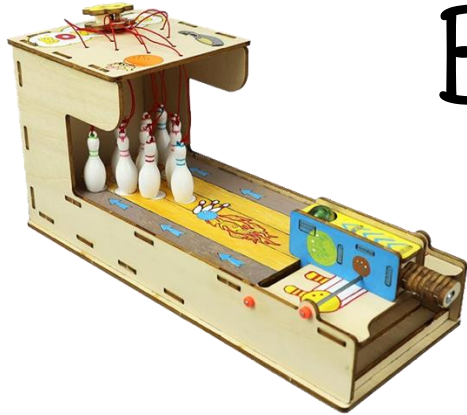# Battery Powered Dragonboat
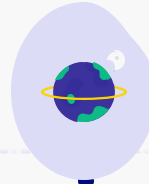
GREENRIDGE PRIMARY SCHOOL

Empathize/ Define

Bra

Prototype

Design Thinking for Invention

Design Thinking for Invention

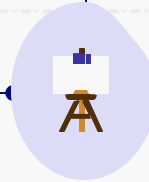## 1. Empathize

Develop a deep understanding of the challenge

4. Prototype

Design a prototype for your solution

2. Define

Clearly articulate the problem you want to solve

3. Ideate/Brainstorm

Brainstorm potential solutions
Select and develop your solution

Design Thinking for Invention

See   Observe the dragonboat. What do you see? What makes them move?

Think   Manual vs mechanical. What are the advantages of using mechanical engineering to move the dragonboat?

Wonder   How else can you improve the dragonboat?

Discuss   Share your observations and insights with the class.

1. Empathize

Discuss and map out what are the issues when rowing a dragonboat? Who are rowing the dragonboat? How are they making the dragonboat move?

2. Define

Formulate a problem statement, e.g., "How might we make it easier to row the dragonboat and make it go faster?"

3. Ideate/Brainstorm

Explore different designs and mechanisms for rowing the dragonboat. How would the dragonboat be designed?
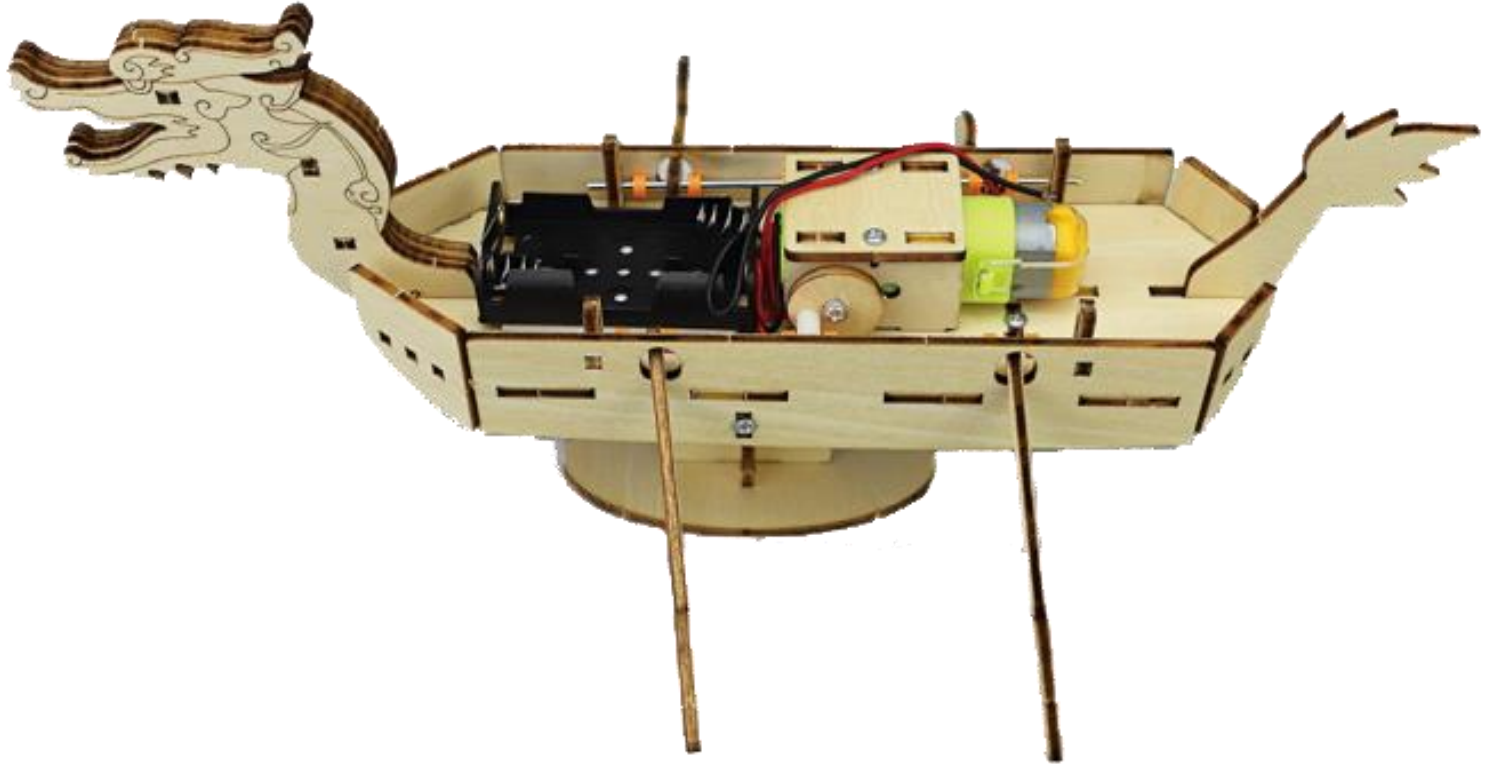
4. Prototype

