

Careers Curriculum: Careers Week

Jobs of the Future by Sofia Rossi & Carlo Canepa



Question: What are some future careers that have not even been invented?

With a world that is amid Climate Change and environmental disasters, what are some careers that might be developed to help aid these events?

Grade: 3-9

Time: 1-2 hours depending on how far you want to take this lesson.

Big Idea: Strong communities are the result of being connected to family and community and working together toward common goals.

First Peoples Principles: Learning is holistic, reflexive, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).

Resources:

Jobs of the Future: Imaginative Careers for Forward Thinking Kids by Sofia Rossi & Carlo Canepa. Example pages below.

Lesson Ideas:

Introduction: Brainstorm students' future career ideas. *Do you think some of you might be doing some careers that haven't even been invented?*

Brainstorm a list of careers that weren't around or common 10-20 years ago (Youtuber, podcaster, drone operator, App developer...)

Watch the video The Future of Work: Will Our Children be Prepared

<https://www.youtube.com/watch?v=59d3UZTUFQ0>

Watch Bill Nye's Symphony of Science: Our Biggest Challenge: Climate Change

<https://www.youtube.com/watch?v=HHP9Rh-ooH0>

Watch the video Climate Change (You may want to watch this video 1st to be sure it's appropriate for you class but it is very powerful!)

<https://www.youtube.com/watch?v=Si37HyJZ0Pg>

Depending on how much time you want to put into this project, have students brainstorm or research an environmental concern or challenge they are interested in (too much plastic, polar ice caps melting, extinction of animals, etc.). Let students know they will be creating a job that will help to solve this problem.

Read some pages from the book *Jobs of the Future: Imaginative Careers for Forward Thinking Kids*.

After getting some ideas from the book, students will write a short story. The story will include:

Introduce your environmental problem

Introduce and describe your career

Introduce and describe your invention

INTRODUCTION

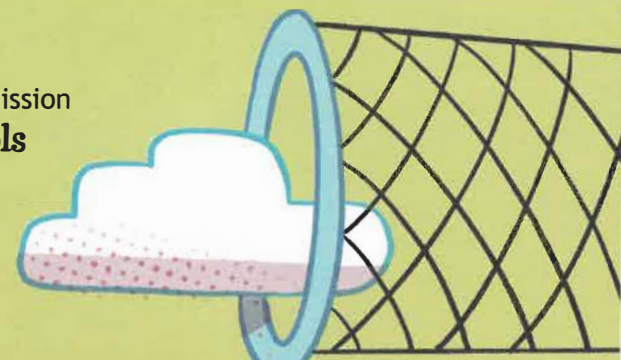
How many times have you been asked what you want to be when you grow up? And how many times have you not been able to answer because you weren't sure or you weren't interested in doing the same jobs as the adults in your life?

Well, you should know that whatever job you eventually pursue, there's a good chance it doesn't yet exist . . . but it will soon!

In fact, in a few years' time, you may be able to **bring species that have been extinct for millennia back to life**, or you might **build houses** in impossible places. You may even try to **identify diseases** that are unknown today or **communicate with trees**.

Each job of the future has a unique mission and requires a set of **innovative tools** with which to carry it out.

How will the plastics fisherman save the oceans from pollution? Will the DNA tailor be able to cut and mend diseased genes? And will the cloud hunter succeed in slowing global warming before it's too late?





THE CLONER OF THE PAST

"All out of honey and lemons," Francis sighs, crossing those items off his shopping list. Looking around the store, Francis notices that honey and lemons aren't the only missing products. The produce section looks nearly empty!

Over the past few months, bees and other pollinators have been disappearing, and with them many of the plant-based foods we eat every day. Even animal feed has become scarce, which means less milk and less meat for everyone.

Francis, who works as a *cloner of the past*, takes this very seriously. He begins making calls, and within a couple of hours, the Sixth Extinction Crisis Unit has assembled in the laboratory.

With the calm coolness that distinguishes him, Francis prepares all the tools necessary to extract DNA from preserved honeybee cells. The goal is to reproduce the DNA **artificially** and bring the missing insects back to life.

After several hours, the cloning technology is beginning to work. "Hey, look!" Francis shouts. "The eggs in the hive are beginning to hatch!"

But something isn't quite right. Some bees have ten legs instead of the usual six. "Maybe this is an advantage," says one of the other cloners of the past. "Ten-legged bees might be able to carry more pollen from one flower to another."

"That's an interesting point," says Francis, "but it's important that the species we release into nature is identical to the original. Even the slightest modification could have a huge impact."

Following a short discussion, all agree with Francis. Bringing extinct species back to life is a risky job that should be undertaken only when absolutely necessary. And even then, scientists must be very careful not to upset nature's harmony.

