued an update to the National Educational Technology Plan that noted the ability of remote technology to effectively extend learning beyond the school day. Lo surveyed literature to date and noted that the flipped classroom model "has a positive effect on students' mastery of subject matter, scientific reasoning, interest, and attitude." Phungsuk et al found that data on using a problem-based learning model in a virtual learning environment enhanced student learning.

A 238-page report in **2018** by the National Center for Educational Statistics reported on the growing promise of technology to augment home learning while warning of student access issues due to family economic priorities, lack of support, or geographical location (KewalRamani, 2018). That same year, Jeong et al. found that a blended learning model could address student motivation and other affective dimensions.

In **2019**, a case study by Santally found that innovations associated with a university distance learning program positively impacted learning by reducing time, distance, and communications barriers.

In **2020**, research began to look at the impact digital education had on learning during the COVID-19 pandemic. For example, in **March**, MIT's Reich analyzed all 50 states' COVID guidelines and found that most states promoted digital learning with special attention to equity and students with disabilities. Harvard's Reimers surveyed 99 countries, finding massive growth in online learning and tools. In **April**, the World Economic Forum cited research showing that "on average, students *retain 25-60%* more material when learning online compared to only 8-10% in a classroom, and often do it faster. They also estimated the world market for online educational technology would reach $350 billion by 2025. In **June**, MacMahon et al looked at a research-based system to "support effective regulated learning, particularly when the face-to-face support of teachers and peers is removed."

Links to all articles cited in the Roadmap are found in **Appendix B**.

Benefits of a Digital Learning Model

Your implementation of digital learning should incorporate the advantages of the technologies and pedagogy you've chosen. New Mexico's plan advises that schools leverage "the assets of home-based learning, rather than trying to recreate school." The use of technology has long promised benefits like personalized pacing, instant feedback, expanded access to resources, and asynchronous collaborations; long term remote learning during the pandemic has revealed even more potential.

1. **Prioritized Curricula** Once we reconsider the mindset correlating seat time with learning, we can freely modify curriculum for remote instruction. Not all content leads to standards mastery or is as worthy of student time. As one district put it, "we removed the fluff."

2. **New Instructional Methods** Digital teaching techniques can increase engagement by taking advantage of tech's multimedia and multisensory capabilities, making the best use of a world of resources (literally!), and providing student access to instruction on demand.

3. **Alternative Scheduling** Online learning need not adhere to an 8 period day. Access to digital content can be 24/7/365. Synchronous/live online learning can be timed to consider family work schedules and a need to support younger children while online, possibly through shift schedules or stipends. Studies suggest 3-4 hours of online learning for older students and less for younger (Reich, 2020), in chunks rather than full sized period blocks.

4. **Personalization** Both teachers and students can individualize the pace and mode of learning, rather than one size fits all. For example, students who learn well visually can use online apps like ToyTheater. Choice boards let students find topics and modalities of personal interest. And with the reduction in downtime due to daily bussing, hall passing, and other non-academic time, students can focus more on learning. Freed of the classroom layout, students can customize their home-work environment. Though learning at home has its challenges, effective plans emphasize student flexibility and agency-- that is, "interest-driven online learning over compliance activities" (Reich, 2020).

5. **Opportunities for Enhanced Interactions and Collaborations** No longer limited to classroom peers and one teacher, many digital classrooms are bringing in colleagues as guest speakers, connecting classes together (both within and outside the school), creating shared online workspaces and docs, and arranging small group digital conference rooms.

6. **Better Assessment Methods** Digital assessments collect and standardize data, providing teachers with tools to adapt instruction and content individually. Many programs assess students in real time, as they work, and adapt the rigor of content to an ideal level.

7. **Access to More Diverse Resources**: Where once digital tools like virtual field trips, animated avatars, and virtual or augmented reality supplemented in-class learning, their value has greatly increased in the remote environment. Content management systems (like Google Drive/Classroom) make collecting, sharing, editing, and accessing resources far easier. Free or low cost resources on teacher sharing sites ramped up in 2020.

With future learning conditions uncertain, teachers need to use instructional practices that work at least as well at home as they do in school and that are flexible enough to provide continuity under a variety of circumstances. Many students will benefit from learning models that are not dependent upon specific schedules, tools, and classroom settings. And if schools learn from their experience, plan well ahead, and find support from state leaders and partnering organizations, issues of equitable access can be a challenge of the past.

Digital Learning Leadership and Capacity Building

Superintendents, assistant superintendents, directors, supervisors, principals, and assistant principals are challenged not only with creating remote learning guidelines but with possibly managing operations from a distance. These require different protocols and understandings than traditional schooling. An [April 2020 study by MIT](#) of all 50 state education agency guidelines advised that leaders understand constraints of home-based learning in making decisions.

[Richardson et al.](#) (2013) found that "technological-suffused change is a seismic step that requires **new lines of thought** and expanded scopes of vision," and leaders "must have the ability to inspire a **shared vision** among stakeholders and foster changes that maximize the use of digital resources to support instruction, learning, and student performance." Leaders can realize their short and long-term goals for student success through digital learning by:

1. **Considering the Whole Child** Focus not only on academics, but student physical and mental health (counseling, nutrition, wellness), personal needs, and community connections.

2. **Cultivating a Positive Learning Culture** Just as important in a remote setting, leaders establish behavioral norms and professional expectations, and model communicating positively and consistently with staff, families, and the larger community.

3. **Providing Structure** Create teams and protocols to identify and address problems/gaps as they arise and set clear guidelines for accountability (ex. grading, attendance).

4. **Meeting Staff Needs** Plan ongoing and targeted PD on wellness, technology, and pedagogy, and offer regular technical, curricular, and mental health support. Consider shift schedules to help staff AND students, and pair novice teachers with veteran staff.

5. **Supporting Families** Solicit accurate data on what families need to make remote instruction viable, like after hours support, parent tutorials, and teacher contact information.

6. **Fighting for Equity and Access** Identify family technology needs and be mindful of other roadblocks to learning like home conditions, language barriers, special needs. Higher levels of leadership must assure districts have equitable opportunities not based on local wealth.

7. **Engaging Community Stakeholders** Family members and neighbors are great resources, but don't forget local businesses, foundations, and town councils that may share staff and materials, and libraries, firehouses, and local cable providers that may help with wifi.

8. **Making Informed Funding Decisions** to provide the best possible resources. Minimize waste by making data-informed decisions based on learning needs and district goals. Expand grant applications, sponsorships, and partnerships. Choose what is scalable, replicable and sustainable across the district. And always have a Plan B (and C...).

Being a tech leader does not mean knowing everything about technology. That's not possible! Tech leaders are careful investing in new technology and practices (especially during a crisis) and use expressed needs from staff, students, and families to inform their choices.

Resources:
Leadership Standards: www.iste.org/standards/for-education-leaders
Whole child: http://www.ascd.org/whole-child.aspx and remote learning bit.ly/2XcqrqK
PD: learningforward.org/journal/what-now/professional-learning-in-a-pandemic
Assessing online teaching: https://tinyurl.com/PADOEonlineteachingrubric
Admin reflections: https://www.edutopia.org/article/7-takeaways-our-experiences-distance-learning

Remote Digital Learning Pedagogy

A virtual lesson should be much more than a recording of a lecture or a shared text document, but about "harnessing… technological tools to accomplish the shift toward personalization" (Patrick et al., 2013). At its core, remote teaching is still teaching; "students can still do all the things students need to do" (University of Queensland, 2020). **Trust your expertise** and consider the following factors:

1. **What We Learned in Ed 101.** Maslow's hierarchy reminds us that students need to feel they are safe and belong before they can accomplish and create. Bloom's taxonomy pushes our teaching beyond memorization and understanding facts to applying them, analyzing, problem solving, and, again, creating something new. And though teaching to specific "learning styles" has been debunked, the more choice and modalities we offer students, the more likely students are to connect.

2. **Students Need Even More Interactivity.** Even if your teaching style is captivating in person, it may not translate well to the remote milieu. Remember that the online world is their realm. Use multiple methods in short bites, including digital docs with links, videos, live conferencing, and multisensory approaches, like sound/music, print, animation, and off-screen activities with kinesthetic components (ex. kitchen science, backyard play).

3. **Active/Problem Based Learning methods** "engage students in the learning process, involve more cognitive processing and meaning building, [making them] more likely to plan and evaluate their learning." (Jeong, 2018) Here's Cornell's resource on active learning.

4. **Teachers Need More (and Different) Feedback.** Digital tools can help you collect data, but we must hone our ability to "read the room" in digital environments by finding new ways to get meaningful and individualized responses to questions, connect with students one-on-one, and assess both understanding and engagement regularly. Use free tech tools like Padlet to get a quick pulse check. This is also an ideal time to join PLNs or PLCs, and make other peer connections for support and ideas on how they teach the same concepts.

5. **Students Need Both More Structure and More Flexibility** in order to work independently. Organize your assignments using a platform or folder system easily accessed by students. Provide options in assignments to maintain high interest and promote independence. Let students customize pacing, mixing online and offline time.