Build and test your DIY Battery Powered Dragonboat.
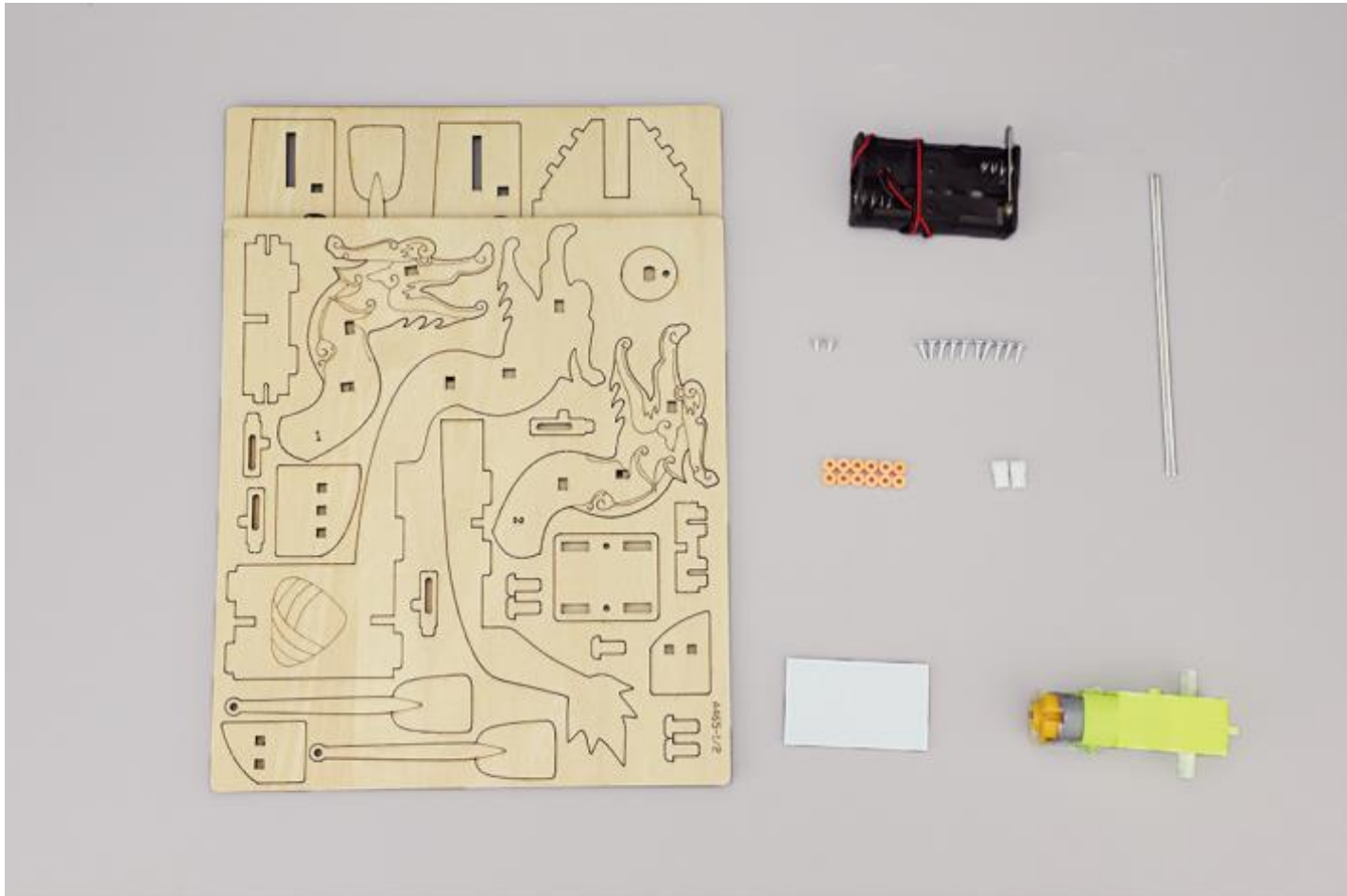
