

enVision[®] Mathematics ©2020 in the Remote Learning Environment

By **Zachary Champagne**

The 2019–2020 school year was unlike any other in our history. Like most school years, it brought gifts, challenges, and unique scenarios. One situation, however, will be the overwhelming memory that resonates from this year.

This was the year that the COVID-19 pandemic radically changed how educators conceptualized what school is and what it can be. Moving into the 2020–2021 school year, many district and school leaders are trying to conceptualize how to engage with students safely. As this planning continues, school and district leaders should pay close attention to the experience that teachers and families had during the end of the 2019–2020 school year. The collective teacher and family voice should be given more priority than ever, and leaders should listen closely to those that experienced this work first hand, letting them lead the way on what works and what does not. Regardless of all that being shared right now, however, one thing is for sure.

There are no experts in transitioning from face-to-face to online learning during a global pandemic.

This work is unparalleled as no one has done this for more than a few months at this scale. What follows in this white paper are suggestions and thoughts on how we can move forward into a remote learning world if and when it is needed. This paper will have specific suggestions for those educators using **enVision[®] Mathematics ©2020**, but it will also provide educators with guiding questions and suggestions for how to do this work regardless of what mathematics program is being utilized.

In addition, the individual circumstances of each district and school matter and impact every decision that is made for students and families. While educators learn to navigate this new normal, it is unlikely that every suggestion in this paper will be a perfect fit for a given district or school. However, the aim is that there are some ideas here that will support the incredible work educators are doing with their students, teachers, schools, and families in their respective communities.



Zachary Champagne

Lead Teacher and Math Specialist
The Discovery School
Jacksonville, Florida

Zachary Champagne has been involved in mathematics education for over twenty years. Zak believes that each and every student has important mathematical ideas, and works to share his passion and love for mathematics with teachers around the country. He is the Past-President of the Florida Council of Teachers for Mathematics and has served on numerous committees for NCTM, including the editorial panel for Teaching Children Mathematics.

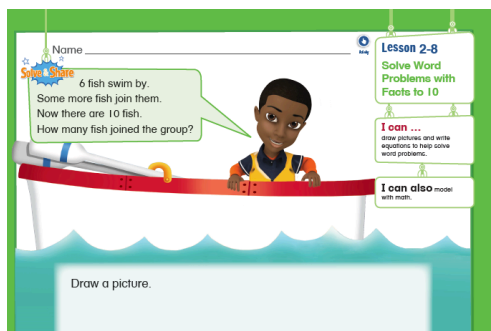
Guiding Principles

As districts and schools consider how to navigate remote learning, there are three guiding principles that will help this transition.

- *There is not one “right” way to do this.* It is important for teachers, schools, families, and districts to remember that there are lots of solutions to this situation. Just like there are so many powerful and positive ways to run a school district, there are many ways to make this work for each and every school and district. Teachers and schools should work diligently to find what works for their respective situations, and then be willing to adjust as we learn more.
- *Connection is fundamental to engagement.* When students feel connected to something, they are more likely to engage with each other and the content. This connection might be to their classmates, the mathematics, or the teacher. But, if students are going to engage in the work, they must feel connected to some portion of it. There is a real chance that schools and districts might begin the 2020–2021 school year in a remote setting, so they must consider what it means to build community and how to ensure that students feel a part of something.
- *Use the minimum amount of technology to accomplish your goals.* Consider what the goals are when engaging with students and think about how these goals can be achieved. Then, determine what technology can support that work. It is important to not try to retrofit this. Do not start by thinking about the latest technology and how to integrate that into the work of your district or school. Instead, consider the ways that teachers can engage with students that require the least amount of technology.