6. **Student Needs and Capacity Vary by Age**, requiring differences in approach. For example, secondary students can likely handle 3-4 hours of online classes and learn more independently; elementary less so. All will need more TLC, and don't underestimate the power of creating a great space in which to teach (real, with wipeboard and demo materials, or virtual, as with Bitmoji) to give you and your students the feeling of "home."

Resources:
Distance vs In-School Learning overview: https://tinyurl.com/KatieMartinDistanceLearning20
Optimizing the Online Learning Experience: https://tinyurl.com/optimizingonlinelearningKING
7 Tips for Effective Remote Learning: https://tinyurl.com/khan7tips
National Virtual Teacher's Association virtual teaching rubric: https://tinyurl.com/VRTArubric
National Institute for Excellence in Teaching virtual learning:
https://tinyurl.com/NIETvirtuallearningrubric
Elissa Malespina Remote Learning Wakelet: https://wakelet.com/wake/JJXj5egTOjhcDSbgVjk_o
Keeping Attention: https://www.edutopia.org/article/how-keep-students-attention-virtual-classroom

Remote Digital Learning and Equity

What Is Meant by Equity?

As educators, we want to treat all students fairly. In an **equality** mindset, we give every student the same support (graphic left, below). But not all students have the same needs, so an **equity** approach looks at students as individuals and as members of a class, based on language, gender, ethnicity, background, socioeconomic status, prior education, or cognitive ability, for example. It identifies their particular needs and provides whatever specialized supports are necessary to ensure access to learning so they can be successful.

The Digital Gap

A recent survey showed that high-poverty districts generally had lower expectations for how long students should be spending on schoolwork each day, fewer live classes, and students more likely to be reviewing material rather than learning something new. And because digital learning primarily uses computing devices over an internet connection, schools have serious concerns making sure students who already have the greatest need aren't left further behind. The 2015 census showed 15% of households with school aged children do not have high-speed internet; that number increases to 35% in low income households (Pew, 2020). Schools are working to loan technology, access grants and government funding to purchase more, working with providers for free or reduced price internet, and even setting up local hotspots in community centers, outdoor areas, and on buses.

More Than the Technology

Even once all children have the appropriate working technology in hand, we have to make sure that equity issues districts have struggled to address prior to school closings aren't exacerbated by remote learning. Some will likely improve (discipline) while others (achievement gaps, class placements) could worsen without targeted and continued monitoring and interventions. Ask:

1. Are we providing the highest quality remote learning experience possible-- one that differentiates for students of all ability, language skills, digital skills, and learning styles?

2. Which groups have historically experienced learning loss during school closings (including summers) and what unique interventions can be provided to catch them up? Ex. Provide after hours and summer support, extra resources, and one-on-one tutoring.

3. How well are we monitoring absences, drop outs, grading, and disengagement during remote learning, and what are we doing to keep students involved and supported?

4. Have we engaged families and done whatever possible to help make conditions at home conducive to learning through technology? Regular phone calls, even visits, can help determine what is needed, including parent tutorials and help accessing social services.

5. Are we flexible with both our learning models and our assessment of learning and content mastery? Ex. Consider the many faces of mastery; engage support staff in learning.

Resources:

7 Considerations: https://www.southerneducation.org/covid-19-digital-equity/
Vermont Equity Tool education.vermont.gov/sites/aoe/files/documents/edu-equity-lens-tool.pdf
McKinsey Research on Remote Learning https://tinyurl.com/McKinseyLearningLossCOVID2020

Remote Digital Learning and Mental Health

One of the biggest challenges during extended remote learning is helping students with existing mental health issues as well as problems that arise from emergency situations where children are apart from the school setting and peers. Even in a "normal" year, emotions play an important role in the learning process. NJSBA (2020) recommends "assess, don't assume," monitoring learner health consistently.

Mental health and Social-emotional needs

Research shows that "continued schooling and learning can be a protective factor helping young people cope with stress and challenges during periods of disruption." (Reich, 2020) Before the pandemic, many districts had invested in SEL resources. Student-student and student-teacher rapport have never been more important. Most importantly: preserve your own sanity and well being. Pace your work, lean on colleagues, ask for help, and… breathe. 🕊️

Stamina and Screen Time

We are not meant to spend our days sitting, and it is even less reasonable to expect a child to be in front of a computer for 4-6 hours. The American Academy of Pediatrics recommends no more than 1 hour of screen time for children older than two, and cautions disrupting sleep patterns and physical activity through computer use. Schedule breaks, chunk lessons, and augment digital learning with activities away from screens.

Fostering Positive Social Connections

Research during the COVID crisis by MacMahon et al (2020) noted, "The sudden shift to remote and online learning, as a result of isolation during COVID-19, has created a social disconnect, making [teacher and peer] regulatory supports less accessible. Carefully designed online collaborative learning can be a meaningful way for students… to regulate their own and others' learning, and to develop the skills to regulate collectively as a group." We can also make positivity and psychological health part of our lesson design. Jeong et al (2018) found activities that "foster positive emotional states and… students' favorable attitudes" improve self-efficacy-- a sense of self control and belief in one's ability to succeed. Whatever strategies you use face-to-face to make your students feel cared for and confident will be needed at least as much in a remote setting (especially new students).

Danielle L[redacted]
May 7

Do you have any questions? Need anything? Just want to chat? Join the lunch hour Google Meet with Ms. P and me :)

Google Meet: https://meet.google.com/rai-ktqe-[redacted]

Cybersafety and Digital Citizenship

One of the greatest increases in bullying and harassment has been in the digital realm. Not only do teachers have the ability to use monitoring technology and personal connections with students to stem HIB during remote learning, but have an increased opportunity to teach it in practice. Continue to make proper online behavior part of lessons and provide opportunities for students to communicate concerns privately. Carefully vet all online platforms for legal compliance, data security rules, and hacking history.

Resources:
casel.org/sp_faq/distance-learning
inservice.ascd.org/5-essential-trauma-informed-priorities-for-remote-learning
www.edutopia.org/article/fostering-strong-community-virtual-classroom
www.edutopia.org/article/creating-inclusive-virtual-classroom
www.actionforhappiness.org

Choosing Content for Remote Digital Learning

In most remote learning situations, the amount of time a student spends "in class" will be less than the traditional classroom. Teachers and supervisors need to emphasize quality over quantity by taking a critical look at content designed for 180 days of school at 30-60 minutes per class. The essential question for this process is: *What do I want my students to take away from this course so they will be prepared to apply it at the next level-- and in their lives?*

To prioritize such decisions, we should attend to:

Standards Alignment As the NJDOE states in *The Road Back* (July 2020), teachers must be "prepared to address any learning gaps that might prevent students from meeting grade-level standards." Take a serious look at each reading, activity, and assignment and see what standards it will truly help students master. Which are not well addressed and which may be redundant? You can always revisit certain standards based on student success. Here's a twist: look at tech standards from the student perspective, like these from ISTE.

High Quality Materials With advanced planning, physical materials (ex. novels, math manipulatives, basic craft materials and work tools) may be sent home to work in tandem with digital instruction and resources. Whatever the tool, districts should have a process for assessing and screening them. Does it meet your needs better than what you already have? Is there research and data on its effectiveness? What do my peers use? This is an especially smart time to collaborate on content creation with peers within and outside your district. Plan together and then divide the work, creating a single video, app, webquest, or mixed reality experience that you all can share.

Authenticity When modifying our curriculum for remote instruction, have we emphasized opportunities for students to connect content with personal and practical interests, and the world outside the school and their homes? Choices should easily answer the question: How can I apply this skill, knowledge, or understanding in my future work and life? Keep in mind also that authentic learning is community building (it's how the world works). Wherever possible, design student collaboration and communication into lessons.
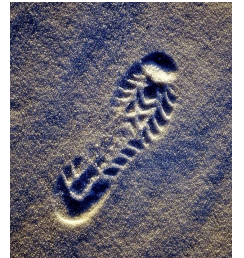
Rigor It's important not to confuse quantity with rigor, but in remote settings, you'll also need to rethink what students can accomplish managing their own time and learning. We learn when we are challenged-- even frustrated-- but we have to be more mindful of students managing this without our face-to-face support. Rigor should be a flexible target, responding to and finding the right balance between intellectual stimulation and accomplishment. A rule of thumb schools discovered: depth over breadth, fewer and higher quality assignments.

"Assessability" Once you've set your lesson learning goal, based on standards and course sequences, your next step is to determine how you will assess mastery of that goal. If content is high quality, its essential questions will likely require more than a multiple choice quiz to show learning. Not sure what an essential question should look like? See the link on UbD below.

Resources:
Technology Student Learning Standards 2020 https://www.state.nj.us/education/aps/cccs/tech/
educationpost.org/pandemic-or-not-students-need-great-content-paired-with-strong-teaching/
www.ascd.org/research-a-topic/understanding-by-design-resources.aspx

Choosing Technology for Remote Digital Learning

You likely already count technology use as one of your talents and tools among an arsenal of teaching techniques and resources. Our approach must not place "too much focus on the technology in isolation, about its capacities and features, [but instead] on looking at how it integrates with… educational practice." (Santally 2019) In other words, student learning needs are what drive tech choices.