DIY Battery Powered Dragonboat
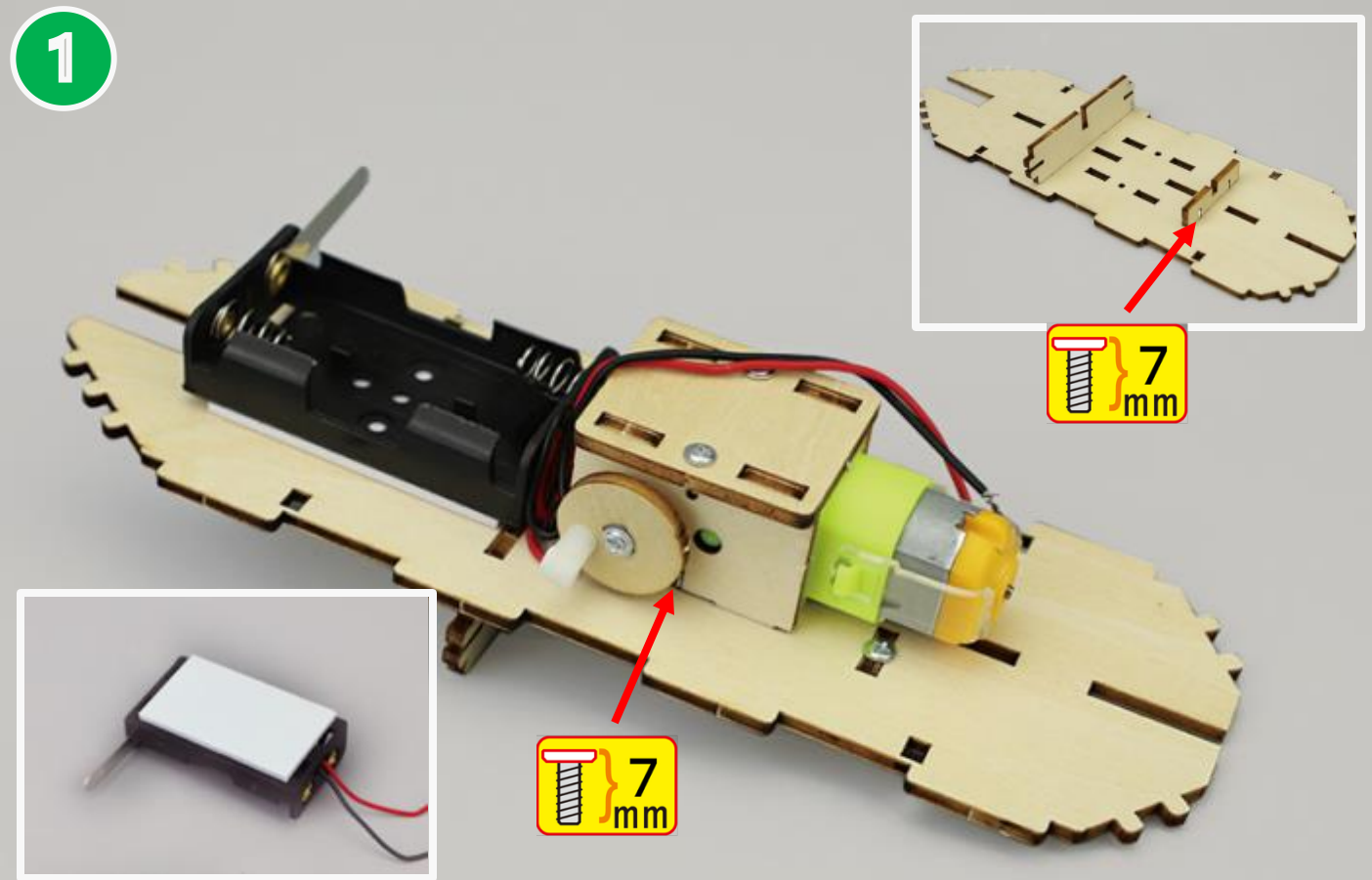
DIY Battery Powered Dragonboat

