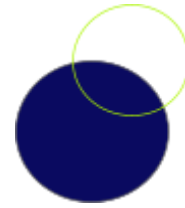


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# Educator Guide

## Overview of KnoPro

### Welcome to KnoPro by NAF

Congratulations on joining KnoPro! We're excited that you are providing a unique tech-enabled work-based learning opportunity for your high-school students. This guide includes everything that you need to know to help facilitate KnoPro and support your students throughout their experiences. If you have questions, please do not hesitate to reach out to us at: [support@knopro.org](mailto:support@knopro.org).

### Why KnoPro?

NAF has been a leader in work-based learning in our 40 years by partnering with education institutes, businesses, and community members to build and sustain NAF academies – small learning communities within existing high schools. While NAF has grown from one Academy of Finance in 1980 to over 600 academies across 34 states, plus DC, Puerto Rico, and the U.S. Virgin Island; we want ALL high-school age students to have opportunities to become college, career, and future ready.

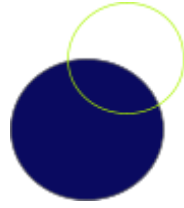
It was with this in mind, that we decided to create a digital platform where students could build skills that they might otherwise develop from internships, mentorships, and industry projects. Together, with a team of students and teachers, we've designed KnoPro to make it easy, accessible, and fun for students to develop the skills they need to thrive.

### What, *exactly*, is KnoPro?

KnoPro consists of four main elements that make it a *Knobrainer* to participate:

1. **Daily Skillbuilders:** 10-minute daily activities for students to power-up their skills. A winner is selected each day.
2. **Monthly Challenges:** Real-world project competitions where students design a solution for a real problem that businesses, organizations, industries and communities are facing today.
3. **Virtual Mentors:** Don't have mentors for your students? Kno problem! We provide professionals that review student work and give your students feedback.





4. **PRIZES!** Winners of the monthly challenge win \$10,000 for the best ideas! Daily prizes are given to winners of the skillbuilders.

### Who is KnoPro for?

KnoPro is for any high-school age student in the U.S.: public, private, home school; in-school or after-school program; independent or part of a class; individual or solo.

### Tech Requirements

Students will need a device, an internet connection, and an email address to participate and earn prizes. Students set up a login with an email.

### How do I Get Help?

You're not in this alone. NAF is here to support you. Contact: [support@knopro.org](mailto:support@knopro.org).

## The KnoPro Approach to Challenges

Monthly industry Challenges are real-world project competitions that students can enter solo or in a team, to design a solution for an actual problem that businesses, organizations, industries and communities are facing today...with \$10,000 for the best ideas each month.

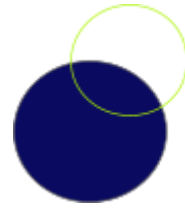
Challenges provide a motivating and meaningful way to understand complex problems; use a creative process to address a compelling issue; and develop critical work-based learning skills as students guide their own learning process. In the end, students realize that they can be agents of change.

NAF's KnoPro Challenges provide insights into industries by exposing students to professionals; giving them the opportunity to work with mentors; and providing accessible materials to dig into important industry topics. Challenges equip students with a set of tools, used by industry professionals, to develop new and novel solutions to the problem. The end product of the Challenge (that will be judged for prize money) is a persuasive video pitch of their idea.

### Role of the Teacher

You are a coach throughout the challenge. There's no need for you to have content expertise, but rather, you are encouraged to learn alongside your students. We have provided background materials on the topics, professionals to share their expertise, and guidance for students to be self-directed in the Challenge process. Your role is to encourage, support, and provide helpful feedback as needed, but the Challenges should inspire students' creativity with minimal boundaries.





### Role of Mentors

Mentors provide another adult ear for students to get feedback. Mentor prompts are included at three different points in the Challenge, where students submit work samples, and get written feedback from mentors. Mentors are professionals, but their identity, and students' are anonymous to each other.

