TIPS FOR YOU!

Just a few things to remember about using procedures in a STEM event.

Teach procedures. Remember, just telling students how something should be done is usually not enough. Repeated reminders, modeling, demonstrations, and lots of practice is the key.

Be intentional. Think through how you would like to see planning and teamwork occur. Explain it to students. Demonstrate. Repeat until it becomes a routine that is followed.

Model. Pretend you are the student. Talk through what you would do for sketching, sharing, and decision making.

Demonstrate. Have one group work through the step you are teaching as the others watch. When you are ready for the next step of your procedures lesson you might choose a different team.

Practice. After each small part have every team carry out the parts of the lesson you just shared with them. They have listened to you and watched a demonstration. Now, it is their turn.

Repeat. Do this every time a class is ready for STEM. Repeat the entire sequence of lessons until it begins to be routine.

Narrow the lesson. After repeating the procedural lesson a few times, try narrowing the lesson a little. Let the class know you will use a clue phrase. Start, with Sketch your idea. Later, you can change this just to sketch and teams will know that it is time for every student to sketch his or her idea.

Post your one-word cues. Tell students you will always remind them to follow the procedures for planning by using one-word cues.

SHORT PHRASES	ONE-WORD CUES
Sketch your ideas	Sketch
Share your ideas	Share
Make a decision	Decide
Choose jobs	Jobs

Does this take a lot of time? At first, it does. However, just like teaching procedures in a regular classroom, the payoff is huge. After about a month some classes will be planning without your cues. Others may still need the phrases or one-word cues. The key for this to work is to be intentional with teaching your expectations, model, and practice. Your goal is for these procedures to be followed even if you do not announce cues!

A PLANNING PROCEDURE FOR KIDS!

You have explained the STEM Project, you have the materials ready, students are in their groups, and it's time to plan! Here's a simple procedure to help this go smoothly- with some reminder tips, and a bonus!

Materials are ready and the constraints of the task are known. Time to plan! Students have sketching supplies ready.

Sketching

Every student sketches an idea. Follow the task rules. Label your sketch. What about kids that can't draw? Assure them that it is not the artistic ability we are looking for in the sketch. It's a representation of the idea.

What if someone would rather write? A description of the idea also works fine.

Why label it? The labels show how the materials will be used and this is needed in case the project is not finished in one session. It helps you remember what to do.

What if a student says he or she does not have an idea? Sketch something anyway! Talk to the student to encourage some thinking and he or she will likely have something to draw.

Sharing

Each team member has a sketch or written description of an idea ready to share. Each student stands before his or her team and shows the sketch and tells about the idea. This includes why it is a good idea. Others may ask questions.

What if a student doesn't want to share? Have the student talk to you. This may help the student to get ready to speak to the group – especially with your encouragement to do so.

What if someone is painfully introverted and just won't do it? Ask the student to tell his or her team, "I do not want to share my sketch, but I will help decide what to build and I will do my job to help get it done." Or something similar to this!

Each team member has shared an idea. Everyone has listened to all ideas. Deciding

The team talks about how to combine ideas or what to choose – including a Plan B. Coach the groups with questions like these: "Which of the ideas do you think is best and why?"
"If your idea is the best, what makes it the best?"
"Is there a way to combine any of the ideas?"
"Could you use one idea and then have a Plan B in case something goes wrong?"

"Are the ideas similar? Could you use something from everyone?"

Jobs

The decision for how to build a structure has been made. Materials are ready. The team makes a list of jobs that might be needed for the task. There should be at least one job for every team member.

This will differ from one challenge to the next based on the rules of the task. Some typical jobs include tape manager, data collector, writer, main builder, garbage patrol, and retriever. When the list is ready, the team decides who will do each job.

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If you have any questions or concerns, please email me at teachersareterrific@gmail.com.



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