

TEACHER GUIDE

JUST ROLL WITH IT

KEY TERMS

- Science communication (scicomm)

KEY SKILLS

- Communicating science in different formats
- Communicating science to different audiences

GRADE LEVEL

Middle and high school

NGSS CONNECTIONS

Practices: constructing explanations and designing solutions; obtaining, evaluating, and communicating information

ESTIMATED TIME

30 minutes (flexible)

MATERIALS

- Class set of “audience” and “format” dice (total number of sets depends on class size)
- Class set of “Just Roll With It” worksheet (print or upload to LMS)
- Materials for students to use to create their scicomm (e.g., markers, poster paper, props for skits)

SUMMARY

It’s the end of a lesson, and you want to help students synthesize new content and assess their learning. At the same time, you want to keep them engaged and help them develop their science communication (**scicomm**) skills. This short, easy activity does all of that *and* has lots of built-in differentiation and cultural connections.

“Just Roll With It” is intended to be a brief, interactive, and low-stakes exercise for pairs or groups of students. In this activity, students roll two dice to obtain a scenario they will design a product for - such as making a reel (short video) for a preschooler. As a learning strategy, it can be used over and over throughout an academic year. While we designed this activity as a formative assessment, you can turn it into a summative one or pair it with our [SciComm Organizer](#) and [Science Peer Review Worksheets](#) for a more in-depth exercise.

LEARNING OBJECTIVES

By the end of this activity, students will be able to:

1. Create science communications that are customized for different audiences and formats

This activity can be used to support any content standards - the goal is to have students reinforce their content learning by communicating it in different ways.

PRIOR KNOWLEDGE

None needed, but prior exposure to scicomm recommended.

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BACKGROUND INFORMATION

Science communication or **scicomm** describes how people share scientific knowledge with different audiences, such as other scientists or the general public. Because it can take many forms, effective scicomm requires an understanding of the audience and their needs or interests. Examples of scicomm include a biologist creating a poster about their research to share at a conference, a doctor explaining treatment options to patients, a meteorologist using maps and diagrams to forecast the weather on the news, or a naturalist recording a reel to show their followers a cool insect they found - just to name a few. In each of these scenarios, scicomm reaches a different audience using different formats. Scicomm can educate, entertain, inform, inspire, persuade, and more!

MATERIAL PREPARATION

Activity Overview

We recommend using this activity at the end of a lesson to formatively assess students' understanding of whatever content standards you're covering that day. Because students have about 30 minutes for this activity, they need to work together and use their time efficiently - with practice, students will become more comfortable with the pacing and time allotted to create their scicomm. Like other low-stakes assessments (e.g., quick writes), the goal of this activity is to reinforce learning, so encourage students to prioritize creativity and completion over perfection.

Activity Setup

Because students will work together in pairs or groups to complete this activity, prepare multiple sets of the dice so students can roll them at the same time. If you plan to reuse the dice, you may want to laminate them before assembling. We've also provided a blank die template if you would like to customize or modify this activity for your students.

Beyond preparing the dice, this activity does not require any special equipment or materials. Students can complete the activity on a digital device (e.g., iPad) or physically (e.g., on paper). Prior to the activity, either print the "Just Roll With It" worksheet or upload it to your LMS.

Activity Instructions

1. Introduce the activity to students. For example, *"Now that we've wrapped up our lesson on [science topic], it's time to apply what you've learned in a new and creative way! In the next 30 minutes, with a partner/ group members, you will create a science communication on [science topic] that is customized for a particular audience. The audience and format (how you are communicating) will be assigned by chance, so be ready to 'just roll with it!'"*
2. Assign students a partner or a group.
3. Hand out the "Just Roll With It" worksheet to groups or refer students to your class LMS where you uploaded it. Remind students of the *content standards* they need to address in their scicomm. Because this activity is based on chance, groups will likely receive different scicomm scenarios. Set clear guidelines or expectations of *what* to include in their scicomm and write these somewhere students can refer to during the activity. For example:
 - Define the following terms [...]
 - Illustrate [...] process
 - Explain how [...] affects [...]
 - Propose a solution for [...]
4. Have each group roll the Audience die to determine the target audience for their scicomm. They can re-roll once if they don't like what they got, but they must then design their scicomm for the audience from the second roll. Ask students to record the audience on their worksheet.
5. Next, have groups roll the Format die and choose one of the two formats on the side they roll (each face contains two choices). They can re-roll once if they'd like, but they must then choose an option from the second roll. Ask students to record their chosen format on their worksheet.

If using this activity for the first time, show students examples of different scicomm like a blog, kids' book, or reel. Ask students how they compare and contrast - for example, who is the intended audience?

Tip: assign students roles (e.g., note taker, time keeper, manager) to support accommodations.

(Activity Instructions are continued on the following page)

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6. Give students 5-10 minutes to complete the planning worksheet and then 20-25 minutes to create their scicomm.
7. If time allows, conclude this activity by asking groups to present their scicomm to the whole class or another group. Alternatively, you could use these presentations as a class opener the next day.