### Culture

To participate in a Challenge, it is important that your students feel comfortable making mistakes, being silly, and stretching beyond their comfort zones in front of and with each other. In order to create a space where everyone feels comfortable, it is helpful to build in small ways to practice as a group. Read [How to Build a PBL Classroom](#).

### Teams

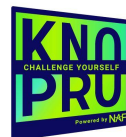
- If students will be working in groups, consider doing some team building activities beforehand to help build a culture of communication.
- Determine how students will work in groups. Will you assign them? Will they be random? Will they choose their own?
- Decide if students will have the option to work independently.
- Be mindful of some students' discomfort with the topic...encourage dialogue by making space for students to share their feelings.

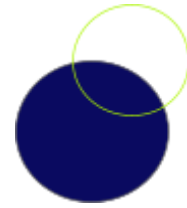
### Work-Based Learning

[Work-based learning](#) (WBL) brings the classroom to the workplace and the workplace to the classroom. This instructional strategy provides students with a well-rounded skill set that goes beyond academics and includes the soft skills needed to succeed in college and the working world. In addition to exposing students to different career options, and building content knowledge, KnoPro Challenges and Skillbuilders help students develop the important WBL skills of:

- Collaboration
- Communication
- Problem Solving
- Initiative and Self-Direction
- Planning for Success
- Social Awareness

We know that not all students have equitable opportunities to build career awareness, through mentorships, internships, networking, guest speakers, workshops, and business shadowing.



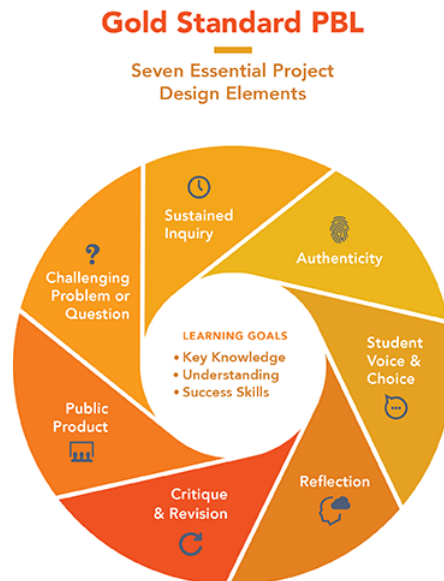


KnoPro offers a monthly industry challenge project as a substitute where students will be able to connect with professionals; attend virtual events and workshops; get feedback from mentors; gain insight into different professions; and build important future-ready skills.

## Project-Based Learning

According to the Buck Institute for Education, [Project Based Learning](#) (PBL) is a method in which students learn by actively engaging in real-world and personally meaningful projects. Students work on their KnoPro Challenge over a period of time – from a week up to several weeks – that engages them in solving a real-world problem and addressing a complex question. They demonstrate their knowledge and skills by creating a product prototype, business idea, or marketing campaign plan for a real audience, and ultimately share their idea by submitting a video pitch to the contest judges.

All Challenges have been designed as [Gold Standard PBL](#).

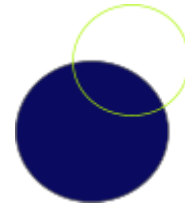


PBL unleashes a contagious, creative energy among students and teachers.

## Design Thinking

“Design Thinking is a human-centered approach to innovation that draws from the designer’s toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success.” (Tim Brown, Executive Chair of IDEO). Like IDEO professionals, KnoPro students use an iterative process to redefine problems, understand users, and create innovative solutions. Students will follow our adapted framework.





## Universal Design for Learning (UDL)

KnoPro has been designed for ALL high school age students, regardless of academic achievement level and learning style. KnoPro provides challenges and activities with relevance, choice, and accessibility to enhance learning and show off students' KnoHow. Students are able to search for and choose Challenges, and Skillbuilders, aligned to what they love or what they aspire to be. Additionally, each Challenge has three options for them to demonstrate their innovations: a marketing campaign, product design, or business idea. [Read about UDL.](#)

## Standards-Based

The curriculum for the KnoPro Challenges are standards-aligned. In addition to the content areas of each of the Challenges, all Challenges address the following national standards.