DIY Battery Powered Dragonboat – Components

DIY Battery Powered Dragonboat – Instructions

1

7 mm

7 mm

Fit the wooden pieces with the DC motor and battery holder together as shown above

DIY Battery Powered Dragonboat – Instructions

Fit the wooden pieces together as shown above

DIY Battery Powered Dragonboat – Instructions

③

Fit the wooden pieces together as shown above

DIY Battery Powered Dragonboat – Instructions

Fit the wooden pieces together as shown above
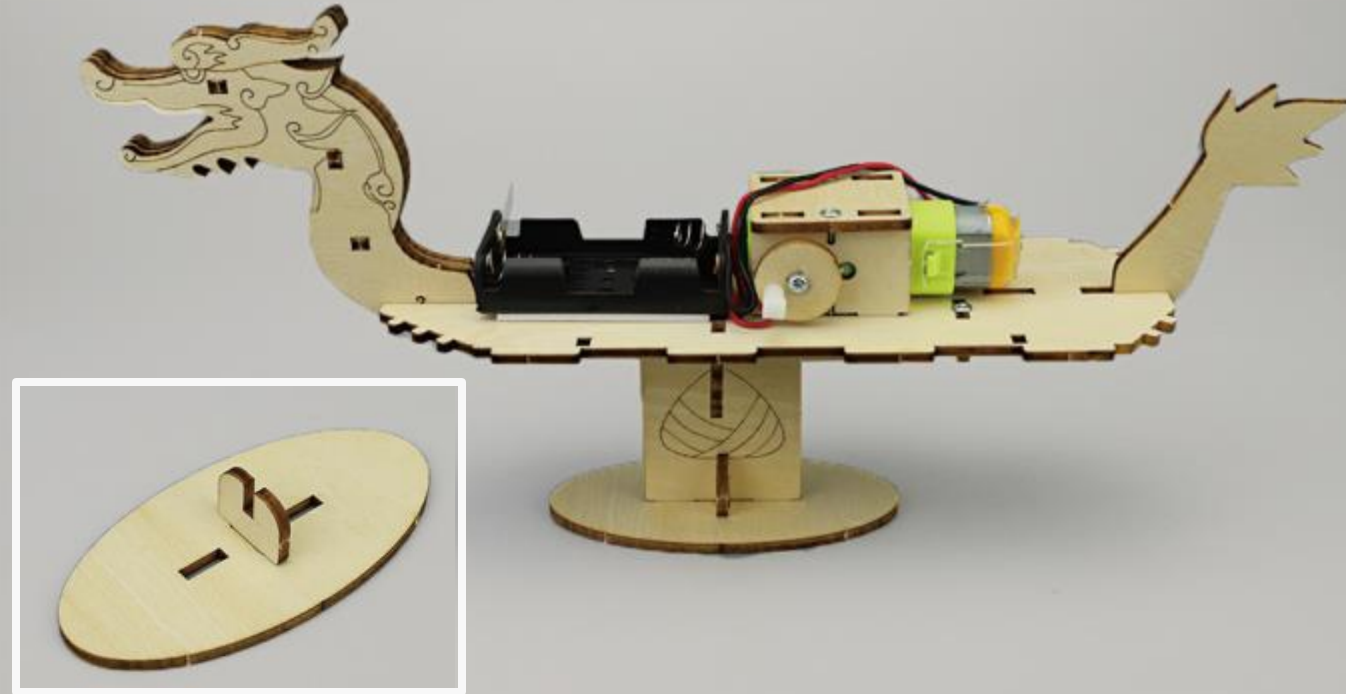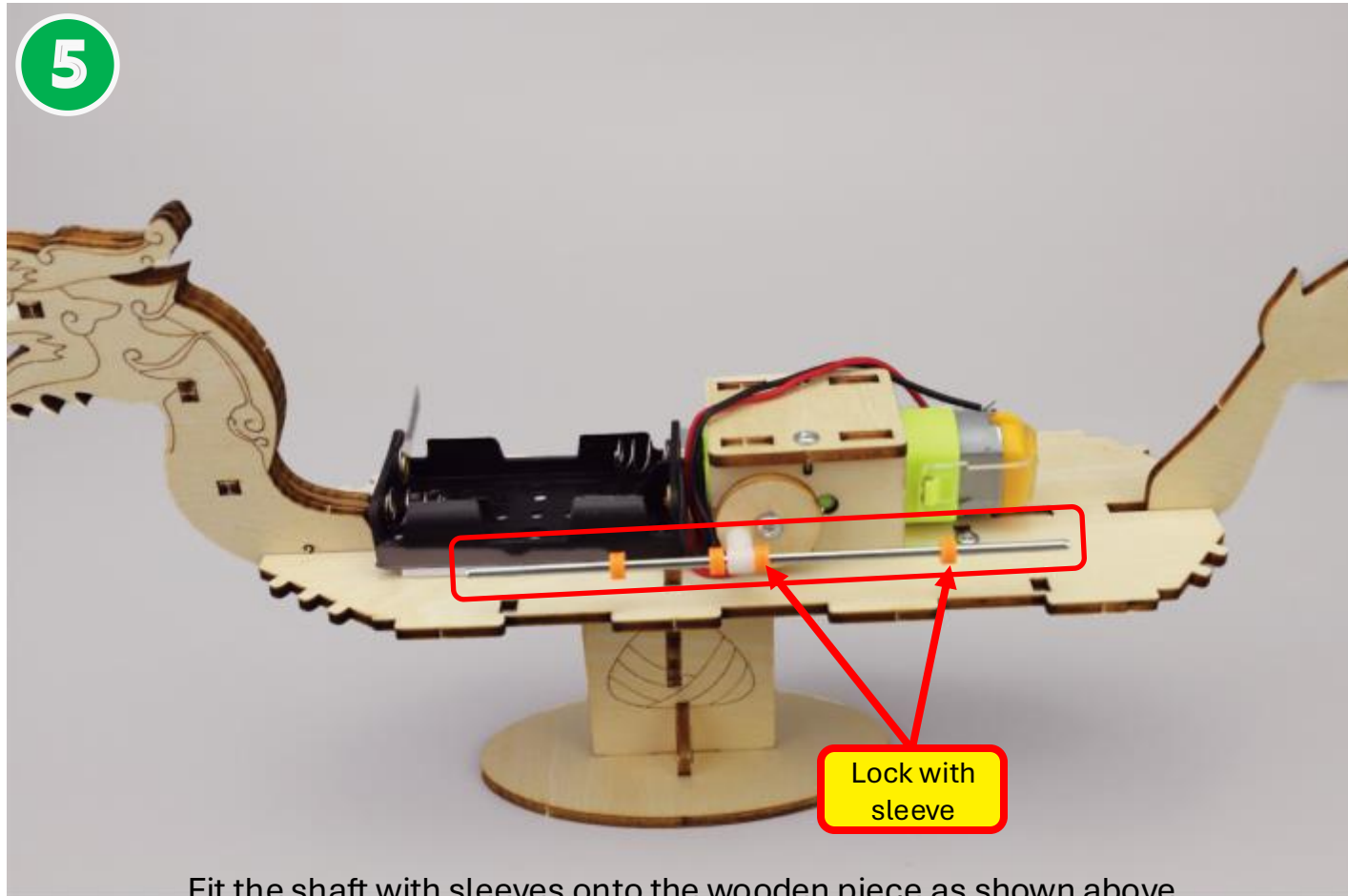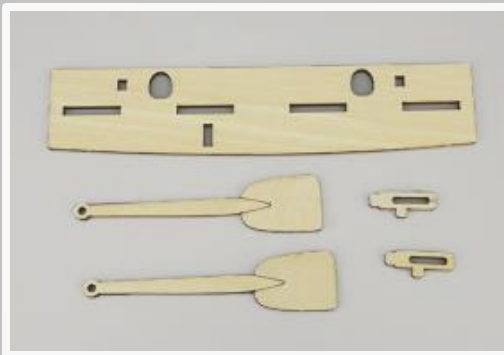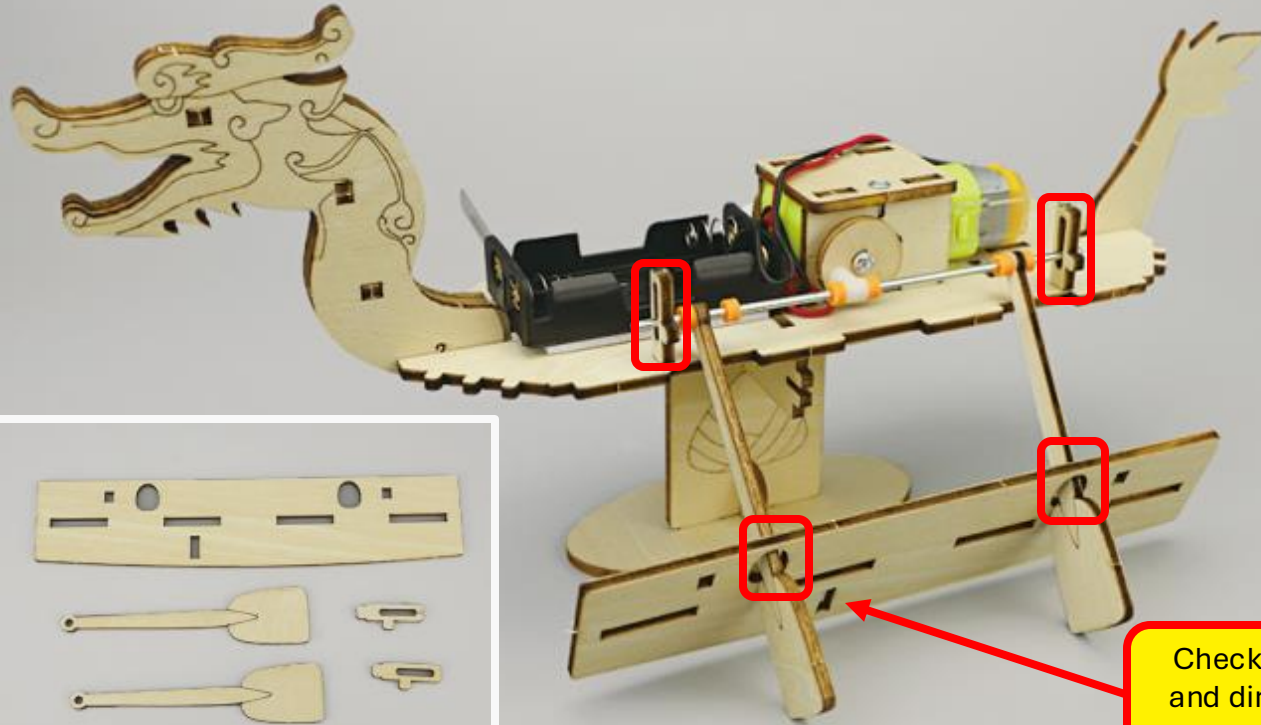
DIY Battery Powered Dragonboat – Instructions

