

I

BEACH DAY STEM CHALLENGE

Sandcastle Tower



Challenge:

Build the tallest sandcastle tower that can stand without falling.

Suggested Materials:

- cups
- sand
- paper
- cardboard
- tape
- craft sticks

2

BEACH DAY STEM CHALLENGE

Shade Shelter



Challenge:

Design a beach shade shelter that protects a person from the sun.

Suggested Materials:

- paper
- fabric scraps
- craft sticks
- straws
- tape
- cardboard

3

BEACH DAY STEM CHALLENGE

Beach Umbrella Stand



Challenge:

Create a stand that keeps a beach umbrella upright.

Suggested Materials:

- straws
- paper
- cups
- clay
- tape
- craft sticks

4

BEACH DAY STEM CHALLENGE

Flip Flop Traction Test



Challenge:

Design a bottom for a flip flop that helps it grip the ground.

Suggested Materials:

- cardboard
- sandpaper
- foam
- tape
- rubber bands
- paper

5

BEACH DAY STEM CHALLENGE

Seashell Sorter



Challenge:

Build a tool or tray that sorts shells by size, color, or shape.

Suggested Materials:

- cups
- paper plates
- cardboard
- tape
- craft sticks
- shells

6

BEACH DAY STEM CHALLENGE

Lifeguard Chair



Challenge:

Build a tall chair that can hold a small figure or paper lifeguard.

Suggested Materials:

- craft sticks
- straws
- cardboard
- tape
- cups
- paper

7

BEACH DAY STEM CHALLENGE

Beach Cart



Challenge:

Create a cart that can carry beach supplies across pretend sand.

Suggested Materials:

- cardboard
- bottle caps
- straws
- tape
- cups
- craft sticks

8

BEACH DAY STEM CHALLENGE

Wave Barrier



Challenge:

Build a barrier that protects a pretend sandcastle from waves.

Suggested Materials:

- rocks
- foil
- craft sticks
- cardboard
- tape
- sand

9

BEACH DAY STEM CHALLENGE

Towel Holder



Challenge:

Design a holder that keeps a beach towel from blowing away.

Suggested Materials:

- cloth
- paper clips
- craft sticks
- rubber bands
- tape
- cardboard

10

BEACH DAY STEM CHALLENGE

Floating Beach Raft



Challenge:

Build a raft that floats and holds weight.

Suggested Materials:

- craft foam
- foil
- straws
- tape
- cups
- pennies

Name: _____

Beach Day STEM Challenge

Challenge Name:

Make a Plan:

Draw Your Design:

Materials Needed:

Test it: Did it work?

Yes

No

Improve it:

One thing I learned:

Name: _____

Beach Day STEM Challenge

Ask: What problem are you solving ?

Imagine: What are your ideas?

Plan: Draw & label your design

Create!

Test it!

Improve it!

Explain: What works? What doesn't work? What would you do differently next time?

Name: _____

Beach Day STEM Challenge

Challenge Name:

Supplies:

Draw Your Design:

Test it: Did it work?

Yes

No

Almost

I can make it better by...

Name: _____

Beach Day STEM Challenge

Team Members

1. _____
2. _____
3. _____
4. _____
5. _____

Our Challenge:

Our Plan:

Our Design:

Team Jobs:

How will we test it?

Name: _____

Beach Day STEM Challenge Reflection

The hardest part was...

The best part was...

One thing I changed was...

Next time, I would...

My design worked because...

Name: _____

Beach Day STEM Challenge Ruberic

Criteria	4 Excellent	3 Good Job	2 Keep Trying	1 Beginning
Planning	We made a clear plan and explained our ideas in detail.	We made a plan and explained most of our ideas.	We made a plan, but it was a little unclear.	We did not make a plan or share our ideas.
Building	We built a strong, creative design and used our materials well.	We built a good design and used our materials well.	Our design works somewhat, and we used some materials well.	Our design does not work well, and we did not use materials well.
Testing	We tested our design carefully and recorded our results.	We tested our design and recorded some results.	We tested our design but did not record all our results.	We did not test our design or record results.
Teamwork	We worked together, listened to each other, and helped everyone.	We worked together and listened most of the time.	We worked together some of the time.	We did not work well together.
Improvement	We improved our design using what we learned from testing.	We made some improvements using what we learned.	We made a small change, but it did not help much.	We did not try to improve our design.