### [Next Generation Science Standards](#) (NGSS)

HS-ETS1-2: Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.

HS-ETS1-3: Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics as well as possible social, cultural, and environmental impacts.

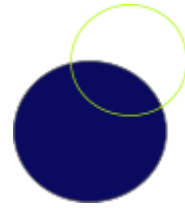
### [Common Core State Standards](#) (CCSS)

CCSS.ELA-LITERACY.WHST.11-12.7: Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

CCSS.ELA-LITERACY.WHST.11-12.4: Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

CCSS.ELA-LITERACY.SL.11-12.4: Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of





reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.

### ISTE Student Standards

1.1 Empowered Learner: Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by the learning sciences.

1.3: Knowledge Constructor: Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.

1.4: Innovative Designer: Students use a variety of technologies within a design process to identify and solve problems by creating new, useful or imaginative solutions.

### **Diversity, Equity, and Inclusion (DEI)**

In all the Challenges, there is an important opportunity to apply an equity lens throughout the Challenge. Encourage students to explore questions, such as: who has access; who is most affected; and how can solutions increase equity? Depending on your context, experience, and student interest, you might decide to lean into equity during the Challenges. As always, when talking about how race, ethnicity, and class impact opportunities and outcomes, please proceed thoughtfully. See [NAF's Racial Equity Resources](#).

## KnoPro Nuts N' Bolts

### **Preparation**

Teachers act as facilitators of KnoPro, supporting students in a student-centered and student-directed learning experience.

As the teacher, you will need to set up a login. When your students participate in a Challenge, they can add other students to their team, as well as you, their teacher. Students can only be on one team per Challenge.

Once added to a student team, you will be able to view your student and mentor's interactions. You will, however, need to have your students share their other work directly with you, such as the link to their Student KNOtebook, and the link to their final video pitch.





The following table indicates how best to prepare for and implement a Challenge.

<p><b>2 Weeks Before the Challenge</b></p>	<ul style="list-style-type: none"> <li>● Login to knopro.org</li> <li>● Review Challenge content</li> <li>● Check your school/district whitelist for knopro.org</li> <li>● Check that you can play all Vimeo and YouTube videos</li> <li>● Determine if you will use the virtual mentors provided by KnoPro or your own mentors. If you are using your own mentors, reach out and set this up.</li> </ul>
<p><b>1 Week Before the Challenge</b></p>	<ul style="list-style-type: none"> <li>● Have students set up knopro.org logins, select teams, and set up their teams</li> <li>● Encourage students to participate in a few Skillbuilders</li> <li>● Determine the Challenge requirements for your students. What parts must they do? What will you review and assess?</li> </ul>
<p><b>First Week of Challenge</b></p>	<ul style="list-style-type: none"> <li>● Show the students the Challenge video as an overview of the Challenge</li> <li>● Have students make a copy of the Student KNOtebook and share the link with you</li> <li>● Instruct students to begin the Challenge by meeting medical experts, becoming familiar with the topic, and understanding the issue through watching videos and reading articles in the Explore phase of the Challenge</li> </ul>
<p><b>Throughout Challenge</b></p>	<ul style="list-style-type: none"> <li>● Support students as needed</li> <li>● Review (provide feedback) Student KNOtebooks as needed</li> <li>● View student group’s mentor submission and feedback exchanges</li> </ul>
<p><b>End of Challenge</b></p>	<ul style="list-style-type: none"> <li>● Provide time for students to rehearse their pitches before recording</li> <li>● Have students share their final products with an audience</li> <li>● Remind students the final project submission deadline</li> <li>● Make sure students share their final product links with you</li> </ul>

**Pacing**

The flexible structure of KnoPro encourages teacher collaboration across subject areas and fosters personalization to meet student, school, district, and state needs and goals. You may

