

# PECAN PARK OPEN DOORS

*I am braver than I believe,  
I am stronger than I seem,  
And I am smarter than I think.*

**April 6 – 10, 2020**

**Note from Mrs. Carlisle:** *Just think: one day when you are old, old, old you will be able to tell your grandchildren what it was like in The Olden Days during quarantine time. They probably will not believe you!*

*This week I thought you might like to try an engineering challenge. I think this activity only needs materials that you already have. Be sure to ask for a parent's permission before trying this.*

*I miss you and hope that you and your family are well.*

## **Stick Raft Engineering Challenge**

The Question: Pretend you have a Lego person who is stranded on a desert island. Can you build a raft that really floats so that the person will be saved?

**First plan** your raft by thinking and drawing a plan. What materials will you need? Here is a possible list but you may have other ideas.

Materials: sticks, water, string, paper or cloth if you would like to add a sail

**Next build** your raft. You may have to change your plan but that is part of engineering. Remember – ideas that don't work are just as important as ideas that do work!

**Now test** your raft in a plastic container of water, a sink, or a bathtub. Did it work like you thought it would?

**Make changes** as you think about ways to improve your raft.

**Choose a few questions** and experiment to find the answers:

- How much weight can your stick raft carry?
- Do all sticks float whatever their size?
- Can your raft survive a “waterfall”?
- Is there a raft size that is best?
- Should each stick in the raft be the same length?
- Should all sticks go in the same direction?
- If you add a sail, test different sizes to determine which works best.

**\*\*\*If you run into trouble and need some advice, go to this video to see someone building a raft out of sticks:**

<https://www.youtube.com/watch?v=aQNYndeel8U&t=14s>

## **Build Your Own Smart Phone Projector**

This is a project that I think would be great fun for you to try. Would you like to build a smart phone projector so you can show movies or photos from your phone onto a wall?

Materials: smart phone, small cardboard box, scissors, tape, a magnifying lens (Remember: I gave you a magnifying lens so you will need to find it.)

Go to this website <http://thestemlaboratory.com/smart-phone-projector/> for step-by-step directions.

**COMING UP NEXT WEEK:**

**SOMETHING THAT WILL WORK YOUR BRAIN!!!**