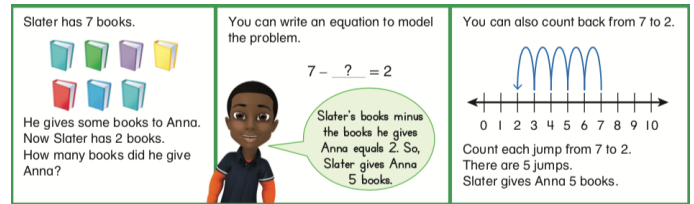
Teaching Remotely with enVision® Mathematics ©2020

There are four major components to an *enVision® Mathematics* ©2020 lesson: the *Solve and Share*, the *Visual Learning Bridge*, *Guided Practice*, and *Independent Practice/Problem Solving*.



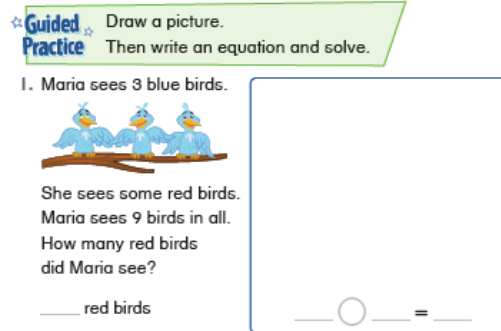
Source: *enVision® Mathematics* ©2020, *Grade 1, Topic 2, p. 85* (Charles et al., 2020).

Figure 1: The *Solve and Share* begins the lesson by engaging students with a problem in which new math ideas are embedded.



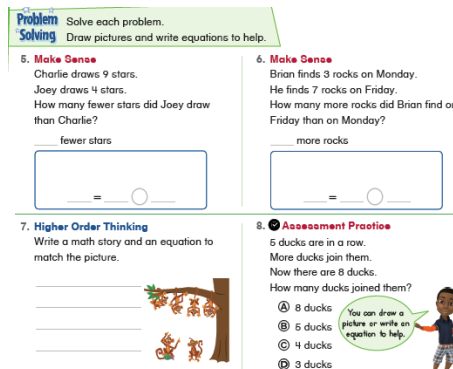
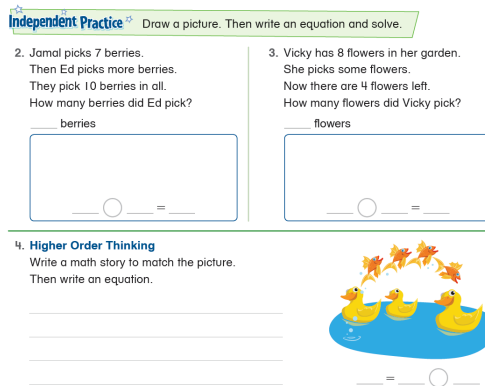
Source: *enVision® Mathematics* ©2020, *Grade 1, Topic 2, p. 86* (Charles et al., 2020).

Figure 2: The *Visual Learning Bridge* provides a stepped-out visual example for classroom conversation.



Source: *enVision® Mathematics* ©2020, *Grade 1, Topic 2, p. 86* (Charles et al., 2020).

Figure 3: *Guided Practice* enables checking for understanding right after instruction.



Source: *enVision® Mathematics* ©2020, *Grade 1, Topic 2, pp. 87–88* (Charles et al., 2020).

Figure 4: *Independent Practice* and *Problem Solving* build proficiency as students work on their own.

Each of these components can be implemented effectively in the remote learning environment. The approach for doing

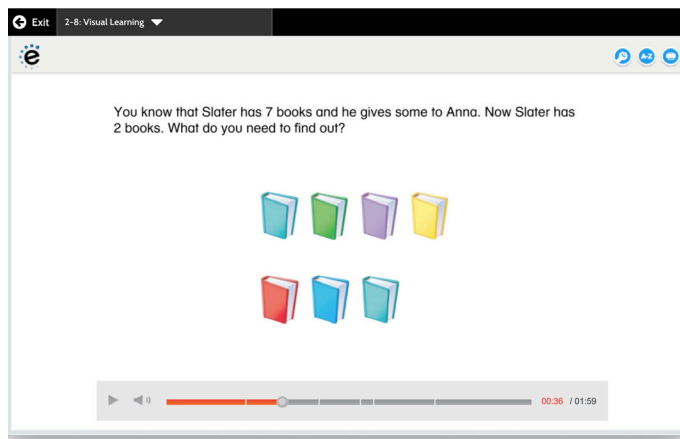
this can vary depending on the situation: whether teachers meet live regularly with their class, or whether there is less synchronous class time.