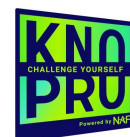
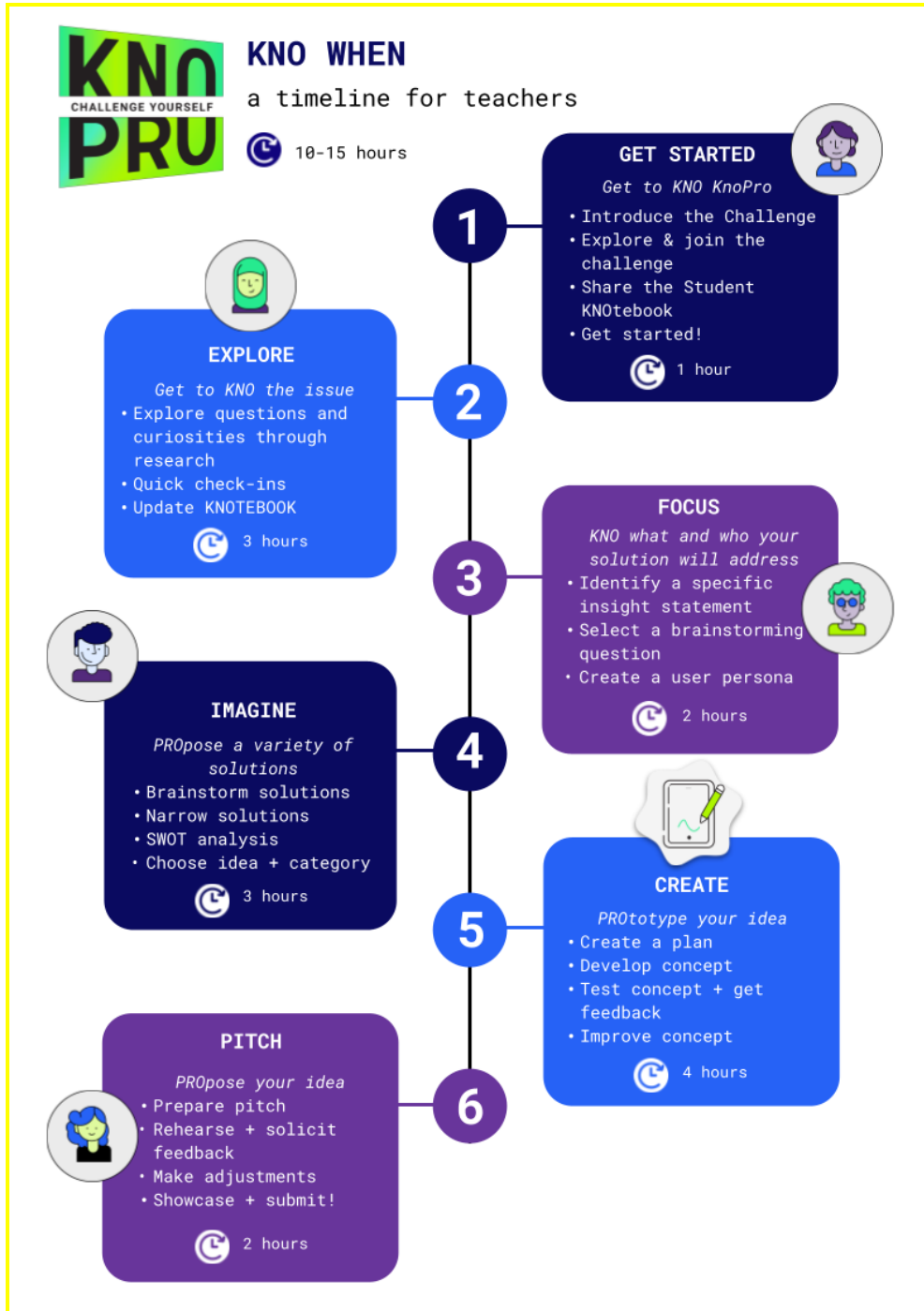




# KnoPro by NAF Educator Guide



choose the structure and format of KnoPro implementation that works best for you and your students. The following chart shows an example timeline.





