Level UP
By Unistream

Israel Entrepreneurship Week

Fit for: Science Class

Topic: Scientific Entrepreneurship that Changes Lives

Preparation

Print the startup cards found in the appendix (5 Israeli startups) and distribute one card to each group.

Goals

By exploring Israeli startups operating in health, agriculture, biotechnology, and nutrition, students will step into the shoes of **Research and Development (R&D) teams**. They will understand how theoretical scientific research transforms into a technological solution that meets real-world challenges, changes lives, and creates a global impact.

Instructions

1. Divide the students into five groups.
2. Assign each group a card featuring an Israeli scientific venture and its background information.
3. Instruct each group to read their card and research the venture (they may use Google or AI tools) to complete these three stages:

Stage A: The Scientific Crack

How does the "magic" behind the venture work? Students must explain the scientific process in simple terms.

- *e.g., How do you produce meat from a single cell? How can glasses identify text and read it aloud?*

Stage B: The Real-World Hurdle

This is where entrepreneurial thinking kicks in. Each group must propose a solution to a practical challenge listed on their card.

- *e.g., How do you convince a traditional, older farmer to use AI sensors? What happens if a visually impaired user runs out of battery on a busy street?*

Stage C: The 2046 Headline

What will the world look like in 20 years if this venture is 100% successful? Each group will write a headline for a future newspaper featuring their venture.

- *Example: "The End of Blindness: Computer Vision Technology Becomes Standard in All Eyewear—Solving Independence Issues in Public Spaces."*

4. **Presentation:** After group work, each team presents their "crack" and solutions to the class.

Wrap-up Discussion

- Which venture surprised you the most?
- Do you know of any other scientific problems that haven't been solved yet?
- Which "Real-World Hurdle" was the hardest to solve, in your opinion?
- What turns a scientific idea into an entrepreneurial one? (The ability to build a viable business model and generate value around the solution).
- What everyday problems in your own lives would you want to solve using science?

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Appendix: Startup Cards

1. Aleph Farms: The No-Cow Burger

- **What they do:** Growing real beef steaks from animal cells in a laboratory.
- **Problem they solve:** Traditional meat production is resource-heavy and environmentally harmful.
- **Surprising Fact:** Producing one lab-grown steak saves thousands of liters of water and avoids the carbon emissions of a 50-mile car drive.
- **Scientific Breakthrough:** How can a single cell become a juicy steak? Explain the process of "growing" meat without an animal.
- **Real-world Challenge:** Lab meat is expensive. How would you convince a fast-food giant like McDonald's to buy your pricey burger over cheap beef?

2. OrCam: Digital Eyes

- **What they do:** A wearable device that reads text aloud for the visually impaired.
- **Problem they solve:** People with visual impairments struggle with daily tasks like reading menus or signs.
- **Surprising Fact:** It doesn't just read; it uses AI to recognize faces of friends and family, whispering their names to the user.
- **Scientific Breakthrough:** The device "sees" printed symbols. How does a computer learn to "understand" that shapes on a page are meaningful words?
- **Real-world Challenge:** The device depends on battery and internet. What happens if a user gets stranded in a busy city with a dead battery? Propose a backup.

3. BeeHero: The Bee Protectors

- **What they do:** Use sensors and AI to monitor beehive health and improve pollination.
- **Problem they solve:** Global bee populations are declining, threatening world food security.
- **Surprising Fact:** 70% of our food (including pizza and chocolate!) depends on bees.
- **Scientific Breakthrough:** The system monitors hives remotely. What data (sound, heat, movement) would reveal if bees are stressed or sick?
- **Real-world Challenge:** Hives are often in remote fields without reception. How would you transmit data to a farmer’s phone without Wi-Fi?

4. DayTwo: The Gut Fingerprint

- **What they do:** Analyze gut bacteria to provide personalized nutrition for blood sugar control.
- **Problem they solve:** Managing blood sugar is complex and varies wildly from person to person.
- **Surprising Fact:** Everyone has a unique bacterial "fingerprint." An apple could be healthy for you, but cause a sugar spike for your friend.
- **Scientific Breakthrough:** How does analyzing tiny bacteria in the gut help predict how your blood sugar will react to a specific meal?
- **Real-world Challenge:** People fear sharing biological data. How would you convince customers that their genetic info is 100% safe and won't leak?

5. AgriTask: The Smart Farm

- **What they do:** A management platform that integrates satellite, weather, and field data for farmers.
- **Problem they solve:** Farmers often lack real-time data, leading to wasted water and low crop yields.
- **Surprising Fact:** The platform combines space-level satellite images with ground-level reports to make decisions.
- **Scientific Breakthrough:** How can combining satellite pictures with dirt-level sensor data prevent a farmer from wasting water or pesticides?
- **Real-world Challenge:** Many traditional farmers don't trust apps. How would you make this system simple enough for an 80-year-old farmer to love?