

FIRST ROBOTICS COMPETITION SEASON KICKOFF & BRAINSTORMING

CODE RED ROBOTICS TEAM #2771

AGENDA

- **INTRO AND GET INTO TEAMS 0:05**
- **WHAT HAPPENS AT KICKOFF 0:15**
- **GAME REVEAL 0:05**
- **RULES REVIEW 0:15**
- **BREAK 0:05**
- **TEAM BRAINSTORMING 0:45**
- **TEAM PRESENTATIONS 0:30 (APPROX. 5 MINUTES PER TEAM)**

MOCK KICKOFF - GET INTO TEAMS

5 MINUTES

- **COUNT OFF AND GROUP!**
- **INTRODUCE YOURSELF – NAME, TEAM, WHERE YOUR TEAM IS LOCATED**
- **PICK A TEAM NAME – THE MORE SILLY, THE BETTER**

WHAT HAPPENS AT KICKOFF?

- **YOU GET TO TALK TO OTHER TEAMS**
- **LOCAL SPEAKERS TALK ABOUT FIRST AND WHY IT'S IMPORTANT**
- **WORLDWIDE KICKOFF BROADCAST**
 - **MORE SPEAKERS: DEAN, WOODY, AND DON**
 - **KIT OF PARTS INFO**
 - **SCHOLARSHIP INFO**
- **GAME REVEAL ANIMATION / DOCUMENT (AND VR?) UNLOCK PASSWORD (DOWNLOAD ENCRYPTED MANUALS BEFORE KICKOFF)**
- **FIELD REVIEW VIDEOS**
- **POST BROADCAST**
 - **PICKUP YOUR KIT OF PARTS AND VOUCHERS**
 - **GAME REVIEW AND BRAINSTORMING**



WOODIE FLOWERS

- **CO-FOUNDER OF FRC**
- **MIT PROFESSOR**
- **GRANDFATHER OF ROBOTICS COMPETITIONS**
- **WOODIE FLOWERS AWARD NAMED IN HIS HONOR**

DEAN KAMEN

- **CO-FOUNDER OF FRC**
- **INVENTOR OF THE SEGWAY, PORTABLE DRUG INFUSION PUMP, WATER PURIFICATION, ROBOTIC ARMS, AND MUCH MORE.**

DON BOSSI

- **PRESIDENT, FIRST**
- **MANAGES THE DAY TO DAY OPERATIONS OF THE FIRST ORGANIZATION**

VIRTUAL FIELD REVIEW

- **NEW FOR 2019**
- **NO PHYSICAL FIELD ELEMENTS AT KICKOFF**
- **VIRTUAL REALITY FIELD SIMULATION**
- **DETAILS TO BE RELEASED...**
- **PLANS WILL STILL BE AVAILABLE FOR TEAM FIELD ELEMENTS**

GAME REVEAL

BEFORE WE GET TO THE GAME YOU NEED TO KNOW WHAT TO DO WITH IT...

READ THE RULES!!!

ALL OF THEM!!

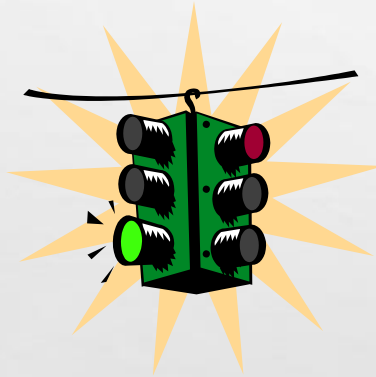
READ THEM AGAIN!

ASK QUESTIONS!!!!

TWO THINKING PROCESSES

GREEN LIGHT THINKING

- DEFERRED JUDGMENT
- “BRAINSTORMING”
- FOCUS ON QUANTITY
- IDEA FLUENCY



RED LIGHT THINKING

- JUDICIAL
- DECISION-MAKING
- FOLLOW GREEN-LIGHT
- FOCUS ON QUALITY

The Key: Always Separate Them!!

DRIVING INNOVATION OVERVIEW

ALL SEASON

1. **VISUALIZATION**
2. **FACT FINDING**
3. **PROBLEM OR OPPORTUNITY FOR IMPROVEMENT FINDING**
4. **IDEA FINDING**
5. **SOLUTION FINDING**
6. **ACCEPTANCE FINDING**
7. **IMPLEMENTATION**
8. **FOLLOW UP**
9. **EVALUATION**

Kickoff Brainstorming

Build Season

Competition Season



BRAINSTORMING SESSION

- **DID WE SAY READ THE RULES???**
- **DO NOT TRY TO DESIGN A ROBOT!**
- **WHAT ARE ALL THE POSSIBLE WAYS TO SCORE?**
- **STRATEGY**
 - **WHAT ARE THE KEY ASPECTS OF THE GAME?**
 - **WHAT IS NECESSARY TO GUARANTEE VICTORY? IS THAT POSSIBLE?**
 - **HOW WOULD YOU PLAY OFFENSE? DEFENSE?**
 - **WHAT ARE THE “BEST” STRATEGIES A ROBOT CAN PLAY?**
- **AUTONOMOUS & END GAME PERIODS:**
 - **WHAT IS DIFFERENT AND IS IT WORTH IT TO DESIGN FOR THOSE DIFFERENCES?**
- **PREDICTING**
 - **ALLIANCE SCORE FOR AN AVERAGE GAME?**
 - **SCORE FOR THE BEST TEAMS?**

BRAINSTORMING SESSION

- **DID WE SAY READ THE RULES???**
- **ROBOT DESIGN**
 - **WHAT ARE THE CRITICAL CAPABILITIES A ROBOT NEEDS TO BE SUCCESSFUL?**
 - **WHAT DRIVE TRAINS MIGHT WORK BEST? TANK, MECANUM, SWERVE, BUTTERFLY, ETC.**
 - **WHAT KIND OF MECHANISMS WILL BE MOST EFFECTIVE AT INTERACTING WITH THE GAME PIECES?**
 - **MINIMUM COMPETITIVE ENTRY: WHAT IS THE SIMPLEST ROBOT THAT CAN STILL EFFECTIVELY PLAY THE GAME?**
- **IF YOU HAVE PRIOR FRC EXPERIENCE, IS THIS SIMILAR TO PREVIOUS GAMES? WHAT WORKED WELL IN THOSE GAMES?**

QUESTIONS?

SEASON RESOURCES

- ***FIRST*Game & Season Page**
- **WPI Screen Steps Resources**
- **Rule Updates**
- **Q&A System**
- **Chief Delphi, *FIRST*Forums, The Blue Alliance**
- **Local Veteran Teams!**
- **Ri3D, MCC Robots**

MOCK KICKOFF RESOURCES

coderedrobotics.com/mko

Much thanks to Team 3847 and Pittsburgh *FIRST* for resources included in this presentation.