General guidance:
- **choices based first on student learning needs**
- **has a simple learning curve for teachers**
- **is easy for students to use independently** (and for parents to troubleshoot if needed!)
- **is friendly with your existing technologies**
- **is cost effective and sustainable**

Focus "on redesigning instructional models first, then applying technology, not as the driver, but as the enabler for high-quality learning experiences that allow a teacher to personalize and optimize learning." (Patrick et al., 2013)

Tech Components

1. Platforms A learning platform could be part of your Student Information System or a free suite like Google Apps. While you could pick separate apps or sites for various tasks, it is helpful to have one "location" for assigning, posting, and collecting work-- even better if it can be used for student assessment, data collection, collaboration, plus communication with students, parents, peers, and external resources (peer schools, universities, local mentors, etc.).

2. Devices Cost often comes first, but criteria should also include durability, safety and security (including system and inventory management), software compatibility, and features like a good webcam, audio, and bluetooth. For some applications and ages, a $100 tablet will do.

3. Connectivity The NJEA's Education Recovery Plan (June 2020) recommends that districts create public/private partnerships, and says "the telecommunications industry has a social responsibility" to secure high-quality broadband access to students and communities in need. Schools should also help families determine their bandwidth needs. *See Appendix D.*

4. Software and Apps *Appendix A* lists the 25 most popular free apps reported by teachers, for use in communication, formative assessment, recording, and simulations. Many are game based. Is your software limited to one brand of device? Can students access it at home? Is it ad-based? Look for software that is customizable to adapt to your content and students.

5. Safety, Security, and Monitoring Your IT department is no doubt part of the purchasing process and will want to be sure your choice of tech fits or can be adapted to monitoring and data security protocols--they'll no doubt mention COPPA, CIPA and FERPA, which all need to be aware of.

Other considerations: Should students of all ages have emails, or just sign in IDs? Will Single Sign On (SSO) systems like Clever work with a new app? To what degree does your system let you screen for HIB or self harm language or images, and who monitors it?

Remote learning, particularly during a crisis, is a time not only to use technology + people to help keep an even more watchful, respectful, and caring eye on students, but to have additional counseling time available to address issues of concern that may arise.

Remote Digital Learning Family Supports
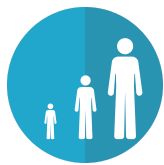
During remote learning, teachers and parents have to think differently about what a child needs to be successful-- which can be made more difficult by circumstances where parents are trying to work. It's also fair to ask that parents be empathetic with teachers who are facing challenges of their own as well as helping children transition to a different learning model.

How Schools Can Help Parents, Improve Remote Learning

Family Engagement To some degree, and by design or not, all parents will help their children learn during remote learning. Educators must consider the varying degrees and kinds of support families may need to help their children learn at home, which begins by making them partners in that process. Teachers never underestimate the power of a newsletter, email, or phone call which can speak to their child as an individual, provide factual information like assignment due dates and reminders of class meetings, or provide general encouragement and advice for making these times easier. And good information from parents on how learning is progressing is never more important than when children are not sitting in a classroom.

Learning Supports If you're of a certain age, you know that each generation refers to "new math," because teaching methods seem to change every decade or so. To many parents, helping their child with a novel or biology might as well be a language they don't speak. If mom is a lawyer, you won't be able to turn her into a physicist, but you can design or tweak tutorials to work from a parent perspective. Make sure they have access to student resources, calendars, and texts. Provide simple strategies on how they can support and encourage their child's learning; even asking a child to explain the process of learning can help build positive relationships and help students cement their own understanding.

New Students School culture is a shared set of beliefs, relationships, and practices-- which, by their nature, take time to understand and become part of. New students, transfers, mid-year move ins, and kindergartners require special attention. They'll need help getting materials, accessing resources, and understanding district procedures. To place them appropriately, you'll need to assess achievement levels relative to your existing programs, and also determine their readiness for remote learning, both technically and from a skills perspective. With this information in hand, you can provide them what they need to participate and succeed.

Other Services It's difficult for students to learn when they are hungry, feel unsafe, and their lives are otherwise in turmoil. Schools have resources to help provide meals, language translations, technology loans, and access to social, psychological, health, and family services. It can be hard to ask what families need, but we'll never know if we don't. Look also for telltale signs of struggling. During school closings, families also look out for each other. Keep that communication going, as a community.

Appendix C contains a checklist of suggestions for parents, along with a link to an editable version for schools to customize.

Resources:
https://sites.google.com/k12.hi.us/resources-student-parent/parents-caregivers
https://www.edutopia.org/article/how-coach-parents-who-are-teaching-home

Remote Digital Learning for Lab, CTE, and Other Hands-On Courses

If you thought it was a challenge to get students to read an article online, consider teachers whose courses depend on **equipment**: routers, microscopes, electronics, chemicals... 2020 emergency school closings sparked incredible creativity and some curricular soul searching when it came to focusing on the ultimate meaning of hands-on courses. For CTE and science courses, skills like (data) analysis, problem solving, and innovation-- what the Next Gen Science standards refer to as "Core Disciplinary Ideas"-- were explored online and in home kitchens using simulations or commonly found materials and tools (and, knowing family resources vary, allowing substitutes).

Technical/Science/Career Readiness Skills

- Observation
- Interpretation
- Reasoning
- Analysis
- Systems thinking
- Synthesis

- Empathy
- Collaboration
- Responsiveness
- Negotiation
- Flexibility
- Time management

- Communication
- Resource use
- Organization
- Integrity

Alternative Learning Modes

When we switch from the recipe model (follow directions so we all get the same result) to the inquiry/discovery method (uncover the issue and find further information and evidence to elucidate it), students begin higher order thinking at the analytical and evaluative levels. And in place of classroom lab or shop tools, remote learners can benefit from:

Demos Teachers can live stream or record demonstrations of experiments or builds. To make them more than a passive experience, they can pause for response or create overlays with programs like EdPuzzle to insert learning moments for prediction, applications, and creativity.

Simulations Apps, sites, augmented reality, and virtual reality simulations are widely used in industry and med schools but have been slow to grow in PreK-12 schools. Still, there are many to be found for career and technical ed and the sciences that allow students to experience a digital version of space flight, circuit building, and chemical reactions-- without the usual risk!

Home based substitutions What designs, experiments, and constructions can be done with paper, tape, clips, glue, scissors, foil, toothpicks, and homemade clay (flour, water, and salt)?

Go Kits Maplewoodshop is helping schools provide students with boxes of simple tools and materials for students to do scale model builds. Why not for a DNA model or sewing class?

More interactivity Much value in hands-on courses comes from group work: dividing tasks, sharing responsibility, learning to communicate. Hands on teachers will need to structure even more shared work in the digital realm.

Resources

https://tinyurl.com/AtlanticMonthlyremoteCTE
https://www.acteonline.org/professional-development/high-quality-cte-covid-19-planning-guide/
https://cte.ed.gov/initiatives/employability-skills-framework
https://www.insidehighered.com/news/2020/04/14/teaching-lab-sciences-and-fine-arts-during-covid-19

Evaluating Remote Digital Learning

What does effective digital learning look like? Up to a point, mastery looks as it already should in the traditional classroom, where students are able to apply their knowledge to novel situations and make connections within, across, and beyond the content. Tests, activities, and rubrics can still be implemented, albeit with an understanding that students not only have access to answers at their fingertips but home distractions that might make fair and secure classwork and test taking a challenge.

Solution: Ask questions that students can't just search the internet to answer.

Questions that access higher order thinking and assess mastery include: How did you feel about..? What do you think about...? What is a relationship between..? How does this connect to an experience you've had? How would this understanding apply to [this new situation]? Teachers who work deliberately to create class cultures that emphasize learning over grades also find less "cheating" during remote learning and more requests for assistance.

Evaluation = **data collection and analysis**. In remote learning settings, it should involve:

1. Assessing Student Performance The USDOE Office of Educational Technology says "Assessments delivered using technology can provide a more complete and nuanced picture of student needs, interests, and abilities than can traditional assessments, allowing educators to personalize learning." A number of apps and services have assessments baked in but educators must be sure they meet their specific needs (apps where you can add your own questions work best). Authentic assessments like problem-based learning activities can be not only more holistic and meaningful but more engaging. A comprehensive plan also takes advantage of technologies that allow students to assess and monitor their own progress. In a long term remote learning scenario, it is likely that schools will need to evaluate incoming students for placement. And teachers and administrators need to be mindful of fairly and equitably assessing graded work, participation, and attendance during remote learning, which is best served with flexibility and may require amending grading policies and guides.

2. Evaluating Effectiveness of Instruction The National Virtual Teacher Association has developed rubrics for self evaluation that include principles like student interactions, pacing, minimizing distractions, and communication for online learning. While these are analogous to effective in-person teaching practices, districts will need to adapt their current evaluation frameworks, which were not designed to evaluate remote teaching and administration.

3. Evaluating the Digital Learning Plan Data is (are) now more important than ever. Districts must ensure consistency and fidelity in data gathering. For example, same level/content teachers should use identical assessments and learning platforms. Implementation of digital learning must be geared towards meeting district and digital learning goals. Learning plans must include the means to identify gaps and issues while in process, and districts must have a process in place (ex. Tech Committees) for determining and choosing the best solutions.

