

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Decide what tests you will need to do to answer the questions below. Carry out the tests, then answer the questions.



Does your model bridge span a gap of at least 50cm?

YES / NO

Does your model bridge have a clearance of at least 20cm beneath it?

YES / NO

Does your model bridge have a smooth deck which allows two toy cars to pass each other?

YES / NO

Describe the test you did to answer this question:

Describe how you tested your bridge's strength:

Draw and label a diagram that shows your strength test:

How strong is your bridge?

Is your bridge design attractive? You will need to ask some other people what they like about the design of your bridge. Write their comments below:

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Describe the tests you will carry out to help you answer the questions below. Decide how you will present the results of your tests. As a table of data? As a list? As a written report? Write and/or draw your results in the space below.



Analysis Questions	How I will test my bridge
Does my model bridge span a gap of at least 50cm?	
Does it have a clearance of at least 20cm beneath it?	
Does it have a smooth deck which allows two toy cars to pass each other?	
Is it strong?	
Is it attractive?	



Could you ask other people what they like about the design of your bridge?

Test results:

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Think of some analysis questions based on your design criteria. Describe the tests you will carry out to help you answer the questions below. Decide how you will present the results of your tests. As a table of data? As a list? As a written report? Write and/or draw your results in the space below.



Analysis Questions	How I will test my bridge



Could you ask other people what they like about the design of your bridge?

Test results:

Name: \_\_\_\_\_

Date: \_\_\_\_\_

## Building Bridges Evaluation



Circle the statement which best describes how you feel about each question.

1. I understand how beams and pillars are used in bridge design to span gaps.

Strongly disagree      Disagree      Not sure      Agree      Strongly agree

2. I can explain how trusses are used to strengthen and stiffen bridges.

Strongly disagree      Disagree      Not sure      Agree      Strongly agree

3. I can explain how arches are used to strengthen bridges.

Strongly disagree      Disagree      Not sure      Agree      Strongly agree

4. I can explain how suspension bridges are constructed.

Strongly disagree      Disagree      Not sure      Agree      Strongly agree

5. I can use technical vocabulary to describe parts of bridges.

Strongly disagree      Disagree      Not sure      Agree      Strongly agree

6. I can use technical vocabulary to describe the forces that act on bridges.

Strongly disagree      Disagree      Not sure      Agree      Strongly agree

7. I can develop design criteria and draw designs for a prototype model bridge.

Strongly disagree      Disagree      Not sure      Agree      Strongly agree

8. I worked well with others to build a model bridge.

Strongly disagree      Disagree      Not sure      Agree      Strongly agree

9. I can think of questions and ways of testing when analysing my model bridge.

Strongly disagree      Disagree      Not sure      Agree      Strongly agree

10. My prototype model bridge worked well according to all the design criteria.

Strongly disagree      Disagree      Not sure      Agree      Strongly agree

Name: \_\_\_\_\_

Date: \_\_\_\_\_



## Building Bridges Evaluation

Try and use some of this technical vocabulary in your answers to these questions:



DECK

BEAM

PILLAR

ABUTMENT

PIER

GRAVITY

PARAPET

TRUSS

ARCH

FORCE

TENSION

COMPRESSION

Why are beams and pillars useful in bridge design? What do they do?

How are trusses used to strengthen bridges?

Why are arches useful for bridges built using brick or stone?

Why are suspension bridges different to other types of bridge design?

How well did your prototype bridge model meet the design criteria?

Describe some ways in which you worked well with a partner or in a group:

How effective were the tests you planned for your bridge? Did they help you work out how good it was?

What aspects of your bridge design would you change if you were to make it again?