### Assessment

The unique learning experience may help your students develop grade-level standards or content mastery - what you choose to measure is flexible. At the forefront of the intent behind the challenges is that they nurture those hard-to-teach skills that we know are critical and highly valued in today's college and career settings: collaboration, communication, problem solving, initiative and self-direction, social awareness, and planning for success.

In the challenges, you'll find a [Judging Rubric](#) that is used for judging projects, formative assessment suggestions, and a pre/post self- assessment of students' work-based learning skills.

Student video pitches will be judged based on the PRO criteria. The PRO criteria is used throughout the Challenge, particularly when student work is reviewed by mentors.



### Student KNOtebook

Throughout the Challenge, students are guided to document their work in a Student KNOtebook that is provided as Google slides. Each student should make a copy of their own to keep track of their learning. Students will not be submitting the KNOtebook to KnoPro, but will document their process and use this documentation in preparing their final pitches. You may choose to monitor and assess the KNOtebooks. While the KNOtebook is not required, it is encouraged and provides a structure for students as they go through the challenge.

### Glossary

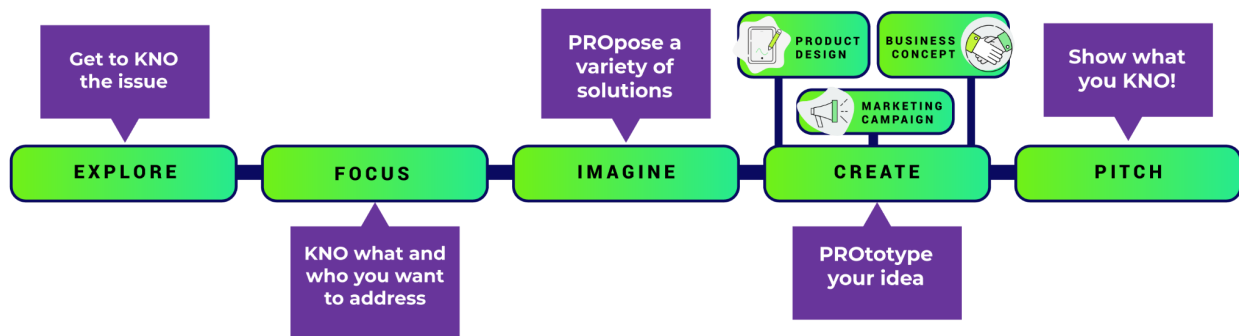
Each Challenge includes a glossary of terms that are used throughout the challenge.

### KnoPro Challenge Framework





Each Challenge follows an adapted design process framework. Central to the design process is the cyclical and iterative nature of it – meaning, that's it's fine for students to loop back and forth between phases. That said, each phase does include important milestones.



## Explore



### Overview

In the Explore phase, students learn about the topic from the videos, articles, and interviews provided. By the end of the phase, students should have a general idea of a specific aspect of the Challenge they'd like to address and a specific audience impacted by the problem. Please see the Supplemental Educator Guide for specific information about each Challenge.

### Objectives

- Gain a deep understanding of the problem from the sources provided
- Explore your own questions and curiosities through interviews and research
- Be prepared to narrow the challenge and audience for your own project

### Tips

- While there are a lot of resources provided, it is up to you to pick and choose what you'd like your students to explore. The more students explore, the deeper their expertise will be.





- Make sure students have shared their Student KNOtebook with you (if you are requiring them to use it)
- At this point, students could conduct research individually, or they can split into groups and conduct research in a [jigsaw](#) manner.
- A Glossary is provided. You may want to review this with students; keep a word wall with new words; conduct vocab quizzes, etc.