Resources:
virtualteacherassociation.org/wp-content/uploads/2020/07/NVTA-Principles-of-Virtual-Teaching.pdf
https://www.edutopia.org/article/formative-assessment-distance-learning
https://www.edutopia.org/article/summative-assessment-distance-learning

Remote Digital Learning in a Hybrid Model

To maximize social distancing and make the best use of educational expertise and resources during the COVID-19 pandemic, many schools opted for or were required to design **hybrid learning** models. There were a number of variations, the most common of which were alternating **A-B day** or **A-B week** schedules (or even A-B-C, depending on bus capacity and the need to reduce class sizes) in which subgroups of students took turns learning in their physical classrooms while their peers engaged in remote learning at home.

The Roadmap focuses on the remote digital piece, but a hybrid model requires additional attention. The goal is to create a seamless experience in the daily or weekly transition between learning at home and at school. More than just applying existing in-person practices plus remote pedagogy, a hybrid involves other unique factors and planning challenges, including managing two groups of students at once, using complementary teaching methods, and dividing content for independent (home) and supervised/collaborative (in school) learning.

Characteristics of Successful Hybrid Models
Sulla, McMurtrie, and Superville (2020) proposed hybrid approaches that:
- keep the two settings as similar as possible (pacing, materials, products)
- maximize social interactions both in person and online
- have high quality materials and assignments in both settings
- follow a flipped model: content independently, application/practice live
- balance the amount of synchronous and asynchronous lessons
- focus on standards mastery
- seek to create a whole class from its divided parts
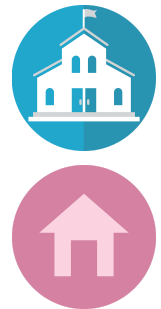
Techniques to Maximize Success of Hybrid Learning:
- using a single digital platform that students work from no matter where they are
- connecting students in class with those at home for live collaboration and discussions
- making the most of face-to-face time (live or virtual), emphasizing discussion, interactions
- live streaming or recording portions of lessons for students to view later (particularly if they are absent)

To date, educators clearly have more expertise, experience, and comfort with in-person instruction. They understand the need for students to **interact socially**. They value face to face interactions that foster **positive student-teacher relationships**. They use overt and subtle in-person cues to **engage and formatively assess** the class.

Modern teaching also involves greater **technology use**, provides more **student choice** and flexibility, and focuses on **building independence**, all of which are emphasized in remote digital learning models. Carefully planned, hybrid learning can maximize the best of in-person and digital pedagogies. Schools must continue to experiment to determine what combinations and strategies work best for them-- and share what they've learned with others.

Resources:
www.techlearning.com/how-to/new-learning-models-for-fall-2020
www.govtech.com/education/k-12/hybrid-learning-goes-mainstream-amid-response-to-covid-19.html
www.edweek.org/ew/articles/2020/06/25/hybrid-school-schedules-more-flexibility-big-logistical.html
tinyurl.com/ISTEonlineblendednetwork
https://www.codlearningtech.org/PDF/hybridteachingworkbook.pdf

Remote Digital Learning Lesson Plans and Strategies

The following section contains sample strategies, lessons, and activities field-tested in classrooms prior to and during statewide school closings due to the COVID-19 pandemic. Each has been edited to be as broadly applicable and accessible as possible, with the understanding that resources, goals, and techniques vary among districts. Several are even content agnostic, encouraging teachers to both cross curricular lines and partner with colleagues in other subject areas. Creative teachers will be able to adapt a strategy represented here for one content area to an entirely different subject.

Minimum Plan Components

Each district has its preferred format for curriculum, unit, and daily lesson plans. These likely include

- measurable learning objective
- standards the lesson/unit addresses
- means of assessing mastery
- instructional sequence or directions
- resource list

In addition, a comprehensive and flexible plan may also incorporate:

- differentiation strategies
- opportunities for student choice
- essential questions (how to, from ASCD)
- a Plan B! One reliable thing about technology is its unreliability, so assume someone (even you) may get kicked off a virtual meeting or not have access to a document, and let students know what to do if (when) that happens.

From Live to Virtual

While some publishers have recycled existing content under "next gen," "maker," or other buzzwords-of-the-moment -- now "virtual learning"-- the exemplars chosen here do not represent the same in-person approaches rolled over into the digital realm. Each plan or strategy page highlights at least one practice that makes remote learning particularly effective, including interactive video creation and immersive online environments.

It is hoped that even with the return to schools via hybrid instruction (part in person, part remote/digital) or all in-person classes that the lessons in the Roadmap may positively inform teaching, interactions, engagement, communication, and the use of digital resources well into the future.

The Digital Learning Roadmap is a living document. Help it breathe!

Educators create, test, and learn something new every day. We have no doubt that we will improve and evolve classroom practices as we continue to teach remotely. If you have a lesson or strategy that you have applied in the field that might help your colleagues across the state, we invite you to share it with us for possible inclusion in the next Roadmap iteration at:

schools@sustainablejersey.com

Remote Digital Learning Strategies for Students With Disabilities

Working with technology from home can be challenging for everyone, and depending on the disability, students with IEPs may need additional specialized assistance from teachers and caregivers. Special educators recommend working on establishing an appropriate learning environment and objectives for students and their families before launching into a detailed list of to-dos and daily activities.

"Special Education is a service, not a place."
Joy Forrest, President of the Ocean County Special Services Directors

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What is it like at home for the student? Phone calls or virtual meetings with families early on can give educators a sense of each student's home set-up. Will parents be home all day? Will they be working while at home? Is there space in the home to set aside for gross motor or sensory activities? What tools and materials are needed? Teachers can then map individualized plans to the available resources. Work together to create home learning activities that resemble the school day as much as possible.

Emphasize structure. Creating a daily list of activities—broken into small chunks with plenty of breaks—that follows a similar order to the schedule students had at school. Many students with special needs respond well to visual cues, a schedule board (tactile or digital) with images of activities that prompt students what to do when can be helpful. Using a digital or visual timer is encouraged, which reminds students of a bell schedule at school.

From direct instruction to coach/facilitator. The teacher now supports the families through the process of understanding school expectations and goals and objectives. Most of this educational work is developmental and relies on the primary caregiver's role to carry through instruction with the teachers assistance.

Recalibrate goals and objectives. Evaluate which IEP goals are achievable in the new environment and then work with families to break learning targets into manageable benchmarks. Some goals and objectives may need to be focused on for another year if it was not echoed by the student.

Meet sensory and movement needs. Students with special needs may need additional sensory modifications and supports—listed in their IEPs—to help them learn and grow. Teachers encourage parents to use simple objects like colored play dough and bubble wrap or brain-based games like Jenga if students need to release energy. Rice and beans placed inside pockets can substitute as a weighted vest or blanket to provide a sense of security, while writing and drawing in shaving cream can reduce tension while boosting language development. Even hugs, deep breathing, or allowing a child to run around outside can help. Importantly, when designing web content, be mindful of ADA accessibility recommendations.

Compensatory services may need to be added for support, regression, and recoupment of services. Federal regulations gave schools greater flexibility in meeting IEP objectives during the pandemic and schools should work to the best of their ability to provide what services they can—even if they are digital—recognizing these services may not be the same as what a student receives in school.

Remote extras. To supplement remote learning, teachers often create written directions or instructional videos for students, as well as for parents to teach them how to set up and support their children in various activities. Educators can also think of ways parents can use generic objects in the home to teach skills, like Cheerios, toothpicks, or pennies, which can be repurposed as math manipulatives.

Resources:
Texas Ed Agency Guiding Questions for Students with Disabilities: https://tinyurl.com/TEA-IEP-questions
https://www.edutopia.org/article/how-improve-distance-learning-students-ieps
Universal Design for Learning http://udlguidelines.cast.org/

Remote Digital Learning Strategies for English Language Learners

ELLs are the fastest-growing population of students in the US. In addition to learning to work in English, many face multiple challenges, like poverty, bias, and lower graduation rates. Remote learning can be even more difficult for these students. Schools can use tech and techniques to personalize learning and strengthen bonds between school and home.

Focus on core rich academic language. Select and pre-teach the vocabulary all students need to learn.

Emphasize oral language even in virtual spaces. During videotaped read-alouds, model thinking aloud, ask comprehension questions, leave time for students to think and respond.

Put language development in context. Teach and align assignments thematically, allowing students to become "experts" in a particular topic. Keep the focus on academic learning and avoid providing only skills-based activities.

Differentiate by English language proficiency level. Scaffold learning with graphic organizers. Provide differentiated sentence frames. Provide small group support and virtual breakout groups. Teach students how to use the chat box.

Provide all ELLs and their families with resources in their home languages. Create a line of communication with families so that you can learn what is working or not working for them and their children. Use Google Translate to ensure that correspondence and instructions are comprehensible. Provide families with multilingual prompts for conversations they can have with children about what they are learning. And survey families individually to find out their needs, from technology to work schedules to medical and nutritional needs.

