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Lesson

3

Level

MS

 Los Angeles River: Future

## **Theme:** Human Impact on the LA River: Past, Present, and Future

**Think like an Engineer**

**Big Idea:** Human Impact

**Subject:** Physical, Life, and Social Sciences



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| **Objective** | Students will be able to design a solution to a current problem in the Los Angeles River.  |
| **Connection to Big Idea** | We are interconnected. A missing link in a system has disastrous consequences. By understanding the past, humans have the ability to change the present and future of their environment. |
| **Standards**State, NGSS, CCSS  | See ***Standards Connections G.1-5: Human Impact*** document |
| **Vocabulary** | **Revitalization Biodiversity****Web of life Native species****Non-native species****Invasive species****Engineer****Habitat** | Making something grow or bring it back to life. Variety of species of plants or animals in a habitat. How living and non-living things are connected.A species that is naturally found in that habitat.A species that is ***not*** naturally found in that habitat. Can be brought into the habitat by animals, people, or naturally (wind, scat).A species that is non-native and harmful to the habitat. It takes resources from native species (space, sunlight, water, food).A person who designs, builds, or maintains engines, machines or public works.A place where something or someone lives. |
| **Materials** | Projector & speakersInternet connection for YouTube**River Rover** worksheets **Design Your Future**Copies of **Lesson 3 worksheets**Lesson 3 PowerPoint**Lesson 3\_ContentBackground PDF** for referenceCopies of **Post-Assessment** for ***after field trip*** |
| **Key Points** | **1. Community access (recreation) to the River that is not disruptive to the habitat. Community involvement increases awareness and value for the** |

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|  | **River.****2. Biodiversity/habitat revitalization through increase of native plants and animals/healthy web of life.*** Students have studied the past and present of the River. They were introduced to the future plans for the River at a station on the Rover. The city has 1.8 billion dollars to spend on revitalizing 11 miles of soft/natural bottom of the River (Glendale Narrows).
* Care for the River needs to start today to protect it for the future. Scientists and engineers are inventing devices to treat pollution in a habitat.

**By Lesson #3, students have learned…*** + Why a healthy habitat is important (web of life, biodiversity, habitat function) and how to revitalize a habitat.
	+ How human impact on the River habitat has lead to detrimental consequences: a break down of the web of life, loss of biodiversity, and less habitat.
	+ The LA River habitat has been disrupted by human use through loss of habitat, addition of concrete, runoff from streets, introduction of non- native/invasive species, chemical contamination, and a business-focused design of infrastructure (buildings, bridges, cities).
 |
| **Content Background** | See **Lesson 3\_ContentBackground PDF** in Google Drive folder |
| **Lesson Procedure**Follows 5-Step model | Follow **Powerpoint** instructions and notes |
| **Closing Activity** | 1. ***LA River Promise***

**Closing Activity in Lesson 3 worksheet*** + Students can participate in the **FoLAR River cleanup in April** in addition to their River Promise, but this promise/action should be something they can do after school *this week*. Check on  **FoLAR.org** for cleanup updates.
	+ Post the promises on a poster/wall with a title.
	+ IDEAS: Check back with students periodically to see how they are progressing on their promises.
	+ **Make it a week-long project:** Ask students to make a list on what they have done to help make the River habitat healthier and share as a class at the end of the week.

Go over field trip expectations in PowerPoint |
| **Assessment**  | **Do not give Post-Assessment until after field trip** |
| **Possible Extensions** | **1. Revitalization Plans Video Army Corps Plans for River**LA River Revitalization Corp. - non-profit organization**https://**[**www.youtube.com/watch?v=nDnhyt5NqYc**](http://www.youtube.com/watch?v=nDnhyt5NqYc) |

## During video: Instruct students to look for elements of their future

river design in the actual plans of the Army Corps (in video).

* Provide some examples they could look for: bike paths, native trees, native wildlife, clean water, replaced concrete. (Observations)
* TPS (Think, Pair, Share) - After the video, have students turn to a partner and describe what they saw in the plans and identify what was also in their future river designs.

**Designs for the future focus on:**

1. Community access to the River that is not disruptive to the habitat.
2. Biodiversity/habitat revitalization (it will never be what it once was).

# Visit our website

**folar.org/school-programs/curriculum/**

## for more information resources and links to interactive games to extend learning!

1. **Letters to FoLAR**

**We read all of them!**

Students write letter to FoLAR about 1). One important thing they learned about the LA River. 2). How they will help the River. E-mail or snail-mail letters to: Friends of the LA River 570 W. Avenue 26 #250, Los Angeles, CA 90065

