

## Unit 1: Lesson 2

### Packing for a River Trip: An Introduction to Economics

**DURATION:** 45 minutes

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#### OVERVIEW:

In this lesson, students will plan for a two-week river trip to learn how the principles of economic thinking are central to all decision making. Following the primary activity, students will be guided through a debrief to introduce them to economic vocabulary and the principles of economic thinking. These principles will be explored in more depth in [Lesson 1.3](#) and [Lesson 1.4](#) and will be used throughout Unit 1.

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#### LEARNING OBJECTIVE:

Students will be able to:

- Explain the role scarcity plays in decision making.
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#### RELEVANT UNIT BIG IDEAS: Scarcity and Decision Making

- Unlimited wants and desires paired with limited resources require us to make choices.
- Decision making is complex and changes based on many factors.

#### RELEVANT UNIT ESSENTIAL QUESTIONS:

- Why do we have to make decisions?
  - How do people make decisions?
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#### MATERIALS:

[Instruction Slides](#) (display during class period)

##### Paper Option

[Student Handout](#) pp. 4–5 (1 copy per student)

[Raft Handout](#) p. 6 (1 copy per pair of students)

##### Electronic Option

[Electronic Student Handout](#) (1 editable copy per pair of students)

Computer with internet access (1 device per pair of students)

Optional: [Additional River Trip Information](#) (1 copy for educator reference)

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#### SEQUENCE:

##### Activator – 3 minutes (Slides 1–3)

1. Display Slide 2 of *Instruction Slides*. Direct students to discuss their responses to the question on the slide with a peer and then discuss as a class. ([Additional educator tips/details/suggested answers are in the notes section throughout Instruction Slides.](#))
2. Proceed to Slide 3 and introduce the learning objective for the lesson. Explain that students will be connecting decisions about a multi-day river trip to the concept of scarcity, and economics more broadly.

### Packing A River Trip – 22 minutes (Slides 4–6)

3. Display Slide 4. Place students into groups of two (three if needed).
4. Distribute one copy of *Student Handout* to each student and one copy of *Raft Handout* to each pair of students. Read the introduction and instructions on *Student Handout* aloud, pausing between sections to allow for questions. **Pro Tip:** Consider drawing a square on the board that is one square foot or tape off a 20–square–foot area on the floor to help students visualize the amount of space they are packing.
  - a. If you are using the electronic option, substitute *Electronic Student Handout* in place of *Student Handout* and *Raft Handout* throughout the lesson.
5. Proceed to Slide 5. Explain the expectations for “packing the raft.” **Note:** Gear can be separated on the grid in order to accommodate placement (such as the Kitchen Kit boxed in purple), but the correct square footage must be represented (in this case 4 square feet for the Kitchen Kit).
  - a. If you are using the electronic option, you do not need to explain the separation of gear but should emphasize that students will type the quantity of each piece of gear that they decide to pack in the blue cells. For example, if a group wants to bring two sleep kits, they will enter 2 into the blue cell next to “sleep kits.”
6. Display Slide 6. Allow students 15 minutes to complete Steps A–B, and as much of Step C as possible, on *Student Handout*. Tell students that they should not worry if they are unable to complete all of Step C as there will be time for the class to discuss these questions later.
7. Circulate while students work to answer questions and clarify as needed.
8. After 15 minutes, move on to the class debrief even if not all groups have finished Step C.

### Debrief – 15 minutes (Slides 7–17)

9. Proceed through Slides 7 and 8 to introduce the class debrief. Ask students to share their response to the question on Slide 8.
10. Proceed to Slide 9. Click to define scarcity and highlight it as the central focus of economic study. Students can add additional notes under the “Debrief Questions” section on *Student Handout*. **Note:** Tell students not to become preoccupied with writing everything down as they will receive more information and examples of each principle of economic thinking in [Lesson 1.3](#) and [Lesson 1.4](#).
11. Display Slide 10 and ask students to share their responses to the question on the slide.
12. Proceed to Slide 11. Click to explain the role of scarcity in decision making and how students applied the cost–benefit principle in their packing decisions. Highlight the role of individual preferences when weighing costs and benefits and making a rational decision. Students can add additional notes under the “Debrief Questions” section on *Student Handout*.
13. Display Slide 12 and repeat Step 11.
14. Proceed to Slide 13. Click to describe how students applied the marginal principle in their packing decisions. Make note that *many* choices are made incrementally. Students can add additional notes under the “Debrief Questions” section on *Student Handout*.
15. Display Slide 14 and repeat Step 11.
16. Proceed to Slide 15. Click to define opportunity cost and explain how students applied the opportunity cost principle in their packing decisions. Students can add additional notes under the “Debrief Questions” section on *Student Handout*.