Design culturally responsive and inclusive lessons. Successful lessons not only foster open dialogues about culture, but emulate "culturally significant styles like storytelling." (Guido, 2017)

Provide extra social emotional supports. Create open-ended assignments where students can express, orally or in writing, what they are feeling during this challenging time

Encourage peer interactions. Students can post messages via writing, recording audio, and video and respond to each other. Create intentional Think-Pair-Share prompts or writing prompts to encourage students to use the new vocabulary.

Scaffold supports for different levels of English proficiency. Beginning learners will benefit from instructions in their first language or simplified instructions in English. Text that builds the background knowledge needed to complete tasks can be offered in the native language or leveled English readers. Students may benefit from being grouped by language so that they can develop their thoughts in their first language and then create the final product in English.

Encourage creativity Higher-level thought does not always need to be accompanied by higher-level language. A sense of fun and personalization in the online environment will help create community. Ex. a narrated presentation or story on which students can comment; a music playlist that captures the student's thoughts and feelings about the course of a novel.

Make the best use of technology. Select a few tools that you will use regularly. Incorporate videos, images, and total physical response to teach content vocabulary. Consider recording and posting lessons; ELLs often struggle to keep up with live instruction and benefit from being able to watch the lesson multiple times.

Resources:
www.colorincolorado.org/distance-learning-ells
seal.org/6-key-considerations-for-supporting-english-learners-with-distance-learning

Remote Digital Learning Strategies for Tiered Interventions

All districts use a [Response to Intervention](#) (RTI) framework and [Intervention and Referral Services](#) (I&RS) teams to identify and address student needs. It can be particularly difficult to determine which students are at risk of experiencing ongoing academic difficulties, in what ways, and how to address them during remote learning, and it is especially important to have embedded support for them. Families may also need additional assistance during emergency situations. The New Jersey Tiered System of Supports ([NJTSS](#)) begins with identifying a student's performance relative to state standards and benchmark data, and then focuses interventions at three levels:

Tier I- Whole Class Instruction + Prevention and Universal Supports for All Students and Families
- Provide access to resources to self-care, self-help, parent supports, and psychoeducational information.
- Continue to utilize a trauma-sensitive and culturally responsive approach to student engagement and support.
- Provide Social and Emotional Learning (SEL) programming through elementary morning meetings and health and physical education classes.
- Plan check-ins to assist in identifying at-risk students by teachers, guidance counselors, building administrators, and parents.
- Share information among parents and staff to identify when a student may be struggling with a mental health issue.

Tier II- Small Group Instruction
- Utilize existing staff (School Psychologists, Social Workers, and/or school counselors) to provide support for students who are identified as needing assistance.
- Connect families with local community providers, county resources, and other organizations to enhance Tier 2 and 3 support.
- Proactively reach out to the care management organizations to establish connections to better support families who may be receiving or are in need of Tier 2 or 3 support outside of school.

Tier III- Intensive Individual Intervention
- Individualized and intensive support for students who are identified as needing mental health and/or substance abuse interventions.
- Provide individualized counseling, monitoring of progress, and therapeutic support through existing programs and current staff.
- Connect students and parents to individual counseling, family therapy, out-patient programs, or addiction services as needed. The NJ System of Care/Perform Care can be contacted at 877-652-7624. Services are provided 24 hours a day, 7 days a week.

Strategies for successful interventions:
- Using federal funds to provide basic skills instruction in math and English during the day as well as after school tutoring based on a district developed identification rubric.
- Scheduling reading specialists to provide targeted instruction.
- Professional development and programs that support differentiated instruction and materials.
- Ongoing student assessment using standardized and district created assessments.
- Working in partnership with parents to communicate issues and continue strategies at home.
- Effective use of data through formal and informal assessments.
- [Positive Behavior Support in Schools](#) (PBSIS) to improve conduct and social-emotional wellness. Online learning environments should ensure everyone feels safe emotionally, physically, and socially; experiences success every day; and further develops their strengths.

Resources:
https://www.edutopia.org/practice/improving-learning-all-students-multi-tiered-approach
https://education.mn.gov/mdeprod/idcplg?IdcService=GET_FILE&dDocName=MDE032621&RevisionSelectionMethod=latestReleased&Rendition=primary
https://www.state.nj.us/education/njtss/Remote%20Learning%20Considerations.pdf

Remote Digital Learning Strategies for Preschool

The [goals of a preschool program](#) are both simple and foundational: develop skills for future schooling (listen, follow rules) and socialization (share, interact appropriately); learn to manage behavior (self-regulate) and articulate personal needs; work on language, fine and gross motor skills; and gain knowledge of numbers, shapes, etc. This is largely done through play and interactions-- both of which are challenging to manage remotely. Here are some suggestions:

Create a manageable remote learning schedule. Post the week's schedule and activities in your online platform. Create and share a video of the week. Check in live for morning meetings with hellos, a read aloud, and reciting sounds together. Do a themed activity as a group, and "assign" other activities for parents to do at their leisure, as offline enrichment.

Involve familiar items from the classroom in lessons, like photos, charts, calendars, dry erase boards, books, puppets, songs, and common phrases and directions.

Multisensory magic. Just as much as in the face-to-face classroom, providing lessons with songs, instrumental music, images, follow-the-leader, dancing and other movement will captivate preschoolers, even through a computer.

Help families be involved. Share *optional* prompts, books, craft ideas, and familiar language used in class. Give examples of how to use simple opportunities like mealtime to expand language skills. Ask families to submit photos from their homes to use as real world discussion prompts. Stay in communication through emails, Remind texts, newsletters and flyers. Remember that some parents may opt out of classes.

Assemble "takeout kits." Not all families have all the materials necessary to participate in lessons and crafts. You may be able to provide what they need: glue, construction paper, craft sticks, crayons, dice, clay, pom-poms, safety scissors (for pick up).

Lean on the team. Reach out to your tech department, fellow teachers, and even parents who may have more experience than you with a particular technology. When possible, include related service providers in virtual lessons and activities, like nurses, speech therapists, occupational therapists, and classroom aides/paraprofessionals.

Vary your approach. Although children born after the millennium are considered digital natives, preschool is early to begin a life online. Students may be shy or resistant at first to participate via computer-- particularly new ones. One thing most will want to do is interact live with peers and you, though it's expected some will lose interest during a virtual meeting.

Let students and families guide the lesson. Not unlike in your classroom, children are playing, exploring, and learning at home. Ask them (and parents) to share what they are doing and build the lesson from there.

Stay positive. You set the tone. Relax, teach as normally as you would as possible, and lean into new challenges. If anyone can, preschool teachers find the fun in everything!

Resources:
www.edutopia.org/article/7-tips-managing-distance-learning-preschool
www.edutopia.org/article/making-learning-home-work-preschool-students
pocketofpreschool.com/distance-learning-idea-list-for-preschool-pre-k-and-kindergarten/
www.uft.org/teaching/remote-teaching/learning-activities-students/pre-k-2-remote-teaching-resources

Remote Digital Learning Plan Sample: Kindergarten

One of several great plans from https://www.fultonschools.org/domain/7247

Authors write books. Illustrators draw the pictures for the books. These two people work together to help you understand a book.

Choose a book to read or have someone read it to you.
- Who is the author?
- Who is the illustrator?
- Read (or have someone read the book to you). As you are reading, look at the pictures.
- Talk about what you see in the picture.
- Then, find one thing that you notice in the picture that was not stated in the book.
- Write this on a paper.

We use writing to share our personal experiences with others. Think about a time that you did something fun.

Draw a picture of this experience. Remember to include:
- the people who were with you.
- where you were (the setting).
Then:
- Label your picture.
- Write the letters for the sounds you hear in each word.
Finally, write, or dictate to someone and have them write, what you want to say. Remember to:
- Write the letters for the sounds you hear in each word.
- Leave spaces between words.
- Begin each sentence with an uppercase letter.
- End each sentence with punctuation (period, question mark).

There are some letters that come together and form 1 sound. When s and h are together, they make the sound /sh/. When c and h are together, they make the sound /ch/.

Read these words. Then write them 5 times using different colors of crayons, markers, or colored pencils to write them. Write the letters using lower case letters. Remember, each time you write the word, you need to read it out loud.

ship	chin
shop	champ
sham	chest

When we read a fiction book, we can identify the characters in the book.

Choose a picture book. Read the book or have someone read it to you. Then do the following:
- Identify the characters.
- Draw a picture of the characters in the book.
- Label the characters.
- How you would describe the characters? Write or have someone write it for you.

You know how to do a LOT of things. Think of something you know how to do. Then, write a 'how to' book teaching someone how to do this.

Remember to:
- Draw a picture of each step. Include lots of details.
- Label each picture.
- Number each step.
- Write what to do for each step.

There are some letters that come together and you hear both sounds. For example, with b and l, you hear /bl/. These are called blends.

For each word, listed, do the following:
- What is the **beginning** blend?
- List 4 more words that **begin** with the same blend.

class	Crisp
blimp	Broom
plant	Prance

Authors choose their words carefully. Read, or have someone read to you, a picture book. Choose 5 action words from the book.

Write or have someone write for you each action word you found. What OTHER words might the author have used?
- Write down 3 OTHER words the author might have used.

You have learned a lot of words from all of your reading and having conversations with others. There are so many words we can use to describe things.

Think about animals. Choose your favorite animal. How would you describe this animal to others?