Situation One: Teachers Meet Live Regularly with their Class

If this is the case, consider how the four components might play out when teachers can meet live with their students via a digital meeting platform.

For the *Solve and Share*, consider having students complete this independently before coming to class. Teachers could then start by having students share their solution strategies right away. This would allow teachers to maximize the synchronous time together and ensure that was a space for orchestrating productive mathematics discourse. See Smith and Stein (2018) for specific steps on how to hold discussions in mathematics classrooms.

During the *Visual Learning Bridge*, consider watching the digital *Visual Learning Animation* together. This is a resource that teachers could work through as if they were live in class.



Source: enVision® Mathematics ©2020, Grade 1, Lesson 2-8 Visual Learning Animation (Charles et al., 2020).

Figure 5. Direct instruction from the Visual Learning Bridge is stepped out with animation and audio.

During the *Guided Practice* portion of the lesson, consider having students complete the *Guided Practice* in small groups or independently. If they work in small groups, teachers can use different “rooms” on their digital meeting platform for this. If this technology hinders teachers, students can work independently in one “meeting room”.

Finally, for the *Independent Practice* and *Problem Solving* portion, assign students some “must do” and some “can do” problems for independent practice. In the classroom, teachers make many decisions each day to give students grace and not make them complete every problem based on their current mathematics trajectory. When students are at home, this is much more difficult. So, each day, consider assigning the most important problems (“must do”) for students to

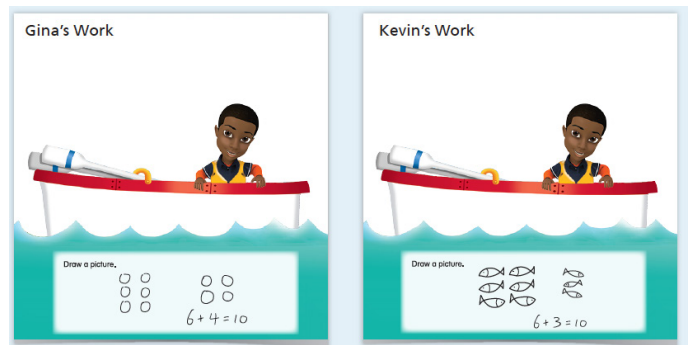
complete. Then, offer a set of problems that students can do if they want/need more to complete.

After this, students can work independently while teachers stay live to support when needed, and the students can submit work via pictures or scans.

Situation Two: Less Synchronous Class Time

If this is the case, consider how the four components might play out when teachers have fewer opportunities to meet live with their students.

The *Solve and Share* is most beneficial when it can be completed synchronously. The intention is that it should be done through mathematical discussion with and among students. To ensure that, users of enVision® Mathematics ©2020 should try to find ways to ensure classrooms can meet synchronously for this piece. As stated previously, students could complete the problem independently and come to the live class prepared to discuss solution strategies. However, if there are no options for synchronous learning, consider providing students with images or scans of student work and have them work to analyze how other students are thinking about solving the problem. Teachers can use the samples provided in the Teacher’s Edition, if necessary.



Source: enVision® Mathematics ©2020, Grade 1 Teacher's Edition, Topic 2, p. 85 (Charles et al., 2020).

Figure 6. Student sample work.

For the *Visual Learning Bridge* and *Guided Practice*, students can watch the animation and solve the problems independently and submit for review.

Finally, for the *Independent Practice* and *Problem Solving*, students could also complete independently. Again, assigning “must do” and “can do” problems is good practice for students. Teachers should also think carefully about how and what kind of feedback they will provide to students. It will be important to provide more than just designating work as correct/incorrect as written feedback will better support students in learning the content.

