Title of Book: **One Grain of Rice**
Author: **Demi**
Publisher/Year: **Scholastic Press/1997**
ISBN: **059093998X**

Grade Levels for Recommended Use: 6th

TEKS:

6.7 Expressions, equations, and relationships. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:

(A) generate equivalent numerical expressions using order of operations, including whole number exponents, and prime factorization; Readiness Standard

Brief Summary: One Grain of Rice is an introductory lesson for 6th grade students for exponents. It gives the opportunity for students to practice pattern recognition and begin learning exponents and exponential growth.

Materials needed:

- Owls
- Bag of rice
- Copy of Graph (pg. 3)
- Calculators

Suggested Activity:

Raja	The King
Rani	The hero of our story, the young girl
storehouse	A place where grains like wheat or rice are kept safe
famine	An event where a lack or rain or some over event causes crops to fail meaning there is no food for people

Table 1: Story Vocabulary: introduce prior to lesson

1. Review vocabulary: "Have you ever heard of an exponent?" Show example formula on board. Have students share what they know. If a student is advanced, have them write what they know to compare later.

2. Introduce book. Read until Rani asks for one grain of rice.

3. Give each student one grain of rice from the bowl.

4. Read until Rani has four grains of rice.

5. Ask: "What pattern do you see happening?" Have students predict.

6. Have students calculate the next number themselves.

7. Share predictions again, ask if students think Rani will get enough rice.

8. Finish reading, minus the final page with the total number.

9. Distribute graph copies to students.

10. Have students add the total rice from all days.

11. Reveal final number from the book.

12. Teach vocabulary - exponent, exponential growth - using graph to visualize.

13. Have students practice exponents:

a) I will visualize examples on board - 2^2, 3^2, 3^3 written out.

b) We will do practice problems on board together.

c) You will practice individually as I monitor.

References:

Link to Book: https://shop.scholastic.com/teachers-ecommerce/teacher/books/one-grain-of-rice-9780590939980.html
Link to Worksheet: https://www.mathinenglish.com/PWkS/grade6/exponents.pdf

Adapted by: Alison McEwin (2023)

NAME:

Day 1 1	Day 2 2	Day 3 4	Day 4 8	Day 5 16
Day 6 32	Day 7 64	Day 8 128	Day 9 256	Day 10 512
Day 11 1,024	Day 12 2,048	Day 13 4,096	Day 14 8,192	Day 15 16,384
Day 16 32,768	Day 17 65,536	Day 18 131,072	Day 19 262,144	Day 20 524,288
Day 21 1,048,576	Day 22 2,097,152	Day 23 4,194,304	Day 24 8,388,608	Day 25 16,777,216
Day 26 33,554,432	Day 27 67,108,864	Day 28 134,217,728	Day 29 268,435,456	Day 30 536,870,912

Add up all the numbers to find out how much rice Rami had at the end of 30 days

Total number = _____