Remember to think about:
- What does it look like (color, size, shape)?
- What might it feel like?
- What might it sound like?
- How does it move?

A syllable is a beat in a word. Some words have more than one syllable. For example, the word milk has 1 syllable. The word dinner has 2 syllables. The word elephant has 3 syllables.

For each word, identify the number of syllables in the word.

biscuit [2]	potato [3]
hamburger [3]	toast [2]
taco [2]	chicken [2]

Resources:
https://www.teachingexceptionalkinders.com/2020/04/distance-learning-in-kindergarten.html
https://www.kindergartenworks.com/kindergarten-teaching-ideas/kindergartners-distance-learning/

Remote Digital Learning Plan Sample: Art

Museum Design

Essential Questions:

1. What narratives do museums add to collections of art works, and how do they influence your experience of those works?
2. How does the arrangement of art works in a gallery help tell a story?

SHORT BIO: Vincent Van Gogh is one of the most well-known post-Impressionist painters, though he was not widely appreciated in his lifetime. He was born in 1853 in the Netherlands, the son of a pastor. He worked in an art dealing firm, as a teacher, and as a preacher. He began to write to his younger brother Theo, a correspondence which continued for the rest of Van Gogh's life. In 1880, at the age of 27, he decided to become an artist. He moved around, teaching himself to draw and paint and receiving financial support from his brother Theo. In **1886,** Van Gogh joined Theo in Paris, and met many artists including Degas, Toulouse-Lautrec, Pissarro and Gauguin, with whom he became **friends**. His style changed significantly under the influence of Impressionism. (from BBC)

We've looked at several of Van Gogh's most famous works, including:

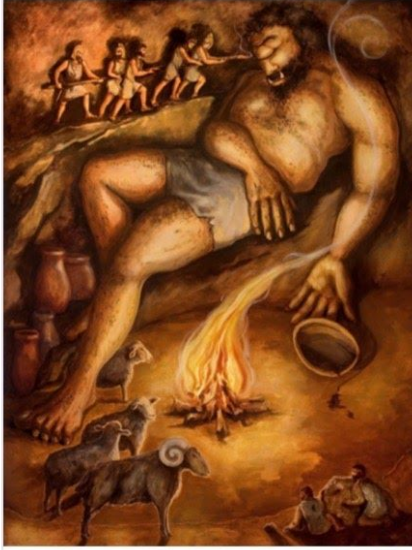| [The Starry Night](#)	[Self Portrait with Grey Felt Hat](#)	[Cafe Terrace at Night](#)

1. Use your Chromebook or phone to enter the [360-degree self tour](#) of the 2nd floor of the Van Gogh museum in Amsterdam, Netherlands.

2. Roam through the main hall (though feel free to go beyond!). Looking at and reading the exhibit, in your opinion, what is the importance of Van Gogh's friendships with other artists?

3. What similarities do you see among the other artists' works and Van Gogh's paintings?

4. How did his style of painting change shortly after meeting with these artists in Paris? Scroll through this [list of his works](#), noting the years they were painted.

5. Describe ten details that you notice about the gallery layout in the 360 tour, from colors to lighting to how and where artworks are mounted and presented. On Wednesday we will be working in groups to create virtual galleries using what you all have found and thought.

Resources:
https://www.arteducators.org/learn-tools/articles/630-elementary-division-remote-learning
https://www.insidehighered.com/news/2020/04/14/teaching-lab-sciences-and-fine-arts-during-covid-19
https://www.artsednj.org/wp-content/uploads/NJ-September-Ready-Arts-Ed-Guidance.pdf
https://www.artedguru.com/remote-lessons
https://artsandculture.google.com

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Remote Digital Learning Plan Sample: English/Language Arts

Lesson: *The Odyssey* Art Gallery Walk

Objective: Learners will be able to examine varying representations of scenes from the end of *The Odyssey*, making connections between the art and the text.

NJ Student Learning Standard: RL.9-10.7 Analyze representation of a subject or key science in two different media.

Learning Sequence:

1. In advance of the lesson, share a movie poster with the title hidden and ask what they think the movie is about, and why.


2. In introductory class Meet (15 minutes), ask students to share their thoughts: What did you see and what did it make you think? Poll class: how many saw something different?

3. Share three paintings and ask students to to write about them, given the following instructions:

   A. Look carefully at each painting as it relates to *The Odyssey*. Note both the overall composition and small details.

   B. Choose one to answer the following questions:

   1. What do you notice about the figures in the image?
   2. What do you notice about the settings in the image?
   3. What does the image make you feel? Why?
   4. What would you title the image and why?
   5. What connections can you make between the image and the text?
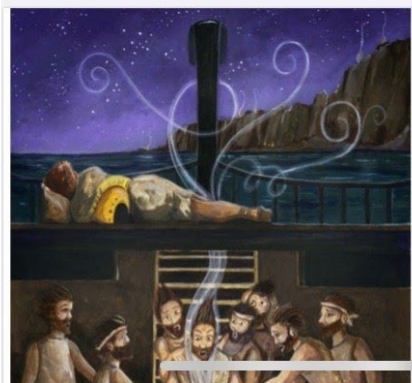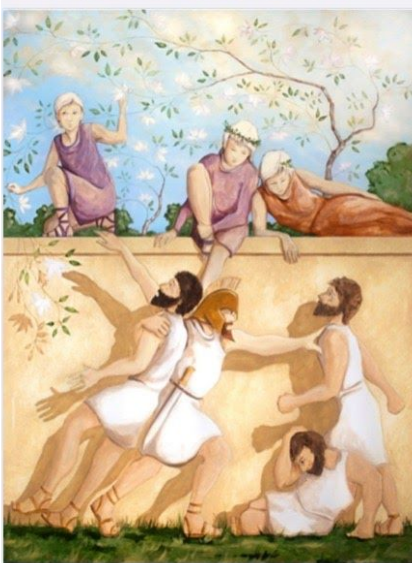
4. Return to the class Meet and poll students to see which painting they chose. Break into groups and have them discuss their responses to each question.

5. Return to the full group and ask each group to report out.

6. Describe follow up mini-project: pick another scene in the Odyssey and sketch a cartoon or create a collage from images to capture one important plot aspect of that scene.

Thanks to teacher Michelle Schindler of Toms River for contributing this idea!

BONUS: www.edutopia.org/article/how-set-virtual-book-club-students

Remote Digital Learning Plan Sample: Math

The great thing about math is… it's in everything! Remote (home) learning gives teachers an opportunity for students to discover numbers and calculations in everyday objects and activities-- perhaps even to apply it to some practical use.

## The Golden Spiral: Discovering the Fibonacci Sequence
From a model lesson by Heather Pentifallo

Codes and patterns are created by spies, artists, and computer programmers, but they are also in the world around us. **Try this pattern**: starting with the number one, add one and write the result next to it, like this: **1, 1, 2** (1+1=2; easy, right?). Now take that result (2), and add it to the previous number (1). You get 3, so now your sequence is **1, 1, 2, 3.** What number do you think comes next in the sequence? (Really, think about it.)

If you said 5, you've got it, because the last two numbers (2,3) added equal 5. **Continue writing this sequence at least ten more numbers out.** It would seem random if you didn't know how to make it!

What you have just discovered is a series of numbers first described by **Leonardo Fibonacci,** where each number equals the sum of the two preceding numbers and is now known by his name. Over history, people have thought that the occurrence of mathematical patterns in nature and art are just coincidental. Others think that they reveal the natural order of the universe. **What are your thoughts? :o**

Imagine you are standing in a forest in springtime, amidst wildflowers, woodland plants, and mature trees just leafing out. Ferns are unfolding. Their spiral shape catches your eye. You move in closer and squat down to inspect. The gradually and gracefully expanding arc shape feels somehow satisfying, or

"right" to you, but you don't know exactly why. Standing up, you trace a spiral in the air with a finger, feeling the spiral, and then you begin to notice that, like an uncoiled spiral, the branches of the trees taper to their points, the veins on the leaves, flower petals, and certain fruits likewise. You start to suspect it is probably happening under your feet as well! "How connected everything seems, and how beautiful!", you think, when slowly, the whole forest begins to spiral around you, taking you with it, gradually encompassing nearby farmland, then towns and cities, spiraling you on to the New York and LA coasts, then out into the oceans with their curling waves, carrying you on a worldwide spiral—to India, Algeria, Italy, and beyond.   [LONG PAUSE]   Now the spiral sets you down gently at your house, but the dream stays with you even there… which is OK, because that's what we are thinking about today!
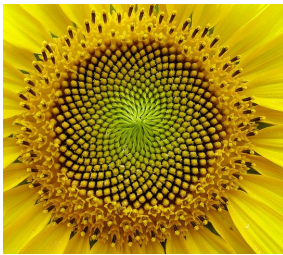
Watch the 6-minute video at https://youtu.be/ahXIMUkSXX0

Now here's your assignment: Create/perform a version of the Golden Spiral in any shape, form, or material that can be digitally shared. It will require some careful (ruler) measuring to get it right. Square tiles, like in a kitchen or bathroom, could be helpful. Feel free to use a compass or string and pen to make each arc segment. Once you've created the arc, follow it with your finger or feet (depending on its size), several times, maybe even with your eyes closed (carefully!). Submit your images/video and comments on the Google Form shared with you by your teacher to be counted in attendance for today.

