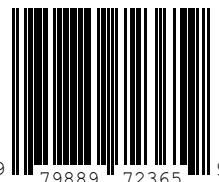


# EUREKA!

## THE ART OF INVENTION



**GRADE 4 UNIT 2**  
**OPENING AND JUDGES' NOTES**

Grade 4

Unit 2

# **Eureka!**

## **The Art of Invention**

**Opening & Judges' Notes**

#### Acknowledgement:

Thank you to all the Texas educators and stakeholders who supported the review process and provided feedback. These materials are the result of the work of numerous individuals, and we are deeply grateful for their contributions.

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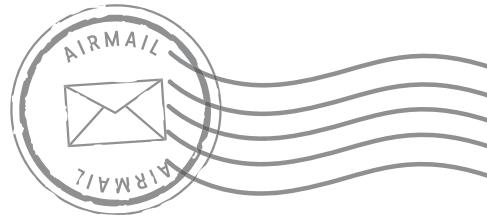
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**Opening:**

Thrown together by the happenstance of where they live and go to school, a class of fourth graders has ten episodes to walk the path of invention and emerge—maybe scarred, maybe stronger, but almost certainly better inventors. This is the world of the reality game show *Eureka! Student Inventor*—where puppets pull the strings and “making it work” is only the beginning.

## Judges' Note 1A

### A Note from Thomas Edison:



Welcome, widgets. As your judge, and as the owner of 1,093 patents (by far the most of any of these clowns), I have the awesome responsibility of giving you your first challenge. How, you might ask, did I, one man with only twelve weeks of formal schooling, achieve so much? Hard work, hard work, and more hard work. And not just my own hard work: I started the first industrial lab in Menlo Park, New Jersey, hiring scientists, technicians, and mathematicians to carry out research and development to further my ideas. Honestly, I am not a huge fan of working with people, and I don't know that my employees were so thrilled to work with me, but we put up with it because we knew that many minds lead to excellent innovation! So you will also be working in lab groups. Go find them.

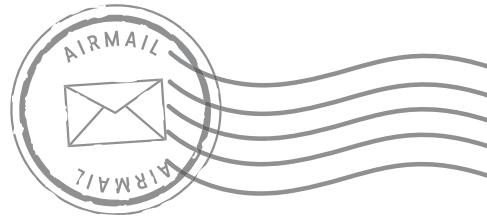
Sincerely,

*Thomas Edison*



## Judges' Note 1B

### A Note from Jacques Cousteau:



*Bonjour, tadpoles!*

Inventing—it is like a boat trip. Lab mates are at once alone and together amid the hostile seas. (Alas, this season they will not let me put you on a boat amid hostile seas to demonstrate this. I swear to you, the thing with the jellyfish was not something we could have prevented! And no one, including the jellyfish, suffered any permanent damage! The network, it spoils all my fun.)

But I digress. Here is the thing: you must work together in this Quest. You must listen to one another. You must let everyone have a turn. You do not know—ze quiet one in ze corner could save your life. I mean . . . fix your invention. *Oui!*

It is not the easiest thing, collaboration. So today, we practice! You see the collaboration wedge? I am not giving that away for freebies!

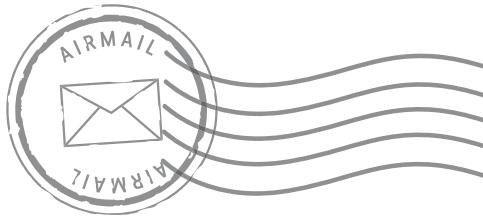
Sincerely,

*Jacques Cousteau*



## Judges' Note 1C

### A Note from Jacques Cousteau:



It is all well and good to talk the collaboration talk, but what about when you must walk the collaboration walk, to put these rules into practice yourself? This is the big one, my wiggly fishies. If you succeed in this challenge—and by succeed, I mean work together thoughtfully and well, and then write about how you did it—you will earn your first wedge to get your Wheel of Invention rolling.

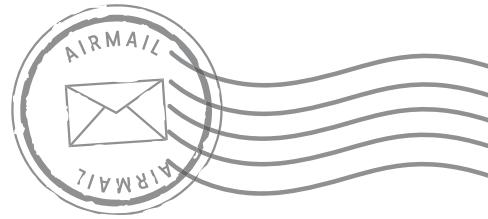
Sincerely,

*Jacques Cousteau*



## Judges' Note 2A

### A Note from George Washington Carver:



Welcome, seedlings!

