



### **Bury Carbon Dioxide (Carbon Sequestration):**

**Mission:** Move carbon dioxide (the gray balls) to the underground reservoir. For each carbon dioxide to score, it must be touching the reservoir model and/or the mat within the model, but it must not be touching the mat outside the model. Scoring carbon dioxide (balls) are worth 5 points each.



### **Construct Levees:**

**Mission:** Move levee blocks to low-lying shores while being careful not to damage the ones that are already in scoring position. For each block to score, it must be upright and touching low-lying shores on the mat. Scoring blocks are worth 5 points touching red and 4 points touching green. Blocks touching both red and green shores are scored as touching red only.

NOTE: Levee blocks are this year's touch penalty objects.

When an active robot is touched while it's completely out of Base, the referee will take one levee block off the field, out of play, starting with those that are in Base. If there are none in Base, the one currently farthest west in the field will be taken. If the only levee blocks available are being moved by the robot at the time of the touch, one of those will be taken after the robot is carried back to Base. If all 8 levee blocks have been taken already, there is no loss.



### **Test Levees:**

**Mission:** See how levees survive when a storm approaches (activate the wheel-roller). The wheel must be allowed to roll freely until it either hits or misses the levees. The activation is worth 15 points whether the levees are hit or missed, but worth no points if the wheel is strategically blocked by anything other than released levees near or past the green shore.



### **Raise The Flood Barrier:**

**Mission:** The barrier in the up position (red lever down) is worth 15 points.



### **Elevate The House:**

**Mission:** The house in the up position (red lever east) is worth 25 points.



### Turn Off The Lights:

**Mission:** The window showing black is worth 20 points.



### Open A Window:

**Mission:** The window all the way open is worth 25 points.



### Get People Together:

**Mission:** Three or more red/white citizens touching the pink grid area is worth 10 points. Three or more blue/gray leaders touching the tall, green mountain and/or city is worth 10 points. Three or more black/white scientists touching the research area is worth 10 points.



### Find Agreement (Align The Arrows):

**Mission:** Before the match starts, the referee sets the yellow arrows in random disagreement. Alignment of both yellow

arrows is worth 40 points for both teams, no matter which direction the alignment faces and no matter if one or both robots helped.



### Fund Research Or Corrective Action:

**Mission:** Move money (the yellow ball) to the research area or to the underground reservoir. For the ball to score, it must be touching the underground reservoir or research area (ice sheet) models and/or the mat within those models, but it must not be touching the mat outside those models. The scoring money is worth 15 points.



### **Deliver An Ice Core Drilling Machine:**

**Mission:** Move the core drilling machine to the research area. For the machine to score, it must be making direct contact with the research area model and/or the mat within that model, but it must not be touching the mat outside that model. The scoring machine is worth 20 points. The drill assembly raised completely vertical is worth an additional 10 points.



### **Extract An Ice Core Sample:**

**Mission:** The ice core pulled completely from its hole is worth 20 points. The ice core in Base is worth an additional 10 points.



### **Deliver An Ice Buoy:**

**Mission:** Move the ice buoy to the research area. For the buoy to score, it must be upright and making direct contact with the research area model and/or the mat within that model, but it must not be touching the mat outside that model. The scoring buoy is worth 25 points.



### **Insulate A House:**

**Mission:** Move the insulation to the green grid area. Both insulation touching the green grid area is worth 10 points.



### **Ride A Bicycle:**

**Mission:** Move the bicycle to the green grid area. The bicycle touching the green grid area is worth 10 points.



### **Telecommute And Research:**

**Mission:** Move the computer to the green grid area. The computer touching the green grid area is worth 10 points.



### **Study Wildlife:**

**Mission:** Move the polar bear and/or the snowmobile to the research area. To score, they must be making direct contact with the research area model and/or the mat within that model, but they must not be touching the mat outside that model. The scoring bear is worth 15 points upright, or 10 points "sleeping" (on its side), and the scoring snowmobile is worth 10 points.



### **Beat the Clock:**

**Mission:** At the end of the match, if the robot is making direct contact with the research area model and/or the mat within that model, but it's not touching the mat outside that model, that's worth 15 points. At the end of the match, the robot touching only the yellow grid area is worth 10 points.