Resources:
Math Assoc of America on teaching virtual math classes: https://tinyurl.com/MAAteachingmathonline
American Math Society: http://www.ams.org/education/online-courses
https://www.maneuveringthemiddle.com/digital_resource/remote-math-lessons

Remote Digital Learning Plan Sample: Physical Education/Health

Movement and health have never been more important than during COVID. PE is the possible cure for what ails students who are likely over involved with screens and restricted from being outdoors. Here's a lesson for **dance students** from N'Talia Wilson of Vineland High School.

Flip: Login to CLI Studios and watch *When I Grow Up* members.clistudios.com/videos/1858

Due tomorrow:
Peer Review with comments to yesterday's task, specifically with feedback of the routine like we would in a normal video assessment with time etc on technique, effort, and clarity.

Assignment: Due next Friday
Dance is first and foremost a physical art form, but it is also visual. More often than not, it is meant to be watched, to be experienced by an audience. And when you are applying to dance schools or auditioning for a performance, you'll need to create a dance reel.
1. Start by watching this video! www.youtube.com/watch?v=ktTfBMdUmrM
   Next create a post with your "costume" outfit that you will record in.
2. Underneath, in the stream comment with 3 Helpful SPECIFIC tips that you will incorporate for your recording and how. These cannot be comments that others said prior. The earlier you read and do the assignment, the easier it will be.
3. Record your own video of the piece you've been working on.
   a. Please try to record outside: you'll have room to move and the lighting is nearly always better.
   b. Record your dancing from 4 different camera angles. That means you must record yourself doing the routine full out 4 times to get footage for editing your film. You may change your outfit each time or do it in a different location but where you set the camera each time must record you from a different angle.
4. Use CLI Studios to upload your final video to your folder.

Help: You can start with a trip down the Rabbit Hole. If you're like me and want to see samples and get lost in the world of dance, here you go:
Sample Professional Reel for jobs: https://www.youtube.com/watch?v=oFPwYZmEgs0
Sample Reel without professional experience:
https://www.youtube.com/watch?v=HRCeQxXWp3g

Editing
Microsoft MovieMaker video: https://bit.ly/2XwAveI
Mac iMovie editing: www.youtube.com/watch?v=3OoQ7H0vZmg
Android Phone Apps: Kinemaster Pro, FilmoraGo
iPhone Apps: iMovie, LumaFusion

Zoom 6pm Sunday for those who need assistance, want to preview or ask questions.

"You can only kill disappointment with a new try!" – Kim Stanley Robinson

Resources:
www.nea.org/tools/lessons/69439.htm
openphysed.org
blog.shapeamerica.org/2020/04/much-ado-about-remote-learning-in-health-and-physical-education
thephysicaleducator.com/2020/03/20/distance-learning-for-physical-education

See also **Digital Learning Plan: Social Studies** for Civics/Health crossover lesson

Remote Digital Learning Plan Sample: Science

Plans for remote science lessons can be intellectually rigorous, inquiry based, and hands on.

Phenomena are "the mainstay of **Next Generation Science Standards**–aligned instruction. Phenomenon-based learning is framed around a science mystery, or a discrepant event, to engage and motivate the student. For example, students may be asked to determine if adding six ice cubes to a drink makes it cooler than adding three. Rather than recalling discrete facts, students are tasked with applying novel information and using transferable problem-solving skills to explain a natural scientific event." (Bodine, 2020)

DIGITAL LESSON PLAN: CREATING A VIRUS MODEL *(due next Monday)*

REQUIREMENTS

1. Review the different virus structures/components that we have learned during the chapter.
2. Pick an actual virus, then design and build a physical model of it.
3. Clearly label the name of the virus and its parts, describing the function of each, including:
   a. Type of Nucleic Acid (DNA or RNA)
   b. Capsid
   c. Other important structures. ex. Envelope, tail fibers, sheath, etc.
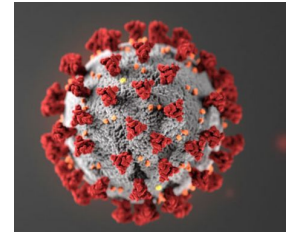
HOW DO I MAKE IT? Be creative!
Build a model using common items from around your house (pens, string, paper clips, q-tips, paper, pipe cleaner, cotton balls, crayons, markers, playdough, clay… ANYTHING that would be acceptable in a classroom. Your virus model may be 3D (like a sandwich) or 2D (flat).

HOW DO I SUBMIT MY MODEL? You may either upload at least 3 pictures (two angles clearly showing all labels + one selfie with the model) OR a video of the model being rotated, to Google Classroom under the assignment posting.

Homework *(due next Friday)*

1. Find a current event article related to viruses (5 bonus points if it's current and not the novel coronavirus!)
2. I recommend you use the website: https://www.sciencenewsforstudents.org
3. Use navigation bar on upper right to browse by topic: All Topics / Life / Humans / Earth / Space / Tech
4. Make a video recap of the current event using Screencastify and our current event format, ending with: W*hat is one question you would ask the scientist / author about what was discussed in the article?*
5. Copy and paste the article link along with your video submission.

Thanks to science teacher Kevin Cable of Hazlet Township for this submission!

Resources:
https://www.edutopia.org/article/adapting-science-lessons-distance-learning
https://csun.edu/science/software/simulations/simulations.html
https://nj.pbslearningmedia.org/collection/simulations/

See also **Digital Learning for Lab, CTE, and Other Hands-On Courses**

Remote Digital Learning Plan Sample: Social Studies

Subject Area(s): Health, Social Studies (Civics), English **Grade:** 8	**Unit**: Social Justice and Food Deserts 🌵 🌞 **Lesson #:** 1 of 3

Objective(s): Students will understand the concept of food deserts; brainstorm possible causes, both overt and underlying; propose and model solutions to address their chosen issue.

Essential Questions (EQ)
1. What are the reasons food deserts exist? What underlying causes limit access to nutritious foods?
2. How can the problem of lack of access to nutritious foods in urban communities be resolved?

NJ Student Learning Standards Addressed (STD)

Health 2.2.8.N.1: Analyze how culture, health status, age and access to healthy foods can influence personal eating habits.
Civics 6.1.8.CivicsDP.1: Identify an issue of inequality, develop multiple solutions, and communicate the best one to an appropriate government body.

Learning Plan (LP)

1. Intro with live discussion: "How do you make sure you are eating healthy?"
2. Flip: students read article (**SM**) and/or watch video on problem of food deserts/swamps (or both) via Google Classroom or Remind
3. Students post response: What if I lived somewhere with no access to nutritious foods?
4. Return to live discussion: Review responses to (3) as a class, share short reading to extend concept
5. Brainstorm using Remind: Why might there be food deserts? Teacher posts responses to GC or Padlet
6. Students get 4-8 minutes to think of ways to address any one of the brainstormed issues in 50 words or more, post to GC
7. Students sum and post their idea in <25 words
8. Students pick one and post one **Like** and one **Suggestion** (**L&S**) for further exploration
9. Exit ticket (**SA**)
10. Early/HW: Read extension article and reply to Qs

Student Materials (SM)
Google Classroom ID: ▮▮▮▮▮
Flipped reading (1): Access to Healthy Food (edited)
Flipped video (1): Food swamps
Extension article (9): Rudd Report (edited)

Teacher Tools and Resources (TT)
Teacher reading: 2008 Yale News on Food Deserts in US
Google Classroom (GC) (how to use)
Remind (how to use)
Padlet (how to use)
Extra info at: Feeding America organization
Optional tools: Newsela, Padlet

Formative Assessment (FA)
GC or Remind: causes for food deserts (step 5)
GC: reflection (step 7)

Summative Assessment (SA)
Exit ticket: If you could set up a healthy food store in a city, how would you get people to come to it?

Differentiation
Visual/reading: video with audio
Learning disabled: articles via Moby Max
SLD: graphic organizer
Offline: print articles, Remind or email responses

References
2008 Yale Rudd Report
2013 Food Trust Report: Access to Healthy Food
2015 Penn Institute for Urban Research

Created by Marc Natanagara, Ed.D. 2019

Lessons 2-5 Preview: students will build a prototype of their food desert solution, create/record pitch to mayor

Remote Digital Learning Plan Sample: World Languages

Learning a non-native language is as much about mechanics (grammar, vocabulary, pronunciation) as it is connecting with culture, meaning, and real life applications. Students need to read, write, listen and speak every day to become fluent. There are tons of online resources for helping learn a foreign language to augment and support your daily or weekly remote lesson plans. Here's a one-a-day themed chart.

SPANISH I CHOICE BOARD

Dear Students: We will be checking in each weekday from 9 to 9:40 AM via our class Google Meet. Periodically you will have an assignment, but the most important thing is to practice reading, writing, listening and speaking Spanish daily. Here are 10-15 minute exercises I would like you to do. You don't have to do all of them but I ask you to do as many as you can. You can repeat or come up with your own! Use your Language Journal to share.

Que te diviertas!

