

## CRAB- lesson plan #1

### \*Call attendance and fill out attendance sheet!

#### **1. Disassemble leg parts – Do not file! (5 mins)**

- Students disassemble only the leg parts that must be glued together!!! (See photo on next page)
- For now don't file these parts.

#### **2. Color wooden plate – without leg parts (25 mins)**

- Arrange a designated painting station with tablecloths and paper plates with paint!
- Make sure students don't dirty the classroom!!! Spread tablecloths well and tell students they may not paint outside the designated painting area!
- **Students will paint at the designated painting station ONLY and everyone must paint! (Students who miss this class, will not paint their robot!)**
- It is recommended to paint the dinosaur in one color only and not to mix several colors! (Every dinosaur may be in a different color)
- Hand out a wooden plate to each student and explain that the painting is very important: 1. The paint adds another layer, which helps the parts connect better. And 2. The paint protects from future damage.
- Hand out a sponge to each student. Explain to dip the sponge in paint, squeeze it and only then apply the paint on the plate.
- After they finish painting one side, put the sponge aside and use paper towels to wipe any liquid remaining. **Plate must be as dry as possible.**
- Only after one side is dry, turn over the plate and do the same thing.
- After students finish painting, put all plates aside, and write students' names on plates.
- Instructor will wash sponges and plates after class.
- Fold up the tablecloth and return it to your instructor's case until next time. **DO NOT throw away sponges or plates!**

#### **3. File and glue leg parts (15 mins)**

- File the parts that were disassembled at the beginning of class.
- After filing, let students try and assemble legs on their own.
- Those who assembled them correctly receive glue and glue parts together.
- Make sure students don't apply too much glue so that it can try before class ends.
- Students who apply too much glue must wipe some of it off using a paper towel.

#### **4. Assemble servo circles (15 mins)**

- Make sure circles are assembled in the right direction.
- Insert 2 bug screws through the wood into the hinge.

#### **5. Collect and check parts (5 mins)**

- Call students name alphabetically, and put each student's name on his/her plate.
- Each student's robot parts will be put into his/her own plastic bag.
- **Make sure the painted plates are stored in a place with some air.**

Time in minutes	Activity name	Comments
5	Disassemble leg parts	Do not file them
25	Paint and let dry	Follow directions
15	File and assemble leg parts	Make sure parts are glued well
15	Assemble servo circles	Notice assembly direction
5	Collect and check parts	Students names on plastic bags
Total: 60 mins		



This is the crab's wooden plate



Disassemble legs **before** painting (as shown in this picture)



**After painting:**

As you wait for plates to dry, assemble leg parts. Those who assembled parts correctly receive glue, and glue leg parts together.



**After gluing leg parts:**

Screw 2 bug screws into the wood.

**Notice the legs face the right way** (the screws are inserted from above)



**Screw servo circles:**

Screw the servo circle to the leg's bottom part

**Notice that the hinge's sticking out part is facing downward** (not toward the wood)



Assembled legs with hinges

**Notice directions of assembly**