5

Lock with sleeve

Fit the shaft with sleeves onto the wooden piece as shown above

DIY Battery Powered Dragonboat – Instructions

6

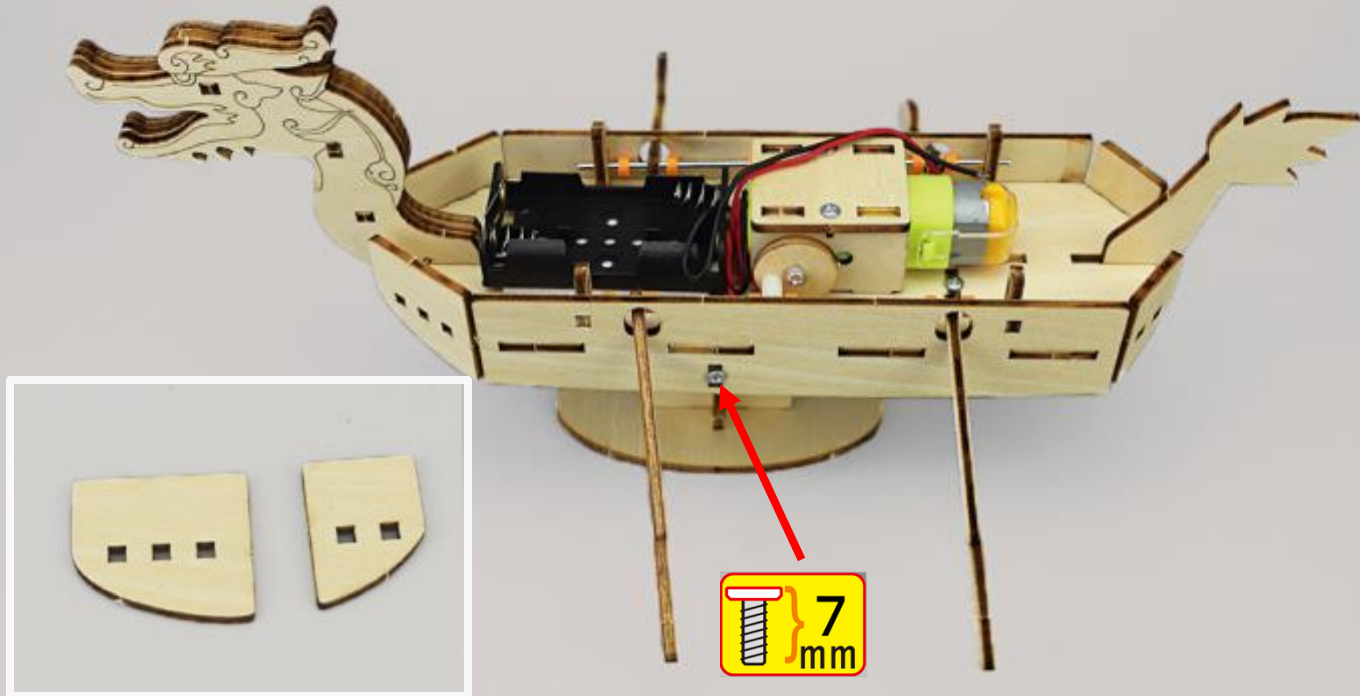Check the position and direction of the wooden pieces

