

So, you want to help your students participate in the Lieutenant Governor’s Coding Challenge, but you are not sure where to start? This document was created to help!

**BIG GOAL: Students are asked to identify a societal problem or issue to which they propose a viable solution that spreads positive messages, tackles important issues or promotes healthy habits.**

**KEY RESOURCES & INFO:**

- Website: [ltgovcc.org](http://ltgovcc.org)
- Due: April 30, 2021
- Grades 3-12; students can participate in groups of 1-5 students in the same grade band
- Grade bands are: 3-5, 6-8, and 9-12
- There are three challenges: Concept, Prototype, and Development. This table will help you understand the differences between these challenges. Students choose **one** of the three challenges.

	<a href="#">Concept Challenge</a>	<a href="#">Prototype Challenge</a>	<a href="#">Development Challenge</a>
Overview of Requirements	No coding required  Written prompts  Audio or visual artifact explaining the scope of idea	Some coding; you choose the language  Written prompts  Will need to create a “map” of computing solution  Will need to create a prototype and video	Coding; you choose the language  Will need to document and share code  Solution should be ready to be marketed to potential users  Will need to create a demonstration video
More Details	Possible writing prompts: - discussion of identified problem - acknowledgment of intended audience/user - description of features of proposed coding solution  Audio <i>and</i> visual product: - designed to provide freedom to express ideas creatively - go beyond written responses	Map = storyboard, flowchart, or wireframe; should provide evidence of planned solution  Prototype = user interface and one working feature  Video = less than 1 min long recording of prototype (the interface and one working feature)  Written response = an opportunity to explain computing solution	Code = pdf showing screen captures of user interface and program code  Video = less than 3 min long recording of running code showing team’s computing solution

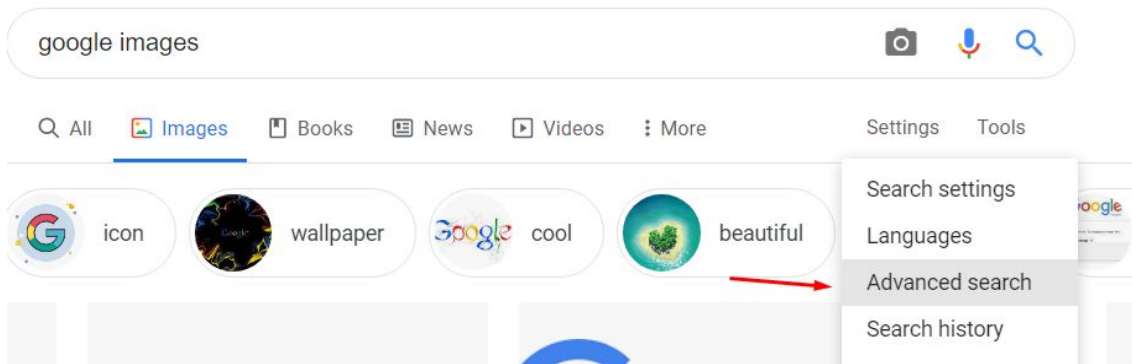
**OTHER INFORMATION:**

- The portal to upload solutions and the exact details for the written prompts will be shared on the **Challenge Resource Page** which will be here: [ltgovcc.org](http://ltgovcc.org).
- Mentoring is encouraged.
  - Teachers can serve as mentors to an entire class.
  - Mentors, however, cannot be team members.
  - To help you know the difference between mentors and team members: Ideas and solutions come from the team members. Guidance, scaffolding for ideas, learning to program, and timing boundaries come from mentors.
- Some tools and tips are on the next page. Read on!

## Helpful Tools and Tips for the Concept Challenge:

Here, your goal is to help students come up with a neat idea, an audio/visual way to represent that idea, and write written responses about that idea.