### Focus

#### FOCUS

KNO what and  
who you want  
to address

### Overview

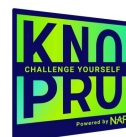
The Focus phase is the time for students to take everything they learned about the issue in the Explore phase, sort through it, and determine which part of the larger Challenge they'd like to focus on and create a solution for, and for whom. By the end of this phase, students will create a brainstorming question. Like all the phases, it's not necessary for students to go through the content step-by-step - instead, it is there to guide them as needed.

### Objectives

- Draw insights from the Explore phase
- Create a brainstorming question
- Develop a user persona

### Tips

- Students may have a lot of notes from their research in the Explore phase and may need help sorting and organizing it. Similar to the video, you may want to demonstrate how they can use their research to narrow the topic.
- Students may need to conduct additional research. It can be beneficial to review with students effective online researching tips and tricks. If your school has a librarian, invite them to your class to give a short introduction on effective researching strategies.





- The most important part of this phase is encouraging students to take charge; play an active role; and ensure everyone in their group is contributing. Walk around the classroom to guide students researching, collaborating, and discussing their research.
- Have students defend a decision - regardless of the direction it goes in. Defend your rationale and understand constructive criticism

### Additional Activities

#### ***Bellringers***

*What makes a good group partner?* Have students start to think of what they expect from their team before picking groups (if groups have not already been selected)

#### ***Tools Mini Lesson***

Review the Tools, Miro, Mural, or Jamboard, ahead of time to become familiar with the platforms. Give a 2-minute demonstration to students about at least two of these platforms for students to feel comfortable with.

[How to Use Mural](#)

[Miro for Teachers](#)

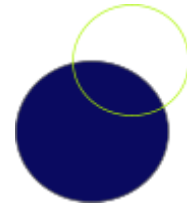
[Student Tutorial for Jamboard App](#)

### Imagine



### Overview

In the Imagine phase, students address their brainstorming question by coming up with a lot of solution ideas. While the three solution categories are introduced—product design, business concept, and marketing campaign—students really don't need to identify the category for their



solution until they've brainstormed their idea. The imagine phase continues to build on the prior sections of the Challenge. Students will focus primarily on brainstorming and filtering their research to funnel down to one idea. At the end of this phase, students will be ready to create their Product Design, Business Concept, or Marketing Campaign. During this phase, students share ideas with and get feedback from a mentor.

### Objectives

- Brainstorm a lot of ideas
- Evaluate ideas
- Select one idea
- Identify category for the idea

### Tips

- Encourage students to be creative and not critique their ideas yet—any idea is possible and may lead to another idea.
- Determine if you want students to use the suggested brainstorming methods, or other methods that you may have already used in class.
- The PRO criteria is introduced here. Consider this as an alternative to SMART goals. Students will design a solution, and be judged on the success of their idea, based on the PRO criteria: Purpose, Results, and Originality. This is a good time to share the [Judging Rubric](#) with students as they brainstorm solution ideas.
- This is the first time that students will get feedback from a mentor on their top three solution ideas. Remind them that while feedback is helpful, it's also OK to disagree with that feedback and follow a different path.

### Additional Resources

[Starbursting](#)

[SWOT Analysis](#)

[Decision Matrix](#)

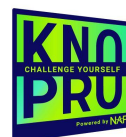
[Elevator Pitch](#)

[Dotmocracy](#)

### Additional Activities

Brainstorming can be done in so many ways. The following are some additional activities:

**SWOT Analysis:** Break down for students that the Strengths and Weaknesses are internal to their idea and in their control, while Opportunities and Threats are external factors within the industry of their idea.





What is an Elevator Pitch: Helpful YouTube Video with Examples.

Yes, And... An improv game for building on other's ideas

**Create**



**Overview**

Let the fun begin! Students now get to manifest their solutions. In the Create phase, students select the category that their solution falls into and follow the directions for creating a prototype or proof of concept.