EXTENSIONS

- Have students plan their scicomm using our [SciComm Organizer](#) for a more in-depth activity. Then, have students evaluate their scicomm using our [Science Peer Review Worksheets](#).
- Ask students to find a published or publicly-available example of scicomm that relates to the one they created - for example, either the audience, format, or topic. For an added challenge, encourage students to find an example that is the same in all three areas! Then, have students compare and contrast their scicomm with the example and reflect on the following question: *If you were to revise your scicomm, what might you do the same or different based on the example scicomm? Explain.*

ASSESSMENTS

- To help students reflect on what they learned, ask them: *How did creating your scicomm - or reviewing another group's scicomm - help you remember or understand this science topic better?*
- To turn this activity into a grade, you can create a simple rubric to rate the following for each group: *the accuracy of information, how engaging it is, how clearly they communicated their ideas, etc.* You can either grade groups yourself, or have the students grade each other's scicomm!



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STUDENT WORKSHEET

JUST ROLL WITH IT

With your partner or group members, fill out this worksheet to plan and organize your **science communication (“scicomm”)**. Be creative and have fun! Just remember that your time is limited, and you also need to demonstrate your understanding of science content!

1. Audience: _____ **Format:** _____

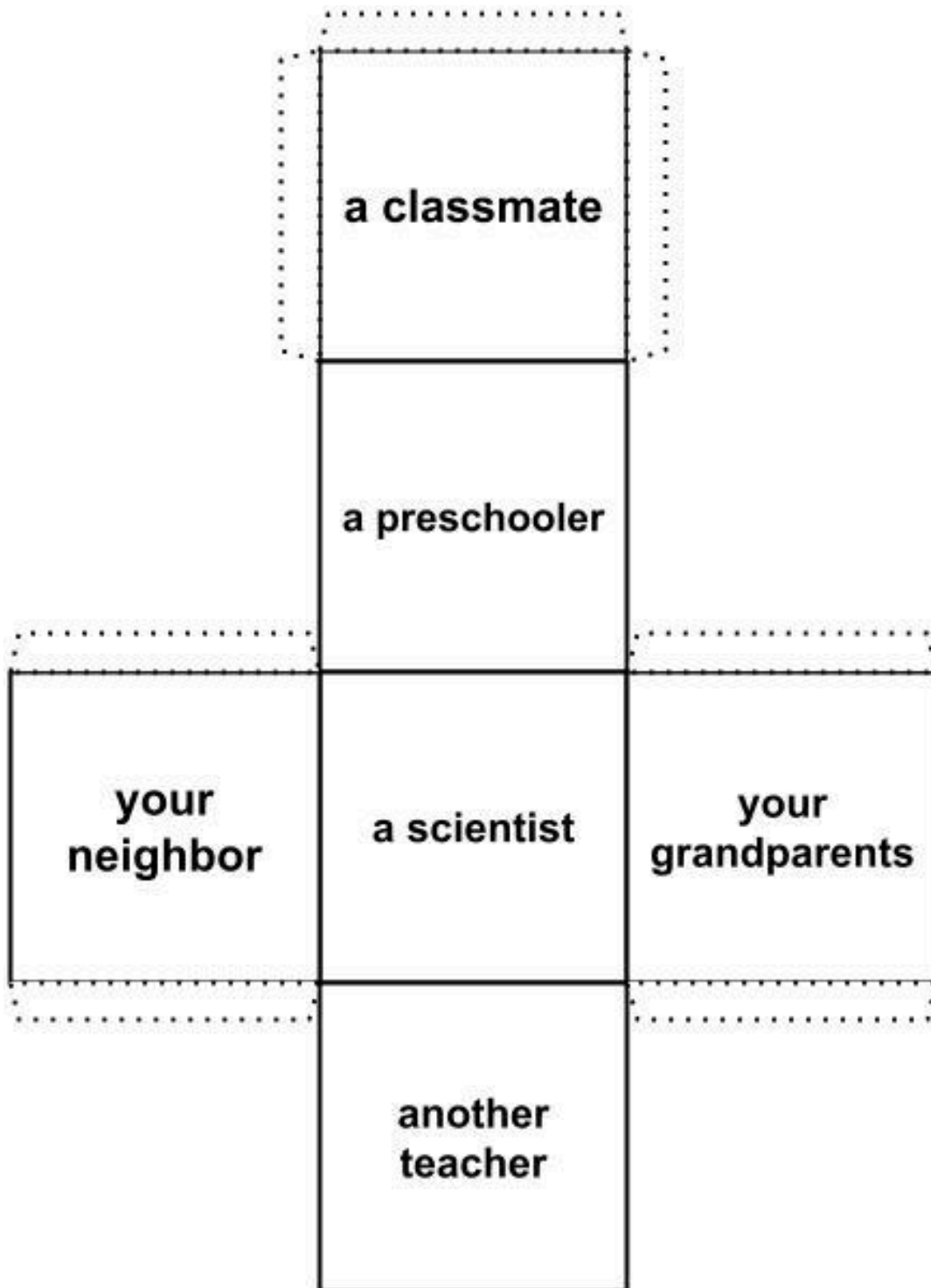
2. What science topic/ main ideas do you need to include in your scicomm? *Identify and describe key scientific concepts. Be specific here because this will outline the “content” you need.*