Fit the wooden pieces together as shown above and lock with the sleeve

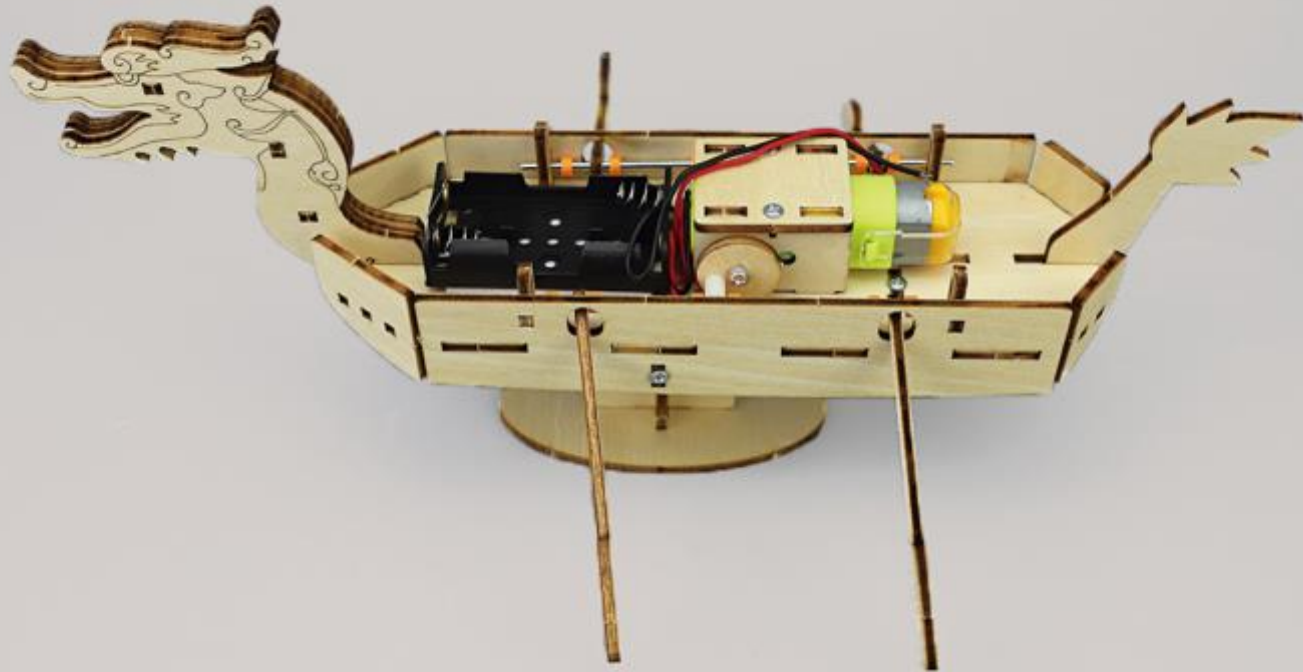# DIY Battery Powered Dragonboat – Instructions

7

7 mm

Fit the wooden pieces together as shown above

DIY Battery Powered Dragonboat – Complete

5. Test

Test the DIY Battery Powered Dragonboat. What works and what doesn't? Is it fun? Is it easy to play? Let your friends try and collect their feedback.

6. Rework

Make the necessary adjustments based on the feedback collected.

Add colours to your DIY Battery Powered Dragonboat to make it more appealing.