- 1) Teamwork Tools: [Google Jamboard](#) and your favorite video conferencing tool (Google Meets for example) to brainstorm, [Google Docs](#) to manage written response
- 2) Audio and Visual Component: Choose a tool to showcase this idea in a creative way. You will need to add voice narration. While a *narrated* Google Slides would be acceptable, judges would likely favor more creative tools like:
  - a) Animaker ([animaker.com](#)) – online animation video making software
  - b) Animoto ([animoto.com](#)) – Turn still images into a video, add text and modify
  - c) Canva ([canva.com](#)) – Create flyers and beautiful combinations of images
  - d) PowToon ([powtoon.com](#)) – create animated videos and presentations
  - e) StoryBoard That ([storyboardthat.com](#)) – use this environment to plan out stories, websites, or apps
- 3) Images used should be Creative Commons images so you know the images are approved for sharing. Here are some sources you could use to access images that are okay to use for this purpose:
  - a) Wikimedia Commons:Images ([commons.wikimedia.org/wiki/Category:Images](https://commons.wikimedia.org/wiki/Category:Images)): click the image you want and download and there are directions for how to cite.
  - b) Google Images Search. Type “Google Images” in your google search bar.



- i) Click Settings then “Advanced search” (see red arrow shown above).

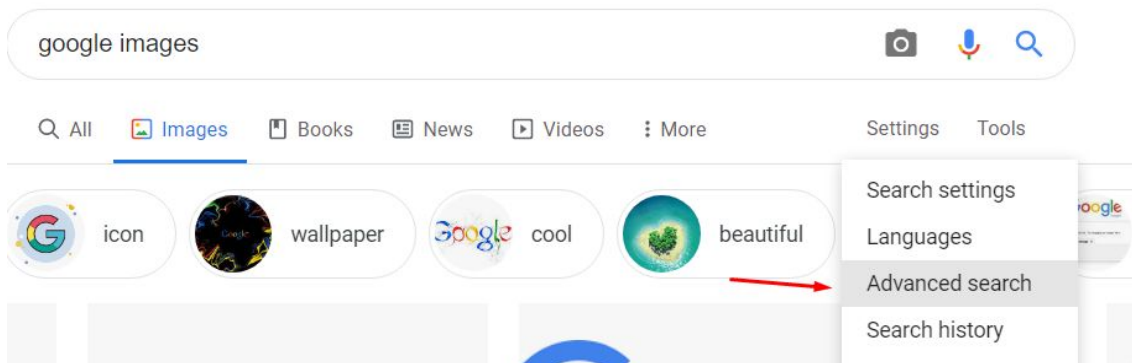


- ii) Scroll down and find “usage rights” and choose “Creative Commons licenses” (see above).

## Helpful Tools and Tips for the Prototype Challenge:

Here, your goal is to help students come up with a neat idea, a plan for that idea, use code to start executing that plan, and write written responses to explain the code created and the idea.

- 1) Teamwork Tools: [Google Jamboard](#) and your favorite video conferencing tool (Google Meets for example) to brainstorm, [Google Docs](#) to manage written response.
- 2) Map Tools: Choose a tool to illustrate the steps of the plan.
  - a) Whatever tool you choose should answer these questions: What will the code do first? Then what? Will there be loops? What are the key steps? What is the final output?
  - b) Here are some ideas for tools that could help!
    - i) LucidChart ([lucidchart.com/pages/examples/flowchart-maker](http://lucidchart.com/pages/examples/flowchart-maker)) - easy to use flowchart maker
    - ii) StoryBoard That ([storyboardthat.com](http://storyboardthat.com)) – use this neat environment to plan out stories, websites, or apps
    - iii) Mindmeister ([mindmeister.com](http://mindmeister.com)) - map team thoughts, track team progress
- 3) Images used should be Creative Commons images so you know the images are approved for sharing. Here are some sources you could use to access images that are okay to use for this purpose:
  - a) Wikimedia Commons:Images ([commons.wikimedia.org/wiki/Category:Images](https://commons.wikimedia.org/wiki/Category:Images)): click the image you want and download and there are directions for how to cite.
  - b) Google Images Search. Type “Google Images” in your google search bar.