"We'll have to keep trying," concludes Francis. "And in the meantime, we must focus on protecting what we have. Every creature on Earth plays an important role in our **ecosystem**. Cloners of the past can help, but we aren't the solution!" •



THE PLASTICS FISHERMAN

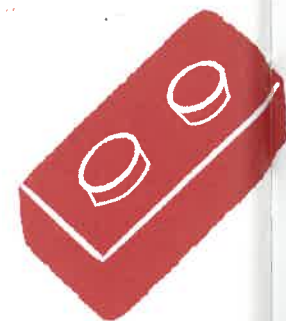
"Another wonderful day for fishing," August rejoices with his crew, the *plastics fishermen*, who, every day, try to save the oceans from pollution.

Thanks to oil, humans have invented a convenient and inexpensive material: plastic. However, once it is abandoned in the environment, plastic is very difficult to get rid of.

August and his crew use a special plastic-catching magnetic net that instantly attracts garbage, leaving the fish free to swim undisturbed.

"Oh no, it's happened again! This is the second time in a week!" shouts August, leaping into the lifeboat. In the distance, he sees the huge wings of an albatross flapping in the water. The creature is squawking loudly; it's clearly in distress.

It takes the crew nearly an hour to untangle the bird from their net, but the effort is well worth it. When the animal is finally free, it soars off into the distance.

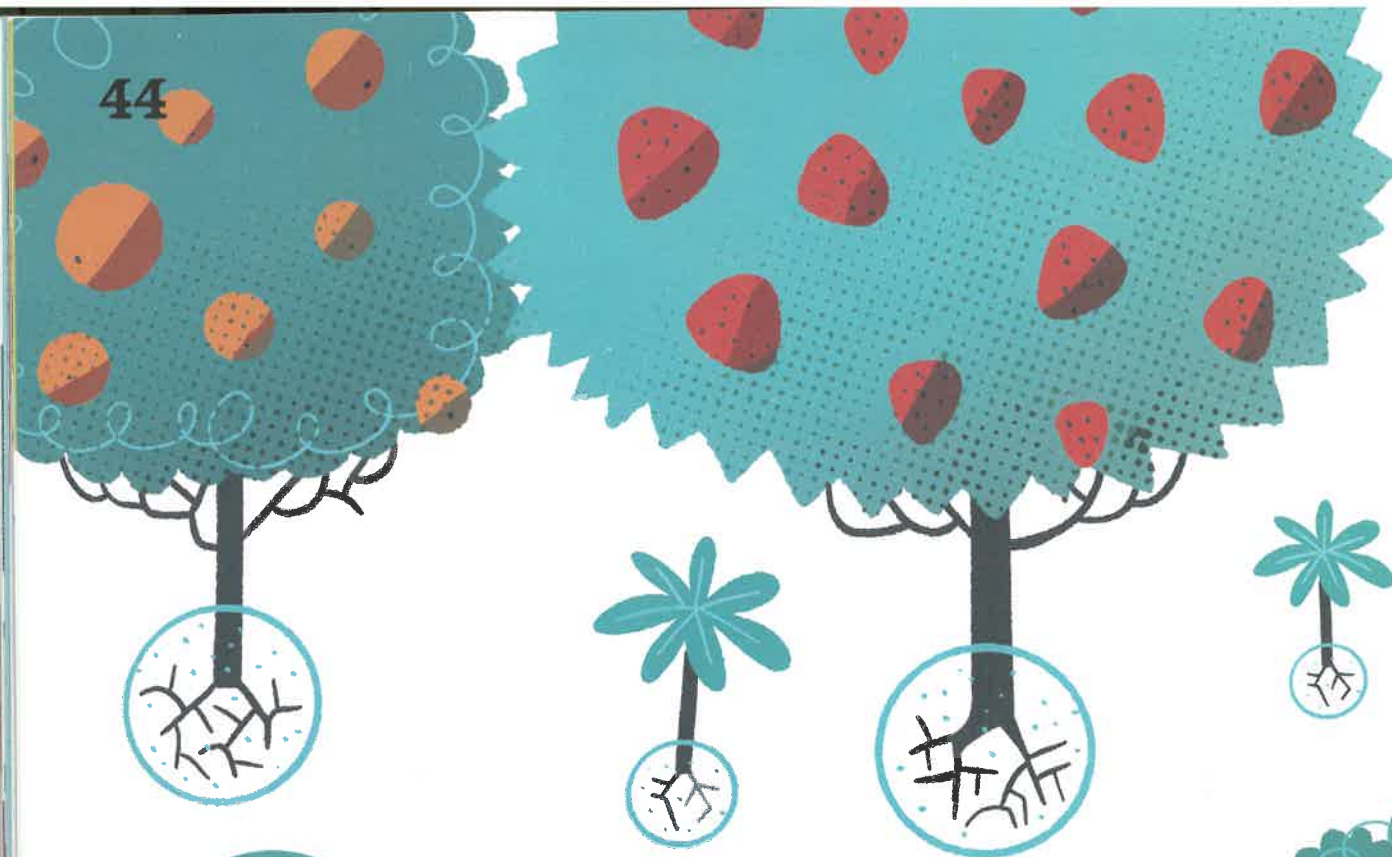


In addition to large objects, something invisible and more menacing is hiding in the oceans: dangerous microplastics. Thinner than strands of hair and smaller than grains of sand, when eaten by fish, microplastics end up in our frying pans and on our plates.

