RADIO FUTURES

You Decide

FACILITATOR GUIDE

MAKING WAVES with radio

Learning objectives

1. Radio is widely used in communication, navigation, and wireless devices.
2. Radio technologies impact many areas of our everyday lives, both now and in the future.
3. Radio technologies have different impacts on different people and are not equally accessible by all.
4. Our values shape how radio technologies are developed and used.

Materials

- Radio Futures Card Deck
- Extra copies of the blank Technology and People cards (optional)
- Multiple copies of *Your Radio Story* (optional)
- Pencils (optional)
- Activity guide

Safety

No safety concerns are present in this activity.

Training Videos

Facilitators should review the training video for this activity for facilitation guidance and examples of specific materials. The *Making Waves with Radio* content training video will provide additional background content to help in the facilitation of this activity.

Activity Training Video: https://vimeo.com/776687400

***Making Waves with Radio* Content Training Video:** https://vimeo.com/776685410

***Making Waves with Radio* Content Training Video (Spanish):** https://vimeo.com/776686149

Advance Preparation

Before you begin

Print out the card deck and familiarize yourself with the cards. This activity will invite learners to discuss their values, fears, and priorities through the possible impacts of radio technology.

Have extra copies of the blank Technology and People cards ready, along with pencils, if you want to have participants add their own ideas during or after gameplay.

Consider laminating the card deck if you are planning to use it multiple times.

Content Background

All technologies—including radio technologies—are influenced by human values and make different futures possible. Values can include *safety, privacy, care, economic growth, convenience, equity,* and others. Technologies impact people and systems in different ways, and sometimes involve tough trade-offs as well as unintended consequences.

Many learners will ask "Are these real?" when examining the cards. While many of the radio technologies in this deck could be available in the near future, some are more fantastical. We hope that these inspire curiosity about the science of radio, increase thoughtfulness around the role of radio in our everyday lives, and spur imagination. As a quick guide, each card is marked with a symbol to indicate whether the featured radio technology represents near future possibility, far future possibility, or an idea way beyond current science.

The *"What's Possible?"* card can be used to introduce these symbols to participants. This card also lists questions facilitators can use to spark conversation and reflection among learners.

Notes to the Presenter

This activity can be facilitated in smaller groups on the museum floor or with larger groups in a classroom or camp setting.

Museum floor facilitation (5–10 minutes)

- Typically 1–5 participants per each playthrough.

- Facilitators should give a brief introduction to radio technology and explain the motivation and gameplay. The “What’s Possible?” card has some ideas to start with.
- Lay the cards out on the table. You may want to begin with just the Technology cards.
- Encourage participants to explore both the Technology and People cards. Use the Juicy Questions on the “What’s Possible?” card to help participants consider how different people might experience radio technologies.
- Remember, this is designed to be an open-ended, conversational-style activity. There are no right or wrong answers in how participants order the cards or the choices they make. Rather, the cards and game itself are just props for a conversation about how technologies, people’s values and relationships, and society all influence each other.
- Give each participant a chance to describe why they chose a technology for their character.
- Extension: When talking about which technologies people might care about, you can ask participants to select multiple Technology cards, and talk about how these might work together or relate to different parts of the person’s life.

Larger group facilitation (15–30 minutes)

- This facilitation type can occur in a class or camp, and should work with 5–20 participants.
- When working with more than five participants, we suggest using two or more copies of the card deck.
- Facilitators should give a brief introduction to radio technology and explain the motivation and gameplay. The “What’s Possible?” card has some ideas to start with.
- Once facilitators have provided a brief introduction, break the participants into smaller groups. For example, 20 participants could be four groups of five participants.
- Lay cards out in a central location for each group and allow group members to explore the People cards. Encourage discussion between group members to explore common traits that the People cards may share. Have the entire group select one People card from the card set.
- Once group members have selected a People card (by consensus or a designated representative), introduce the Technology cards and have group members discuss which technology their chosen character would most likely use.

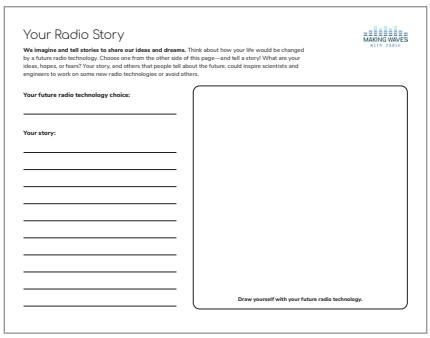
- After each group has chosen a People card and Technology card, have each group discuss which technology they chose for their character and what other options they may have selected.