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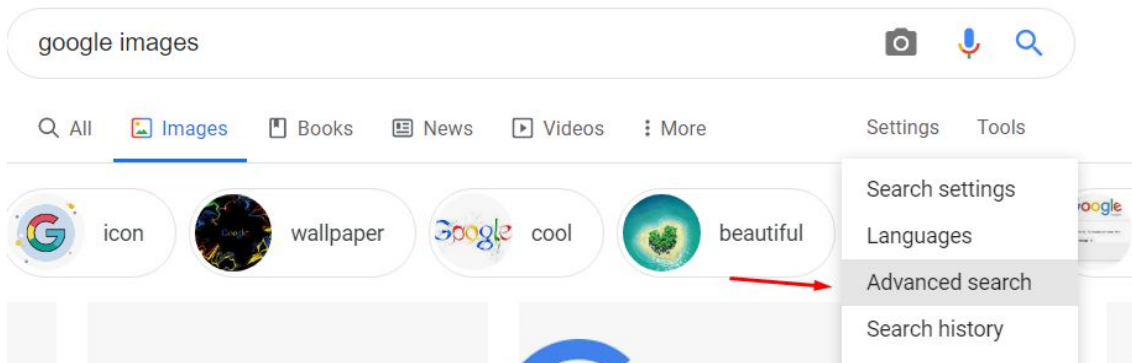


- ii) Scroll down and find “usage rights” and choose “Creative Commons licenses” (see above).
- 4) Language Ideas
    - a) This project requires students have *beginning* coding knowledge in a language of their/your choice..
    - b) Students should be able to **create an interface** (a way for a user to interact with the program), start writing code to support the interface, and have **at least one feature** that works.
    - c) You can use ANY language. If you are brand new to coding, though, here are some nice environments to begin to try with students that do not require hardware.
      - i) Code.org’s App Lab: [code.org/educate/applab](http://code.org/educate/applab) - here is a step-by-step tutorial for how to move from design to concept: [code.org/athome/project-ideas](http://code.org/athome/project-ideas) (Use GameLab or AppLab)
      - ii) Microsoft Make Code Arcade: [arcade.makecode.com](http://arcade.makecode.com)
      - iii) Scratch: [scratch.mit.edu](http://scratch.mit.edu)
      - iv) PencilCode.net: [pencilcode.net](http://pencilcode.net)

## Helpful Tools and Tips for the Development Challenge:

Here, your goal is to help students come up with a neat idea, a plan for that idea, and use code to execute that plan.

- 1) Teamwork Tools: [Google Jamboard](#) and your favorite video conferencing tool (Google Meets for example) to brainstorm, [Google Docs](#) to manage written response.
- 2) Images used should be Creative Commons images so you know the images are approved for sharing. Here are some sources you could use to access images that are okay to use for this purpose:
  - a) Wikimedia Commons:Images ([commons.wikimedia.org/wiki/Category:Images](https://commons.wikimedia.org/wiki/Category:Images)): click the image you want and download and there are directions for how to cite.
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- i) Click Settings then “Advanced search” (see red arrow shown above).



- ii) Scroll down and find “usage rights” and choose “Creative Commons licenses” (see above).

- 3) Language Ideas
  - a) This project requires students have knowledge in a coding language of their/your choice.
  - b) Students should be able to **plan** and **execute that plan** in the form of working code. Here there is no written assignment, because code documentation and execution will speak for itself.
  - c) You can use ANY language. If you are brand new to coding, though, here are some nice environments to use with students that do not require hardware.
    - i) Code.org’s App Lab: [code.org/educate/applab](https://code.org/educate/applab) - here is a step-by-step tutorial for how to move from design to concept: [code.org/athome/project-ideas](https://code.org/athome/project-ideas) (Use GameLab or AppLab)
    - ii) Microsoft Make Code Arcade: [arcade.makecode.com](https://arcade.makecode.com)
    - iii) Scratch: [scratch.mit.edu](https://scratch.mit.edu)
    - iv) PencilCode.net: [pencilcode.net](https://pencilcode.net)
  - d) Students currently taking a course in a language are encouraged to use the language they have learned.