Design and Test a Solution

Grade 4 Science Worksheet - Challenge Me

Name _____ Date _____

Circle the answer.

1. Constraints: 1 hour, 1 cardboard box, scissors and tape. Which idea breaks a constraint?

   cut windows into the box

   tape two flaps into a handle

   fold the box into a ramp

   glue on wheels from a toy car

2. A student says, "Constraints and criteria mean the same thing." Which example shows the difference?

   "holds 5 books" is a goal; "uses 2 sheets" is a limit

   "is blue" is a goal; "is red" is a limit

   "holds 5 books" and "holds 6 books" are both limits

   "uses 2 sheets" and "costs $1" are both goals

3. Criteria: a catapult throws a cotton ball 2 m into a hoop. Test: the ball always lands at 1.5 m, short of the hoop. Which change fits?

   pull the catapult arm back farther

   use a wet, heavy cotton ball

   change nothing and test again

   move the hoop to 1.5 m

4. A team's egg parachute works from a chair but cracks the egg from a stair landing. What does this show?

   parachutes only work from low places like chairs

   eggs will always crack from any stair landing

   the design must be tested at the drop height in the criteria

   the stair landing was not a fair place to test

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Answer Key - Grade 4 Science Worksheet - Challenge Me

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