17. Display Slide 16 and repeat Step 11.
18. Proceed to Slide 17. Click to describe how students applied the interdependence principle in their packing decisions. Again, emphasize the role that individual preferences play in making rational decisions. Students can add additional notes under the “Debrief Questions” section on *Student Handout*.

**Summarizer – 5 minutes** (Slide 18)

19. Proceed to Slide 18. Tell students to confer with their partners about the questions on the slide. Then discuss them as a class. **Pro Tip:** If you used the printed option, consider collecting *Raft Handout* from groups and hanging them around the room. These will serve as a constant visual reinforcement of the principles of economic thinking throughout Unit 1 (Economic Foundations) and as decoration.

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**STANDARDS: Voluntary National Content Standards in Economics**

STANDARD 1 Scarcity

STANDARD 2 Decision Making

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**FEEDBACK & QUESTIONS:**

[Click here](#) to let us know how the lesson went.

Contact Kathleen Cusack with questions at [Kathleen@econiful.org](mailto:Kathleen@econiful.org).

## Student Handout (Packing for a River Trip)

### Packing for a River Trip

Name \_\_\_\_\_

Period \_\_\_\_\_

**INTRODUCTION:** You and your partner are adventurous travelers who have always dreamed of experiencing the Grand Canyon up close by taking a rafting trip down the Colorado River. You finally scheduled the trip and it is **happening next month!** On the inflatable raft, you have your clothing, a table, a set of wooden oars, and all your food in coolers and dry boxes. You and your partner are both wearing your life jackets. You have an additional 20 square feet of available space on the raft to pack the remainder of the gear each of you will want to have with you.

The National Park Service (NPS) requires all river trips in the Grand Canyon to pack certain gear (see shaded boxes in the following table). If you choose to launch your trip without any of the required gear and are later inspected by NPS, you will each be fined \$500.

You and your partner will use the gear you pack to survive the next **two weeks** in the canyon and have the trip of a lifetime. The clock is ticking, and the river awaits – what gear will you decide to pack for this exciting adventure?

#### INSTRUCTIONS:

**STEP A:** Study the table and highlight or circle the gear you want to pack on your raft. Each piece of gear will take up 1, 2, 3, or 4 square feet. You may pack multiples of any piece of gear.

**STEP B:** Name your raft. Each square on the raft grid represents 1 square foot. Label the grid to indicate how you have allocated the 20 square feet to the gear you have selected.

**STEP C:** Discuss the debrief questions below and be ready to share your responses with the class. You may make notes under the questions.