Solution Category	Category Description	Examples	Type of Plan
<b>Product Design</b>	Create an idea for a product, which might be a physical or digital product. Product design involves clearly understanding the problem; identifying the market opportunity; developing a solution for the problem; and	<ul style="list-style-type: none"> <li>• An app (wireframes)</li> <li>• A physical product (sketch or model)</li> <li>• A game (model or storyboard)</li> </ul>	Design Brief





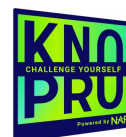
	validating it with real users.		
<b>Business Concept</b>	Create an idea for a new business, organization, or service to address the problem you identified?	<ul style="list-style-type: none"> <li>• A non-profit</li> <li>• A storefront business</li> <li>• A mobile service</li> <li>• An online venture</li> </ul> <p>See The <a href="#">Small Business School Challenge Examples</a> for examples.</p>	Business Blueprint
<b>Marketing Campaign</b>	Create a campaign to bring awareness to and address the issue. Students consider the format, the goals, the message, the audience.	<ul style="list-style-type: none"> <li>• Social media campaign</li> <li>• One-time live event</li> <li>• A challenge that goes viral</li> <li>• PR/marketing campaign</li> </ul>	Campaign Plan

**Objectives**

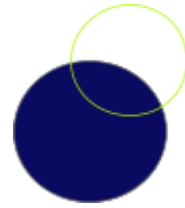
- Develop concept through prototyping
- Test with users
- Get feedback from mentor
- Use feedback to iterate and improve concept

**Tips**

- Encourage students to use the resources in the Create phase to get ideas of how they'd like to bring their idea to life.
- The focus of this phase is the iteration process: Design, Build, Test, and Learn – students are playing with their ideas, testing them out, getting feedback, and playing some more.



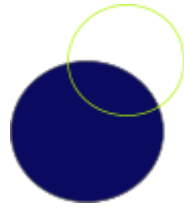




- This is the second time that students will be getting feedback from a mentor. Mentors are one population of reviewers, but students should be testing their ideas and getting feedback from others as well.
- Plan ahead: If students are planning on building a physical prototype, have them create a list of any materials they might need to create a prototype and bring those items with them to class ahead of time.
- Students will develop a **Design Brief** before creating their prototype. Encourage students to slow down on this part, and think through their design before beginning to build.
- Make a copy of the [Example of a Design Brief](#) and use it to show students how to use Google Docs to share and collaborate on one document.

### Additional Activities

- Encourage students to try out new software and tools to use in their academic and future professions. Have students explore and practice using a new tool and share with the class.
- Connect business, product, or campaign to examples from students' own lives; exploring pros and cons of their favorite businesses, products, and campaigns.
- Focus on the importance of feedback with your students, the difference between general and specific feedback, criticism vs constructive feedback, and how feedback is an ongoing process that can be both given or received. Watch [The secret to giving great feedback | The Way We Work, a TED series](#).
- Mathematics Integration: If students create a form to get feedback from a larger pool, this can be a great way to collaborate with a statistic or other mathematics teacher to understand and interpret data.
- English Language Arts Integration: Students can work on creating specific questions ahead of time, and then writing a report of the results of the survey and the development of their prototype.
- Social Studies Integration: Students can explore the history of their topic and how it impacts society and culture.



## Pitch



### Overview

Yay! Students came up with an idea and created a prototype, or proof of concept, of their solution to share with the judges.

### Objectives

- Develop a video pitch
- Rehearse
- Share/Submit pitch

### Tips

- Remind students to review the [Judging Rubric](#).
- Provide opportunities for students to practice their pitches in class.
- Determine how students will create their pitches and if they need time to learn video editing software, or if you will be recording them and uploading to YouTube or Vimeo for them. Remember, they will provide a link to their video pitches.

### Additional Activities

#### Protocols

[Protocols](#) are a great way for students to get feedback from one another. Consider trying any of the following:

[Gallery Walk](#)

[Feedback Carousel](#)

[Tuning Protocol](#)

