

CONTEST ENTRY PLANNER

Use these prompts to help you brainstorm and develop a successful entry for the **Innovators of Tomorrow Contest**.

Be creative! It's OK if your innovation won't actually work in real life (yet!), but it should solve a real-life problem. Is it a super-flexible material with a chemical structure that resists melting, perfect for firefighter suits? Or a 3D printer that can print cells at the molecular level and keep blood banks stocked? Whatever your idea, **think big!**

1 Brainstorm a few problems you'd like to solve with advanced manufacturing. Consider:

- What obstacles are people facing?
- What tasks are dangerous, difficult, or time-consuming for humans?
- **Is the challenge the location?**
 - Examples: extreme pressure in oceans, zero gravity in space
- **Is the challenge the task?**
 - Examples: medical procedures, construction, repetitive household tasks

2 Think about how you might use advanced manufacturing to solve the problems you identified. Then choose one problem and solution to develop further.

- What is your innovation (a machine? a robot? a new material?) and how does it solve your problem?

3 Refine your innovation. Consider types of functionality. Will it need to:

- **Make decisions (artificial intelligence)?**
- **Be flexible, waterproof, portable?**
- **Exert force, withstand pressure, carry heavy weight?**

Examples of real-life technologies:

Advanced Material	Properties
Carbon fiber reinforced polymer	Strong, light, flexible plastic
Metal foam	Strong, light, impact absorbent, withstands high heat
Advanced thermal coating	Prevents metal from melting at its normal melting point

Advanced Process	Description
Additive manufacturing (3D printing)	Lays down superthin layers of material until a 3D object is created
Factory robots	Can autonomously perform challenging manufacturing tasks
Supercritical drying	Transforms a substance's liquid into gas to produce strong, ultralight aerogels

4 What materials or combination of materials will you need to use or invent in order to create your innovation?

5 What do you need to consider from a business perspective?

- **Audience:** Who will buy or use your invention? (Examples: government, factory, consumers, etc.)
- **General price estimate** (research and consider the cost of materials, process, and labor)

Note Do not submit this planner sheet as part of your contest entry.

NO PURCHASE NECESSARY TO ENTER OR WIN. Void where prohibited. Students in grades 9–12, 50 US & DC. Students or students' teachers may submit entries on their students' behalf either online, by email, or by mail, if the teacher is 18+ and a teacher at the students' school. To enter, an eligible student must go to scholastic.com/arconicfoundation/contest to complete the online entry form, as well as create and upload their entry, or email it to scholastic submissions@scholastic.com, or complete entries can be submitted through the mail. Entry period: 9/25/20 to 12/14/20 (11:59 p.m. ET) (mail-in entries postmarked by 12/14/20 and received by 12/22/20). Rules and pricing: scholastic.com/arconicfoundation/rules.



You could win a tablet plus a \$1,000 grant for your teacher!

MY INNOVATION WILL...

Enter the **Innovators of Tomorrow Contest** by describing and sketching an invention that uses advanced manufacturing to solve a problem.

Your entry must describe:

- ❑ Your innovation
 - ❑ Materials
 - ❑ Business thinking (audience and cost estimate)
 - ❑ How the innovation addresses a real-world problem
 - ❑ Manufacturing process

Make sure you:

- ✓ Write legibly!
- ✓ Be creative!
- ✓ Use advanced materials or manufacturing!

[illegible]

You can include additional paper or type your entry, but you must submit: 1) a written description, 2) a labeled diagram, and 3) your contact information (see page 2).

HOW TO ENTER

Submit your entry at
scholastic.com
/arconicfoundation
or email to:

scholasticsubmissions
@scholastic.com
or mail to:

**Innovators of Tomorrow
Student Contest**
Scholastic Inc.
ATTN: SNP, 3rd Floor
557 Broadway
New York, NY 10012

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Innovators of Tomorrow

ENTRIES
DUE
December 14,
2020

Draw a diagram of your innovation and label its parts. Be sure to indicate advanced materials or parts produced by advanced manufacturing processes.

CONTACT INFORMATION

Student's Name

Grade

Teacher's Name

Teacher's Email Address

School Phone

School Name

School Street Address

City

State

Zip Code