There are many ways to conduct research—for instance, in the field, in the lab, and in the library! In this Quest you will learn from some of the greatest inventors in all of history! That is the beauty of having a television show! These inventors like being mentioned on TV, so they will offer their advice for free, which is good since the producers slashed our budget this year. These inventors come from many different backgrounds and work in many different ways, but they all have very specific things to teach us about invention. Look to them for inspiration and practical suggestions when inventing on your own.

We don't want to be conceited, but perhaps your judges are a good place to begin learning about great inventors?

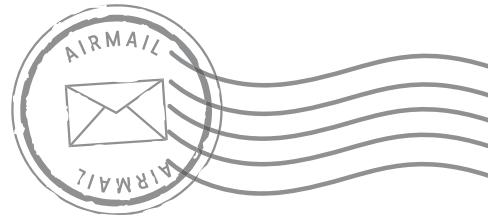
Sincerely,

*George Washington Carver*



## Judges' Note 2B

### A Note from George Washington Carver:



Good work! We should look at another inventor while your research muscles are all warmed up. As the inventor of peanut butter, I am partial to tasty inventions—the very talented Ruth Wakefield, inventor of the chocolate-chip cookie, has graciously agreed to share her story of invention and the importance of careful research.

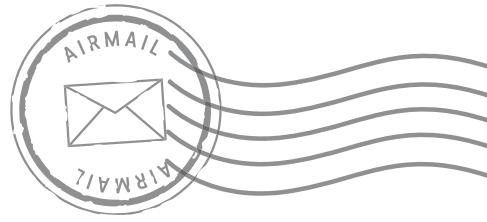
Sincerely,

*George Washington Carver*



## Judges' Note 3A

### A Note from Thomas Edison:



Dear widgets:

Hmph. Well, from what I've seen and heard so far, you seem to be doing a solid job on your analysis of the light bulb. Not everyone knows all the details of its illustrious history, but your research skills are serving you well. Let's make things a little more interesting. I am in the final-proof stage of my book *I Judge Inventions*. Obviously the light bulb is THE MOST important invention of all time, and the light bulb is going on the front cover. But the back cover needs art too. One of the inventions after which your labs are named, but only one, can be that back-cover art. Convince me that it should be yours.

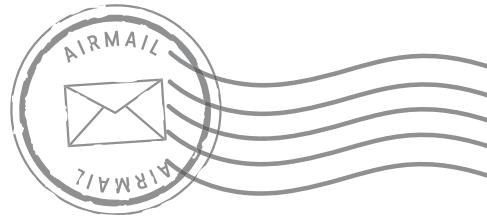
Sincerely,

*Thomas Edison*



## Judges' Note 3B

### A Note from Hedy Lamarr:



*Meine kleinen inventors:*

Look, there are not a whole lot of ways my two great talents—inventing and acting—overlap. But pitch presentations! This is where they overlap. So I have made a list: you would benefit from following it. Jacques is not the only one with rules.

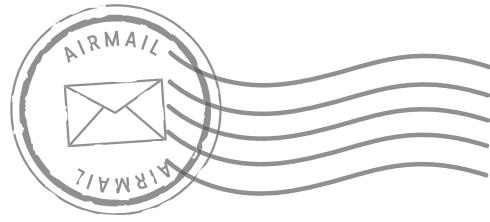
Sincerely,

*Hedy Lamarr*



## Judges' Note 4A

### A Note from Hedy Lamarr:



Inventors!

I am very excited to learn more about zese inventions through your pitches. You should be, too. Zese are some of ze most revolutionary inventions in ze history of human civilization. Ve do not have any namby-pamby silly inventions on zis program. *Nein!* Breakthroughs, plus ze most important snacks ONLY are permitted on Eureka!

Ze learning—no, ze KNOWLEDGE you gain from zese presentations vill help you be a better inventor. As you listen to zese pitches, you should take notes. Here, I have made you a helpfully formatted and structured form. It is in your Inventor's Notebook. Ve call it "Hedy Lamarr's Notes for Knowledge." Ve vill talk more about knowledge tomorrow.

You vill only pitch once! You vill listen five times! Do not vaste ze listening! You vill need zese notes soon!