Assessment

Summative assessment is one of the more complex components of remote teaching and learning. Whole-group “tests” and “quizzes” like those that have been done in the past will be very challenging for teachers to know who is completing the work. If the goal is to find out what the student knows and can do in order to drive our instruction, then one-on-one interviews are critical. Schools and districts should encourage teachers to find ways to build these into their remote schedules. They should also carefully consider how to support teachers to meet individually with students. This is a major time commitment, so finding ways to alleviate other responsibilities to allow for this to happen will be important.

For formative assessment during synchronous learning, consider the types of questions that are asked during live sessions and how they can engage more students. Teachers should be encouraged to think about when chat box questions are most helpful to learn more about what students are thinking. For example, when asking questions such as, “What is 5×6 ?”, the public chat box option may not be the best format for responses because once the answer is there, the conversation is over. Also, wrong answers are on display for all to see. However, if technology is available that allows for private messages to be sent among users, each student could send the teacher a private message in the chat box with an answer to any question. Questions that are more open such as, “What do you notice/wonder?” or “How are these two problems similar?” are a great option for the public chat box. This allows all students the option to engage in the work and to see what their classmates are noticing and thinking about.

Schools and districts should also encourage teachers to work on learning how they can discover what students actually understand with *fewer* problems. If teachers are going to conduct assessments in one-on-one interviews, leaders should help them understand how they find the most important/salient problems to get the information they need regarding a given standard. Similarly, schools and districts should remind teachers that they do not need to grade everything and encourage them to look instead at a select sample of work that can show what students understand.

One final thought on assessment that is true in the face-to-face classroom and during remote learning: if teachers are assigning work each day, they should give students the autonomy to choose which work they think shows their best thinking. They can let students choose their best work that week to be submitted for assessment.

Other Tips

Suggest headphones for students. When this is available, it can be a game changer for students. They are often more willing to engage in the work because they do not feel like the other people in their home are listening to what is going on.

Start with leveraging existing routines. If students have used *enVision® Mathematics ©2020* previously, *Today’s Challenge* and *Center Games* are great starting points for building remote classrooms.

Include “real world” math. Consider using tasks like *How Many* (Danielson, 2018), *Which One Doesn’t Belong* (Danielson, 2016), *Math Photo Challenge*, and *Notice/Wonder* (NCTM, 2016). This will help students see math outside the textbook.

Consider how to include virtual manipulatives options for students and teachers. *enVision® Mathematics ©2020* offers virtual math tools, and *Brainiaccamp.com* is also a great choice for interactive manipulatives.

Consider a blend of synchronous and asynchronous environments for students.

Consider offering one assignment each week that is more “project based.” For example, the *enVision® Mathematics ©2020 Pick-a-Project* offering is a very strong option, and the *3-Act Math* lessons really engage students in math modeling.

Conclusion

Remember that this is uncharted territory and schools and districts should let teachers, students, and families guide the work. However, it is hopeful that these tips and suggestions might help teachers, leaders, schools, and districts plan for how to do this work moving forward.

References

Charles, Randall I., et al. 2020. *enVision® Mathematics* ©2020. Paramus, NJ: Savvas Learning Company LLC.

Danielson, C. How Many. 2018. *Portsmouth, NH: Stenhouse Publishing*.

Danielson, C. Which One Doesn't Belong. 2016. *Portsmouth, NH: Stenhouse Publishing*.

NCTM. (retrieved June 17, 2020) Beginning to Problem Solve with "I Notice, I Wonder." *Reston, VA: National Council of Teachers of Mathematics*.

Stein, M. K., & Smith, M. 2018. Practices for orchestrating productive mathematics discussions. *Reston, VA: National Council of Teachers of Mathematics*.

0820.T.U.D.I.Mat58IM2000

SAVVAS
LEARNING COMPANY

Savvas.com
800-848-9500

©2020 Savvas Learning Company LLC All Rights Reserved.
Savvas™ and Savvas Learning Company™ are the exclusive trademarks of
Savvas Learning Company LLC in the United States and/or in other countries.

Join the Conversation
@SavvasLearning



Get Fresh Ideas for Teaching
 Blog.Savvas.com