Tips for facilitating with younger participants

- **Use fewer cards.** Reduce the number of cards to allow more time for introducing and talking about the people and technologies. Refer to the list of suggested Radio Technology and People cards for younger learners.
- **Introduce cards aloud.** Instead of asking participants to read the cards, show a card and place it face up, highlighting just one or two main ideas and points of connection.
- **Speed things up.** Making decisions about the cards can be hard—and slow. When picking a People card, shuffle the deck and have participants pick the top card. You can also have participants pick a card at random from the deck; this allows for every interaction to be different.

Cards for younger learners

- ***"You Do You."*** The *"Who Are You?"* and *"You Design the Future"* cards are good for younger participants who might have difficulty understanding all the technologies or putting themselves in the shoes of the people on the cards. Use these cards to emphasize that everyone has a role to play in designing and deciding our radio technology futures.
- **Play in small groups.** If possible, pair younger learners with caregivers for richer conversations that draw in family perspectives.


Your Radio Story

MAKING WAVES

We imagine and tell stories to share our ideas and dreams. Think about how your life would be changed by a future radio technology. Choose one from the other side of this page—and tell a story! What are your ideas, hopes, or fears? Your story, and others that people tell about the future, could inspire scientists and engineers to work on some new radio technologies or avoid others.

Your future radio technology choice:

Your story:

Draw yourself with your future radio technology.

Additional Use of the Cards: Storytelling

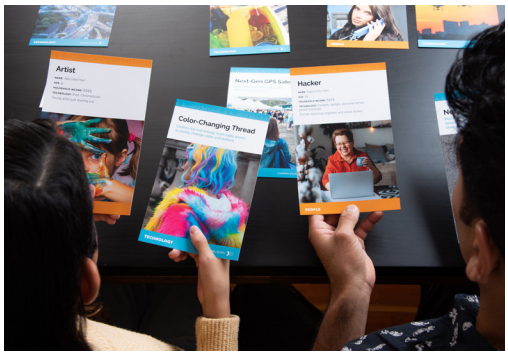
Learners may prefer to tell stories about the futures they imagine by using the radio technologies featured in the cards. We have provided a supplementary resource called "Your Radio Story" for facilitators who want

to explore this use of the cards with participants. With this worksheet, learners can either write their story or draw their future selves using radio technologies. The backside of the worksheet features a selection of eight of the Technology cards, making it perfect for an optional make-and-take after the activity.

Conversational Prompts

Use these questions to help frame conversations that dig into participants' values, understanding of human-technological systems, and hopes for the future. The bolded questions can be found on the *"What's Possible?"* card.

- **Who would most value or benefit from this technology and who might be harmed?** Why? How might benefits and harms change over time?
- **What kind of data about you does this technology collect and share with others?** Who do you think would be able to see—or even own—that data? Who would get to decide?
- **How would this technology change our relationships to family, friends, and others in our community?**
- **What would it take to manufacture, operate, and eventually dispose of this technology?** What energy and materials would be involved? Who would design and build it?



- **How do you think technology would interact with our bodies and the environment?**
- **How could this technology be used to manipulate or take advantage of others?** Who might use it this way?
- **What part of this technology do you think it would be easy to design and create?** What part do you think would be difficult or impossible to do?
- **What would make people want to use and share this technology?** What do you think they would be worried about?

List of Terms Found on the Radio Future Cards

Radio waves: a type of electromagnetic radiation used for communication devices, e.g., televisions, mobile phones, radios, and Bluetooth. The longest wavelengths and lowest frequency waves on the electromagnetic spectrum with frequencies from 3 kilohertz (kHz) to 300 gigahertz (GHz).

RFID—Radio-Frequency Identification: a technology that uses radio waves to identify tagged objects. RFID uses radio waves to request and share pieces of information, like an access code or an inventory number.

Network: a group of objects that are connected in some way. Computers connect to each other through radio waves and wires to communicate data electronically.

Electromagnetic Radiation: a type of energy that travels in waves. Examples include radio waves, microwaves, infrared waves, visible light, UV (ultraviolet) light, X-rays, and gamma rays.

Drone: an aircraft without a human pilot. Drones can be controlled remotely or autonomously.

Biodegradable: able to be broken down into organic matter by organisms like bacteria, insects, and fungi.

Global Positioning System (GPS): a system of satellites used to locate an object on Earth. GPS receivers calculate their position based on the data they receive from multiple satellites within the network.

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