#### Debrief Questions

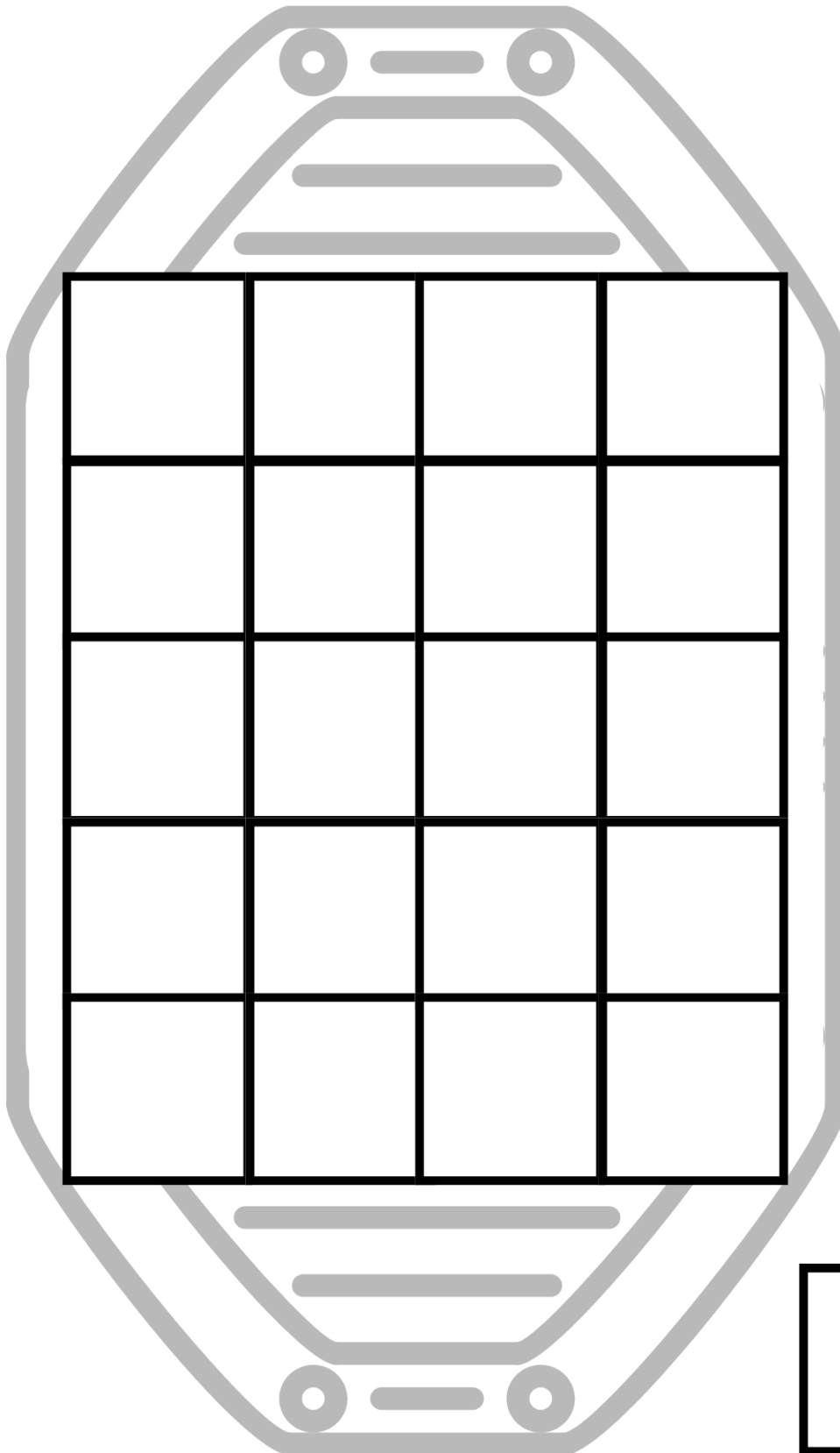
1. What prevented you from packing all the gear on the list?
2. Did you pack all the NPS–required gear on your raft? Why or why not?
3. Did your packed raft include multiples of any pieces of gear? If so, which ones and why? If not, why not?
4. If you had one additional square foot of space on your raft, what would you have done differently?
5. If you had worked alone, would you have made different choices? Explain.

