

Warm-up

First, start the session by having small groups plan an engaging explanation of a scientific concept to young students, such as photosynthesis (or something your students have recently studied). Then, have each group present their explanations, with others providing feedback on how engaging and clear the presentation was.

Teaching Tip

For Exercise 3

First, as this Maker Zone project helps students develop valuable transferable skills they will use in their professional lives, consider setting another round of presentations to be given live or recorded for a group of elementary school students. Then, have students create and deliver presentations. Next, have them explain their thoughts to be shared with younger students. Finally, close the session with a report-back session, answering these questions: *1. What were the biggest challenges you faced while creating the model? 2. What was most difficult about presenting the explanation to the target audience: younger students? 3. How did your group manage the task collectively? 4. Which group was most successful? Why?*

Differentiation Strategy

For Exercise 2

Go to the Differentiation Strategies Bank and adapt this exercise using Strategy 2c.



Teamwork Makes the Dream Work

As you have read, the Big Bang Theory is a theory, not a guaranteed fact, about how the universe came to be, and it proposes that all the celestial bodies we are aware of in the universe, such as stars, black holes, and supernovas, were created from intense heat and particles. Because of the work of Edwin Hubble and others, we now know that the universe is still expanding, and that expansion is accelerating. But do you understand what this means? Could you explain it to a younger student? Successfully? Using physical models of abstract ideas is often an effective way to learn and teach. For example, by using string, dots on a rubber band, balloons, or other mundane materials, we can make the invisible and enigmatic visible and easily understood.

We can understand this paradigm-shifting idea with simple tools by demonstrating the universe's movement with everyday objects. Working collaboratively, listening to our colleagues' ideas, and building models together, we work as partners—something that is key to scientific discovery because science advances when we cooperate, not when we compete. This idea is at the core of the United Nations Sustainable Development Goals—that we can learn more through collaboration. Moreover, it is also said that the knowledge acquired when we work with our hands, building things with others, is the knowledge that sticks.

01 Present!

Once your Maker is done, you're ready! Present live or create a video explaining the idea behind your model and how you worked collaboratively to create it.

02 Discuss!

Watch the demonstrations of the other groups' models and answer the questions.

- › Which most clearly shows the concept?
- › How important was collaboration for each group?

03 Get Informed!

Learn more about demonstrating complex, abstract scientific ideas with ordinary materials, and create another demonstration to share with younger students.

04 Take It on the Road!

With the help of your teacher, invite younger students to watch the demonstrations and ask questions.

DO

Teamwork Makes the Dream Work



In this Maker, you'll work with a group to create a physical model that illustrates the universe's expansion, making the concept clearer for younger students.

1. Research the concept of the expanding universe.
2. Brainstorm different ways the concept could be demonstrated.
3. Choose the tools and materials in the Maker Zone to build your model.
4. Build and test your model.
5. Prepare a presentation explaining why you used these materials.



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Teaching Tip

For Exercise 2

First, have students review the topics of the week in small groups. Then, ask them to individually rank the three most surprising things they learned in the week. Next, close the exercise by eliciting ideas from volunteers and having others in the class raise their hands when they hear something on their lists. Ask students to take a few minutes to reflect on their answers. Afterward, ask them to gather in four groups to share their decisions and feelings about the experience. Encourage listeners to ask follow-up questions. Finally, have a whole-class report-back session on the best strategies from each group.

Wrap-up

First, close the week by inviting students to reflect on the week's most challenging topic (skills for life, science, social studies, arts, language structure). Next, ask students to write their answers on a piece of paper. Then, have students stand and gather with others who chose the same topic. Afterward, have students discuss what they found challenging and what they did to act responsibly in the situation; for example, if they asked the teacher for help. Finally, close the exercise by eliciting different strategies from volunteers. If space allows, post the strategy around the room for future use.



BE Aware of Your Progress



01 It's time for your assessment. First, ask a classmate to help you assess your performance during this week (Peer Assessment). Allow your classmate to provide you with some feedback. Later, assess yourself (Self-assessment) based on how you felt during this week.

VG – Very Good

G – Good

N – Need to Improve

I can...

Peer Assessment

Self-assessment



distinguish how to exercise my autonomy responsibly.

☐
☐


explain the development of the universe.

☐
☐


correlate the legacy of WWI.

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☐


compare and contrast the characteristics of international cinema.

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identify and use **Homonyms** and **Homophones** correctly.

☐
☐


02 Reflect on a time when you felt you acted responsibly.
Answer the following:

- › What type of decision did you make?
- › How did you make the decision?
- › How did it make you feel?

Answers will vary.

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SUPPORT COMES IN
DIFFERENT FORMS.

