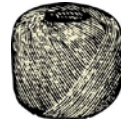# 6th Grade District Wide STEM Challenge
Design Documentation Reference Sheet
2016-2017

Design a hovercraft that will hover the longest!

Every 6th grade class is invited and encouraged to participate!!

The strongest 3 designs from each school will be invited to compete at the District STEM Community Night on April 20th at Elk Ridge Middle School.

DESIGN & BUILD A HOVERCRAFT

CHALLENGE

Teams of 2 designers are challenged to design **and** build a hovercraft that will hover. the longest.

CONSTRAINTS

Only items in the kit may be used to build the hovercraft.

Kit Includes: straws, string, tape, foam plate, craft sticks, and balloons.

Students must **document** the Engineering and Design Process for their hovercraft.

- ❖ Your hovercraft needs to be built according to your design and must hover
- ❖ **Documentation** of the Engineering Design Process must be submitted at the Jordan School District STEM Challenge venue with each hovercraft entry
    - ❖ You will need to use the 5 Step Engineering Design Process to show the steps you followed to build your hovercraft
- ❖ Each school (not class) can only send up to three (3) projects to the Jordan School District STEM Challenge

Click here to reserve your kits today.

Be patient…it takes about 10 seconds to load.

ENGINEERING DESIGN STEPS

1. ASK:

Do you *understand* the criteria and constraints involved? Describe them below.

Criteria:

Constraints:

2. IMAGINE:

Brainstorm ways you could build your hovercraft.

Sketch 2 to 3 designs using your brainstorming ideas.

Choose a final design.

3. Plan:

Draw a final design of the one you think will work the best.

Label the parts in your design.

4. Create:

Follow the plan and *build* your hovercraft.

Test it to see if it works and *record* the results.

5. Improve:

With the results, *discuss* ways you could improve your design to make it work better.

Record your ideas.

Modify your hovercraft and *test* again. *Record* results.

Continue testing, improving, and recording until you are satisfied.