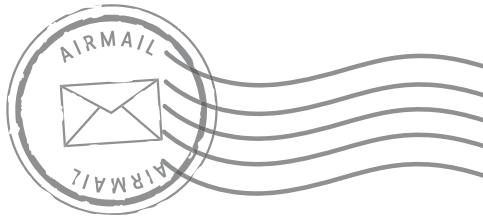
Sincerely,

*Hedy Lamarr*



## Judges' Note 4B

### A Note from Hedy Lamarr:



Vell done, *meine kleinen* pitchpeople. Now ve are getting somewhere! Zree vedges, zat is half, zat is not so bad. Ve have a little extra time today, so let us get to know another outstanding inventor, a man who vas not very much older than you ven he began his great invention. I do not vant to give tomorrow's program away, so all I vill say as you read his note and complete his inventor card—VICH IS NOT OPTIONAL! NEIN! YOU VILL DO IT AND VHY VOULD YOU NOT?—is "invention breeds invention." Vat does zat mean? Ponder zat, and tomorrow it vill be revealed.

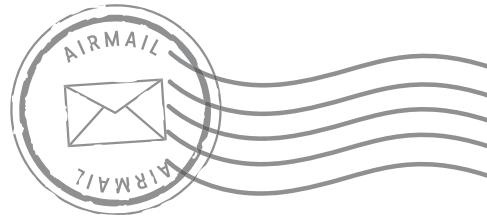
Sincerely,

*Hedy Lamarr*



## Judges' Note 5A

### A Note from Hedy Lamarr:



Invention breeds invention! Zat is the use of knowledge. Ze inventions you know can lead to ze inventions you create. Vat does zat mean? It means zat ze rely on the work of ze inventors who came before us! I am an outstanding example of invention breeding invention: you know zat I invented ze spread-spectrum technology? In order to do zat, I used technology zat had already been developed for ze first remote controls for radios, and also ze technology of player pianos—pianos zat play zemselves! True fact! Many years later, technology from my invention vas used to invent cell phones, Wi-Fi, GPS—all sorts of vireless communication! I got an Electronic Pioneer Award in 1995 ven someone finally noticed zis! I am only a little bitter zat by zen I vas too old to travel to accept it.

You see, my invention led to other inventions. Invention breeds invention!

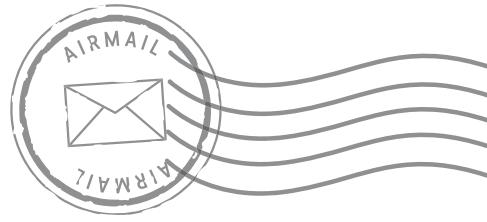
Sincerely,

*Hedy Lamarr*



## Judges' Note 6A

### A Note from George Washington Carver:



Welcome, seedlings!

I used inventions in my work, but I also worked a lot with ... vegetables. And legumes. The peanut, the peanut is not a simple machine. "Invention breeds invention" is a great tool for inspiration, but it's not the only one. Today we're going to think about perspectives—looking at things carefully and look at them from different angles.

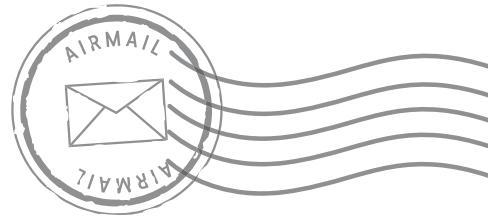
Sincerely,

George Washington Carver



## Judges' Note 6B

### A Note from George Washington Carver:



Seedlings,

You are nearly ready to be transplanted into the wide-open garden that is Round 2. But not without building again! This building challenge is more . . . challenging. In your lab you must create one invention, and document how you did it.

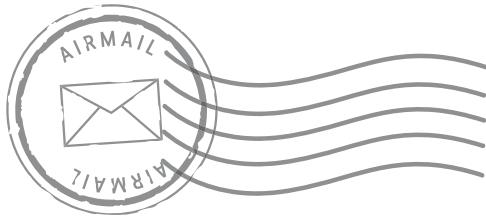
The judges' office at Eureka! is . . . well, it's starting to be a fire hazard. We get so involved in our inventing, we don't want to stand up and walk two feet to throw the many, many irritating memos we get from the network into the recycling can. Please help!

Sincerely,

*George Washington Carver*



## Judges' Note 7A



Look, widgets—you know I don't pull punches. But here's the truth: I NEVER fail, I just discover what doesn't work. For true innovation, you must take a true risk and try things that MAY NOT WORK. You never know, because you're the first to try them! Sometimes they WILL NOT WORK. At all. That's OK. Sometimes you succeed in your basic goal, but fail to do it as well as you wanted. Sometimes failure is a matter of perspective: you may have failed to do what you thought you wanted to do, but accidentally achieved something else. In any case, it's better to take the risk and fail than not to take the risk at all—especially on TV. Risk is interesting. Here—all the judges have things to tell you about failure. Go to the tape.

Sincerely,

*Thomas Edison*



ISBN 979-8-89072-365-9

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