3. What do you need to keep in mind about your audience? *For example, what they’re interested in, how much they already know about the topic, or how they learn best.*

4. How will you create your scicomm? *For example, who will do what like act/sing, record/speak, or draw/write? What is the general layout or structure of your scicomm?*

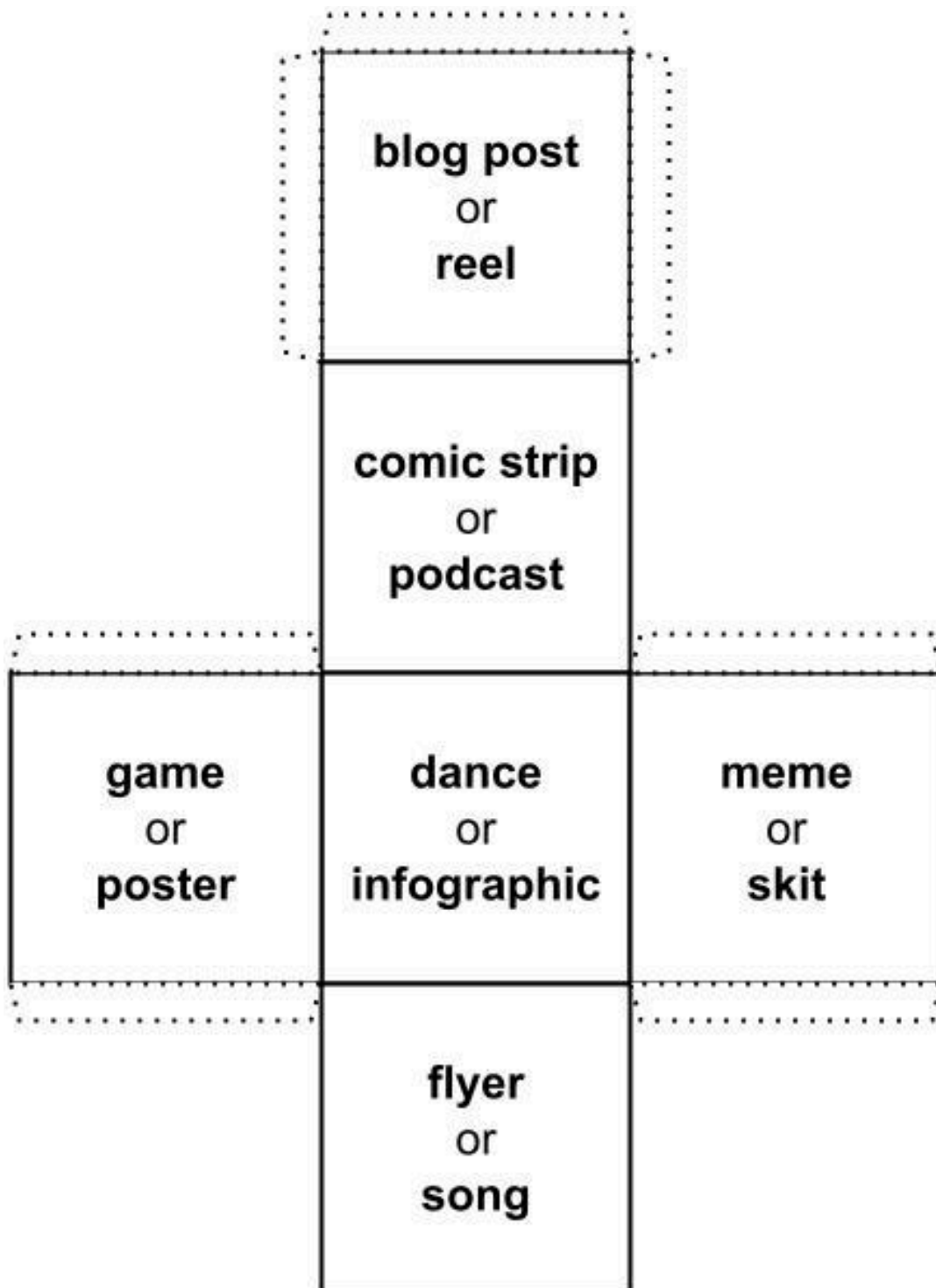
DICE CUTOUTS

AUDIENCE



DICE CUTOUTS

FORMAT



DICE CUTOUTS

BLANK - TEMPLATE

