

Educator Guide: Porcupines Give You 30,000 Reasons to Back Off (Deep Look)



Lesson plan ([with Classroom Viewing Guide](#))

This guide is designed to support your students with these learning objectives:

- 1) Students will be able to analyze information about how porcupine quills have inspired an improved surgical staple.
- 2) Students will write arguments and present research on [KQED Learn](#).
- 3) Students will create an audio or video response describing a challenge and a possible solution that is inspired by nature.



Watch video



Join this Discussion



Make & Share

Use this [classroom viewing guide](#) with:

- Quick-write prompt
- Comprehension questions about the video
- Student note catcher

More student supports the Discussion page:

- Glossary with vocabulary used in the video
- Annotated source list
- Video transcripts in English and Spanish

Deep Look episode companion article: [Porcupines Give You 30,000 Reasons to Back Off](#)

Students sign into KQED Learn and click the “Join the Discussion” button to respond to the Discussion question.

Responses should be supported by evidence from the Deep Look video or other research on the topic.

Supports for joining the discussion KQED Learn:

- [Sentence frames](#)
- [Discussions rubric](#)
- [Response analysis activity](#)

Please refer to our [Code of Conduct](#) as well as your school’s behavioral expectations before joining.

Post a media Make & Share response on [KQED Learn](#).

Prompt: Create a graphic or illustration that models each of the steps the novel coronavirus takes to replicate itself.

Web tools to create Infographics: [Canva](#), [Piktochart](#), [Google Drawings](#)

Post your media creation in the Make & Share tab.

Standards

CCSS.ELA-Literacy.CCRA.R.1	Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text
CCSS.ELA-Literacy.CCRA.R.7	Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words
CCSS.ELA-Literacy.W1	Write arguments to support claims with clear reasons and relevant evidence
CCSS.ELA-Literacy.W6	Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others
NGSS.SEP.6	Constructing Explanations and Designing Solutions
NGSS.SEP.7	Engaging in argument from evidence
NGSS.SEP.8	Obtaining, evaluating and communicating information
ISTE Digital Citizen	Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical.

***KQED's Media Tool Policy:** In KQED Education's media literacy work, we take an approach to platforms and tools that focuses on developing media-making competencies that are transferable to an individual's specific technology context. When we recommend software for specific mediamaking activities, our factors for consideration include ease of use, whether the tool is open-source, whether it works across platforms and whether it offers the necessary functionality for the task free of cost. If there are no free tools appropriate for the task, we prioritize the lowest-cost solution able to produce high-quality media.