Week	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1	Play 20 Questions with a friend and share the conversation	Choose a short news article and write 3 sentences about it	Check out a few minutes of a telenovela and share the plot twist	Make a 3 sentence quiz about the day or week's lesson	Create a short video on how to make your favorite meal
2	Have a short email or text exchange with a classmate	Pick a bedtime story and write how you would pitch it to a kid	Listen to 5-10 of a recent news broadcast and summarize it	Look at any 3 pairs of photos and write about their differences	Record & upload a 30-second "public service announcement"
3	Write a 10 sentence story with a friend, each taking a turn	Play the Profesiones game and respond to 3 questions	Listen to native speakers and write three sentences in response	Create a 4 panel comic strip	Make a short Flipgrid video about something you did this week
4	Have a (real or fake) Twitter exchange with a friend	Pick a biography and tell what you liked about that person	Watch 5 minutes of a Spanish news video; summarize in 3 sentences	Design a poster for a real or imagined event	Make an avatar who speaks local directions to visitors
5	Record a Google Meet conversation with a classmate	Read up and write up on what's happening with your favorite sport	Listen to a Spanish song and write what you think it's about	Create a 5 slide Google Slide prez about a person you admire	Record a 30-second intro to promote your "new podcast"

Teacher note: Monday interact, Tuesday read, Wednesday listen, Thursday visual, Friday speaking   MAN 2020

Resources:
https://www.duolingo.com   https://www.fluentu.com/blog/spanish/spanish-listening-practice
https://www.actfl.org/resources/teaching-and-learning-remotely
https://www.smartbrief.com/original/2020/07/teaching-world-languages-virtual-classroom
Spathis, 2020: www.edutopia.org/article/prepping-teach-world-language-classes-either-online-or-person

Appendix A: Resources

The organizations below provide extensive free resources (lesson plans, videos, guidelines, rubrics, articles, case studies, and research) to support digital learning in its many forms.

Aurora Institute https://aurora-institute.org (formerly International Association for K-12 Online Learning, iNACOL)

Classlink https://www.classlink.com/resources/blog

Common Sense Education https://www.commonsense.org/education/coronavirus-resources

Consortium for School Networking (CoSN): https://covid19edtechguidance.com

Digital Learning Collaborative https://www.digitallearningcollab.com

District Administration https://tinyurl.com/DAcovid19resources

Education Week https://www.edweek.org/ew/collections/technology-counts-2020/index.html

Edutopia https://www.edutopia.org/article/2-simple-ways-improve-online-instruction

EdWeb https://home.edweb.net/creating-conditions-for-learning-when-the-school-year-begins

IDECorp https://www.idecorp.com/wp-content/uploads/2020/07/Navigating-Instructional-Hybridity-2020-Vision.pdf

International Society for Technology Education https://www.iste.org/learn/online-learning

Khan Academy https://bit.ly/2P9yhNk

National Council of Teachers of English https://ncte.org/resources/resources-virtual-instruction-online-learning/

National Institute for Excellence in Teaching https://www.niet.org

NJ Department of Education https://www.nj.gov/education/covid19/teacherresources/teacherresources.shtml

NJ Education Association https://assets.njea.org/njea-media/NJEAEducationRecoveryPlan.pdf

NJ School Boards Association Teacher and family resources: https://www.njsba.org/home-resources

Online Learning Consortium https://onlinelearningconsortium.org/learn/resources-for-k-12-educators

Public Broadcasting Service https://pbskids.org

Science of Learning Resource Centre, University of Queensland, Australia https://tinyurl.com/QueenslandSLRC

Shakeup Learning https://shakeuplearning.com/blog/20-formative-assessment-tools-for-your-classroom

State Educational Technology Directors (SETDA) eLearning Coalition
https://www.setda.org/main-coalitions/elearning

Tech&Learning https://tinyurl.com/techlearningcovid19resources

Virtual Teacher Association https://virtualteacherassociation.org

Wide Open School Online Teaching Resources https://wideopenschool.org

World Economic Forum: www.weforum.org   https://bit.ly/3gxMsIc

Top 25 Frequently Used (free) Applications

Animoto	Edulastic	Kahoot	Pear Deck	Screencastify
AnswerGarden	FlipGrid	Mentimeter	PollEverywhere	Socrative
Bitmoji	Formative	MobyMax	Quizlet	WeVideo
Classflow	Google Classroom	Nearpod	Remind	WordArt
EdPuzzle	Google Forms	Padlet	SeeSaw	YouTube

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Appendix C: Parent Guidance for Remote Digital Learning

❑ **Set up routines**. Talk through with your child what a day looks like and what is expected; being co-owner of a routine helps increase their buy-in on implementing it. Try to maintain normal routines as much as possible. Include time for snacks, brain breaks, and movement.

❑ **Help them be prepared.** Having all the necessary tools and materials and a physical space that work for them will help with the effectiveness of their routine. Set up their work area similar to their classroom setting. Help them get ready to do their work, and if there is a live online session, help login in advance so there is less last minute stress. Walk through instructions with them. Help them set up checklists of what is needed and calendars of meetings and due dates.

❑ **Monitor communications from your children's teachers.** These may come through email, their learning platform like Google Classroom, or a text-based system like Remind. Some may come to parents and some to students, depending on their age and the nature of the message. You should have access to both.

❑ **Set times to check in with your children.** Check at the beginning of the day to see what's ahead and ensure they feel prepared. Ask them to share at regular intervals during the day. At the end of the day, check in to see what they worked on, what they turned in, and what's in store for the days ahead.

❑ **Be flexible and resilient.** What your child needs to make their day more successful may vary from day to day (ex. more or less frequent check-ins). Listen, discuss, and adapt. We're all in this together!

❑ **Be aware of your child's emotional support needs.** Learning, whether in person or remote, is just as much about the heart as the brain. Children need to feel safe and comfortable to learn, and they readily pick up on how adults are feeling. Model calm and establish a new normal. School counselors can help.

❑ **Monitor how much time your child is spending online.** Schools do not want students staring at computer screens all day. Teachers will share schedules and expectations with you. Once you are aware of this you can set limitations on non-school use of screentime.

❑ **Set rules around and monitor online interactions.** Students will often go online to remain connected with friends. Schools have rules about safe, respectful, and appropriate online conduct. Parents must also be aware of what children are doing on their computers beyond school work, particularly over social media.

Educators: this appendix is available as an editable document at https://tinyurl.com/parentremotelearningchecklist
Thanks to the Wornick School for their original resource.

Appendix D: Tech Readiness for Remote Digital Learning

Assess hardware and infrastructure in student homes, teacher homes, and in district, based on the RDL model used.

1. What **hardware/software support for live lesson streams** is the district providing staff and students?
   - ❏ Will the district be providing staff with a computer device (with webcam, mic) for their home or classroom?
   - ❏ Has the district surveyed student hardware needs and been able to provide for those in need?
   - ❏ Will students at home be expected to participate live in lessons or just be able to view?
   - ❏ Has the district conducted sound and video tests with viewers outside of the district to ensure that students will be able to see and hear lessons clearly?
   - ❏ Will teachers be recording lessons for students to review?
   - ❏ Is closed captioning possible for audio/video content so students can follow along with lessons?
   - ❏ What procedures are in place for students who have internet issues in their home, cannot join, or are dropped during a live stream/video conference?

2. Working from schools, what are the minimum **bandwidth requirements** to stream a video conference?
   - ❏ What is the overall district bandwidth the district has purchased?
   - ❏ What is the maximum number of concurrent classroom streams likely to be used within the district?
   - ❏ Will teachers stream video conferences (1 mbps) as well as video from platforms like YouTube (1-2mbps)?
   - ❏ In evaluating district bandwidth, how many additional devices will be on the network simultaneously? Ex. networked security cameras and security systems, vape detectors, wireless printers

3. For students, what is the **minimum bandwidth in homes** needed to participate in remote learning?
   - ❏ What is the overall bandwidth entering the home? (US avg is 135 Mbps; check via speedtest.net)
   - ❏ How many devices will be streaming simultaneously in the home?
   - ❏ Will homes be streaming classroom feeds only or will there be other internet use at the same time?
   - ❏ Does the home have devices plugged in over ethernet or only over Wi-fi?
   - ❏ Can internet providers in town provide the necessary bandwidth required for each home when all students are participating in remote learning?

4. What **professional development and technical support** are needed and has the district provided for all community stakeholders to participate in a successful remote learning experience?
   - ❏ How will all staff be trained on hardware, software, platforms, and the proper pedagogy to create engaging remote learning environments for all students?
   - ❏ How will parents be trained on usage of the streaming programs as well as all educational software the students will be required to use while on the broadcast?
   - ❏ Have all students regardless of grade level been trained on how to adjust streaming program settings (ex. Volume control, grid view) assuming an adult may not be available to troubleshoot issues?
   - ❏ Does the district use a single sign on platform to make program logins easier for students?
   - ❏ Does the district website include at-will access to guidance documents and videos on district-provided software and hardware through short videos and documentation for students, parents, and staff?
   - ❏ Will the district provide live (online) parent orientation meetings to introduce the remote digital learning model; describe the software and hardware being used; and direct them where to go for additional support?