And this is where the plastics fishermen's latest invention comes into play.

"Well done, Moby. Let's see how much microplastic you've managed to swallow today," August says, heading toward the ship's stern. There, a blue whale-shaped robot, with hundreds of very long teeth that act as a filter, emerges out of the water. The teeth were built with special materials and are designed to catch only microplastics.

"Not bad! This area is definitely cleaner!" rejoices August. "Now all we need is a good night's sleep. Tomorrow, we're heading south!" •



THE WATERLESS FARMER

"That's five tomatoes and one basket of strawberries," says Laila as she bags her customer's items.

Fruits and vegetables are a novelty on Mars, so the line for Laila's farm stand is always long.

Back on Earth, Laila was a traditional farmer. She loved growing her own produce and selling it at the local farmer's market. When she arrived on Mars, she knew she would have to develop a new **cultivation** technique.

"On Mars, there's almost no oxygen or water, and the ground is rocky and full of toxic substances," Laila explains to the next customer in line. "That's why I've created something totally new!"

Her method involves growing fruits and vegetables without having to water them or plant them in the ground. Instead, she uses a spray bottle to put essential nutrients directly onto the roots of the produce. For this reason, she's called *the waterless farmer*. So far, her operation has been a huge success, but Laila isn't quite satisfied. In the pocket of her jumpsuit, she keeps some watermelon seeds her grandfather left her. The watermelon was her favorite fruit to grow and sell on Earth, and she dreams of bringing its juicy sweetness to the people of Mars.

One night, after her customers have gone, Laila sets to work cultivating her grandfather's watermelon seeds. But, after several weeks of careful tending, the melons fail to flourish. Instead of the large, colorful fruits Laila remembers, the seeds produce small blue ones no bigger than apples. Laila did not consider an important characteristic of watermelons: they're composed almost entirely of . . . water! And water on Mars, as everyone knows, is incredibly scarce.

Disheartened, Laila crouches down beside her pitiful harvest.

"What's the matter, Laila?" a friend calls, approaching. "What's that strange, blue fruit?"

Before Laila can stop her, her friend plucks one of the melons, cracks it open, and takes a bite. Laila is mortified. This is surely the end of her farming career.

"Oh, my!" says her friend. "This is amazing! How many can I buy?"

Shocked, Laila jumps up. "Have them all!" she says. "And share them! I wanted to grow a watermelon, but I guess I created the first . . . Martian melon!" Laughing, Laila's friend gathers all she can carry, promising to share the bounty with her neighbors. •





THE POLAR ICE MAKER

The North Pole isn't what it used to be. Because of rising temperatures, the ice is getting thinner, and more tourists are visiting the Nordic countries' northernmost coastal villages.

Not only does less ice mean fewer fish and birds that love the cold of the North, it also means the area will continue to warm, since the white of the snow and ice helps to reflect away the sun's rays.

However, Emma has been designing a solution for quite awhile now: a sun-powered, ice-shooting submarine that collects water and turns it into small icebergs. Once "released," these icebergs fit together on the ocean's surface, like the pieces of a large puzzle.

This is a bit similar to what ice machines do when they create ice from water. For this reason, Emma has been nicknamed the *polar ice maker*.

Slowly, the icebergs weld together, giving rise to long, white expanses as far as the eye can see. But, lately, something mysterious has been happening: many of the icebergs created by the submarine have been disappearing! One night, Emma decides to hide out in her submarine, parking it just beneath the water's surface near the shore. She's determined to find out what goes on while everyone is asleep.



A few hours later, three people in a small boat appear on the stretch of sea illuminated by the stars and begin hauling the icebergs away. "I knew it!" shouts Emma. "They don't want the ice to come back because it puts their tourist business at risk. They're not going to get away with this," she grumbles, silently reactivating the submarine.

Emma steers to the area where the thieves are and positions herself directly beneath them. Using her submarine, she releases several small icebergs at once, programming them to form a "cage" at the surface. Before they know it, the crooks are trapped by the very ice they were attempting to steal! Meanwhile, Emma calls the authorities.

When the village locals learn what Emma has done, they thank her for her important service. Even leaders from around the globe congratulate her, praising her efforts to restore the ice, which is vital to life all over the world. •