GEAR	FEET <sup>2</sup>	GEAR	FEET <sup>2</sup>
<b>Shade Structure</b> (poles, stakes, and shade cloth)	<b>4</b>	<b>Game Kit</b> (deck of cards and board games)	<b>1</b>
<b>Kitchen Kit</b> (propane, lighter, stove, cooking utensils, pots, pans, oven mitts, and dish soap)	<b>4</b>	<b>Camp Kit</b> (camera, headlamp, book, and two pairs of comfy shoes)	<b>1</b>
<b>REQUIRED One Toilet System</b>			
<b>Advanced Toilet System</b> (like being at home, toilet paper included)	<b>3</b>	<b>Primitive Toilet System</b> (higher yuck factor, toilet paper included)	<b>1</b>
<b>Camp Lounge Kit</b> (two chairs)	<b>3</b>	<b>Meal Kit</b> (two bowls, two plates, two cups, and two sets of cutlery)	<b>1</b>
<b>Tent</b> (includes poles, rainfly, tent body, and stakes)	<b>2</b>	<b>Field Game Kit</b> (horseshoes, frisbee, and football)	<b>1</b>
<b>Large Outdoor/Patio Umbrella</b>	<b>2</b>	<b>Tarp</b> (stakes and cording)	<b>1</b>
<b>Comfort Kit</b> (two full-sized pillows and solar-powered lantern)	<b>2</b>	<b>Water Treatment Kit</b> (filtration system, backup filters, and iodine drops)	<b>1</b>
<b>Sleep Kit</b> (one sleeping bag and one sleeping pad)	<b>2</b>	<b>Communication Kit</b> (satellite phone and rechargeable solar batteries)	<b>1</b>
<b>REQUIRED Raft Emergency Kit</b> (extra set of oars, air pump, repair kit, and throwable floatation device)	<b>2</b>	<b>Rescue Kit</b> (rope and pulley system to get a raft unstuck)	<b>1</b>
<b>Cold Weather Kit</b> (cold weather apparel, e.g., gloves, large coats, long underwear, hats, and hand warmers)	<b>2</b>	<b>Toiletry Kit</b> (two toothbrushes, toothpaste, soap, hairbrush, tissues, sunscreen, and lip balm)	<b>1</b>
<b>REQUIRED Safety Kit</b> (extra life jacket, river map, first aid kit, signal mirror, and ground panels – to indicate landing zone for a helicopter)	<b>1</b>	<b>Luxury Toiletry Kit</b> (shampoo, conditioner, comb, razor, shaving gel, deodorant, and lotion)	<b>1</b>
<b>Survivalist Kit</b> (camp knife, ax, and fishing gear)	<b>1</b>	<b>Shower Kit</b> (portable shower and towel)	<b>1</b>
<b>Dishwashing Kit</b> (two buckets, dish scrubby, dish soap, and dish gloves)	<b>1</b>	<b>Entertainment Kit</b> (cell phone – with movies and music downloaded – portable charger, speakers, and headphones)	<b>1</b>

**Raft Handout (Packing for a River Trip)****Raft Handout**

Name of Raft \_\_\_\_\_

River Runners \_\_\_\_\_ and \_\_\_\_\_



=1  
square  
foot

## **Additional River Trip Information (Packing for a River Trip)**

### **Additional River Trip Information**

*The information below is not necessary for this lesson to be implemented, but may be beneficial if you or your students have additional questions related to river trips in the Grand Canyon.*

#### **Raft Rower and Passenger Seating:**

On a typical multi-day river trip raft, you'll find designated spaces for the rower and passengers. The rower generally takes the rear position, seated on either a dry box or a cooler. These items serve dual purposes; they provide seating while also keeping food, drinks, and other essentials safe from water exposure. Similarly, passengers are positioned at the front of the raft, also seated on dry boxes or coolers. The positioning of the rower and passengers may be reversed depending on the raft design and personal preferences.

#### **Raft Construction:**

Rafts designed for such trips are usually made of robust, resilient neoprene material. This not only ensures durability in rough waters but also provides buoyancy. An aluminum frame is often attached to the neoprene body. It adds rigidity to the raft and offers additional space to secure gear.

#### **Gear Attachment:**

Gear can be securely fastened to the raft in two ways. It can either be attached to the aluminum frame or directly to the neoprene body of the boat. This is usually done using sturdy webbing, which keeps gear in place even during turbulent river conditions.

#### **Isolation in the Grand Canyon:**

Once a group launches from Lee's Ferry it is a self-contained trip and does not have the opportunity to be resupplied should they run out of anything. The only exception to this is water, as the Colorado River provides access to water, although it is highly recommended that the water be treated prior to drinking. While on a river trip in the Grand Canyon, one camps along the river every night, makes their own food, and abides by the "Leave No Trace Principle" – meaning anything a trip brings in with them, they must also take out with them – hence the need for a toilet. This includes human waste, but does not include liquid waste which must be poured into the main channel of the river.

In the case of a dire emergency, trips can signal for help (either with the required signal mirror or with an optional satellite phone – there is no cell service along the river corridor in the park) and may be able to receive assistance in the form of a National Park Service or Department of Public Safety helicopter. However, helicopters cannot land in all locations and do not land at night in order to protect the safety of the flight crew. A trip that signals for, and is deemed in need of help by the National Park Service, may not receive assistance for up to 24 hours depending on other emergencies within the park's boundaries.

The Grand Canyon is located in northern Arizona and can experience a variety of weather conditions (ranging from 110 degrees and sunny in the summer to 20 degrees and snowing in the winter – although there is typically little snow accumulation). Because of variable weather, it is important that river trips are well-prepared and packed for all possibilities.