STEAM and Literacy
‘STEAM’ing Up Summer Reading

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Goals of STE’A’M

1. Engage Students Interest in STEM at An Earlier Age

2. Increase Proficiency in These Areas

3. Entice Students to Pursue Careers in the STEM Fields
The Great Debate
Integrating Literature into STEAM

• Peaking Youth’s Interests

• Reinforcing Language

• Reinforcing Concepts

• Engaging Youth in Problem Solving
“We need to engage children in wanting to learn, wanting to solve programs. One way we can interest them is through literature.

Dr. Ann Assad, associate professor of mathematics and statistic at Austin Peay State University
Animal Teachers

BUG DETECTIVE
Amazing facts, myths, and quirks of nature
Maggie Li

NEIGHBORHOOD SHARKS
Hunting and the great California fall
Katherine Catley

Chasing Cheetahs
IN THE RACE TO SAFETY AND SPEED
ANNA LISS

LOOK UP!
Bird-Watching in Your Own Backyard
Annette LeBlanc Cabe

Fighting Fire!
Ten of the Deadliest Fires in American History and How We Fought Them
Michael L. Cooper
The Toy and The Twister
by Gillian King-Cargil
Reinforcing Language

- Hazy
- Gravity
- Mist
- Debris
- Hail
- Conducting
Reinforcing Concepts

• Create a Jarnado
Problem Solving

• Read a Book and Identify the Problem
• Brainstorm
• Design a Solution
• Get Feedback
• Improve Design
• Share
Engineering Design Process

Step 1: DEFINE the Problem
Step 2: RESEARCH the problem
Step 3: BRAINSTORM possible solutions
Step 4: CHOOSE the best solution
Step 5: BUILD a model or prototype
Step 6: TEST your solution
Step 7: COMMUNICATE your solution
Step 8: REDESIGN as needed

CRITERIA: specifications to be met by your design
CONSTRAINTS: limiting factors to consider
PROTOYPE: a test model that contains only the essential design features
Goldilocks & the Three Bears

Design a:

1. Security system for the door
2. Escape method for Goldilocks
3. A stronger chair

The bears are your customers!
A Collection of Elementary STEM Design Challenges Based Children’s Literature

• The Three Billy Goats Gruff
• Yertle the Turtle
• Curious George and the Hot Air Balloon
• Dogzilla
• Humpty Dumpty
• Franklin is Lost
• Curious George: The Boat Show
• Huff and Puff (Version of the Three Little Pigs)

Public libraries throughout northern Illinois are partnering with Northern Illinois University's STEM Read to provide year-round programs for K-12 readers. Students, educators, and librarians can join their virtual community to read selected science fiction books, watch online talks from STEM experts and authors, play games that explore the science behind the fiction, and write collaborative sci-fi stories. STEM Read also hosts live events and interactive field trips and offers free book extensions that provide standards-aligned lessons and activities for educators and librarians. Book explorations include James Dashner's "The Maze Runner," Kat Falls' "Dark Life," Aaron Reynold's "Carnivores," Andrea Beaty's "Rosie Revere, Engineer," and many others.

http://www.stemread.com/
Fairy Tales

- Henny Penny
- Stone Soup
- The Princess and the Pea
- Rapunzel
- The Golden Goose
- Little Red Riding Hood
- Jack and the Beanstalk
- Goldilocks and the Three Bears

http://www.starfisheducation.com/2015/02/teaching-stem-through-fairy-tales-10-engaging-activities-for-primary-students.html
Reading Rockets

• Reading and writing occurs across the curriculum, including the sciences. Schools today are placing more emphasis on STEM: Science, Technology, Math and Engineering in the elementary classroom. Learn more about how to strengthen literacy, inquiry, and problem-solving skills, and how to connect kids with high-quality nonfiction and informational books.

http://www.readingrockets.org/reading-topics/stem-literacy
Resources

• NSTA Books & Resources http://www.nsta.org/publications/ostb/

