**Grade:** 4th

**Subject:** English Language Arts (ELA)

**Lesson Title:** The Wonderful World of 3D Printing: From Imagination to Creation

**Learning Objectives:**

* Students will be able to define 3D printing in their own words.
* Students will be able to identify the basic steps involved in the 3D printing process.
* Students will be able to write a paragraph describing a potential use of 3D printing and explaining why it would be beneficial.

**Essential Questions:**

* What is 3D printing?
* How does 3D printing work?
* What are the possibilities of 3D printing?

**Content Standards:**

* **RI.4.1:** Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text.
* **W.4.2:** Write informative/explanatory texts to explain a process, concept, or event in an organized and logical way, including the following:
  + Introduction with an engaging hook
  + Body paragraphs that develop the topic through elaboration
  + Conclusion that summarizes key points

**Learner Relevance:**

3D printing is a rapidly growing technology with the potential to revolutionize various fields. Exposing students to this innovative concept sparks curiosity, encourages them to think creatively about problem-solving, and connects the lesson to real-world applications.

**Differentiation:**

* **For students who need additional support:** Provide visuals and graphic organizers to illustrate the 3D printing process. Offer sentence starters or a word bank to support paragraph writing.
* **For advanced learners:** Encourage them to research specific applications of 3D printing in their areas of interest and present their findings to the class.

**Formative Assessment:**

* Observe students' participation in class discussions to gauge their understanding of 3D printing.
* Collect students' written paragraphs to assess their ability to define 3D printing, describe its process, and explain its potential benefits.

**Sources:**

<https://www.madebyteachers.com/products/andrew-johnson-u-s-president-biography-and-assessment/>

<https://www.iowaagliteracy.org/Article/Pizzathon-Lesson-2-Natural-Resources>