

COMPARE MASS THROUGH HEFTING.

INVESTIGATIONS OVERVIEW PAGE

THIS PAGE IS A SUMMARY OF THE INVESTIGATIONS THAT STUDENTS MAY ENGAGE IN TO DEEPEN THEIR RELATIONAL UNDERSTANDING. INVESTIGATIONS WITH INSTRUCTIONS TO STUDENTS FOLLOW ON SUBSEQUENT PAGES.

- In pairs, children each have an object. They each heft the objects, lowering the arm with the heavy object, and lifting their arm with the light object. They draw and label the objects as light, heavy, lighter and heavier. *Reflection: How can we compare heavy and light masses by hefting?*
- In pairs, children sort heavy and light objects, for example, piece of string, paperclip, large stone, large bottle of liquid, book, blocks, dice into two groups – heavy and light. Children explain why objects were placed into the groups. Children select an object from each group and name them lighter or heavier. *Reflection: How can we compare heavy and light masses?*
- In pairs, children have one object. They try to find an object that is heavier but smaller. They try to find object that is lighter but larger. They compare the masses of the objects by hefting. *Reflection: Are small objects always light? Are large objects always heavy?*
- Children are each given a bag or container containing a mass, for example, feathers, marbles, paperclips, string, pasta, marbles, crumpled paper, nails, cotton balls, leaves, screws or beads. Children find a friend who has a bag with a mass heavier / lighter / same mass as their bag. *Reflection: How can we compare heavy and light masses?*
- Children place in order from lightest to heaviest, 2 bags or containers filled with different materials, for example, feathers, marbles, paperclips, string, pasta, marbles, crumpled paper, nails, screws or beads. They are then given another bag and decide where to place it. *Reflection: How can we compare heavy and light masses?*
- Children have two objects. They estimate through hefting which object is heavier, and which object is lighter. They drop each object into a knee-high stocking and observe which stocking stretches down more. *Reflection: How can we compare heavy and light masses?*
- Take children to a park or playground with a seesaw. Allow children to select a friend to have a turn on the seesaw. Children observe and discuss what happens when a lighter child and a heavier child sit on either end – the heavier end goes down, and the lighter end goes up. *Reflection: How can we compare heavy and light masses?*

Compare Mass through Hefting.

Sit with a friend.

Each of you select an object.

Estimate which object will be heavier / lighter and why.

Compare the masses by hefting, lowering the arm with the heavy object, and lifting their arm with the light object.

Record hefting the objects, labelling the light object and the heavy object, the lighter object and the heavier object.

Reflection: How can we compare heavy and light masses by hefting?

Compare Mass through Hefting.

Sit with a friend.

Have some objects, for example, piece of string, paperclip, large stone, bottle of water, book, blocks, dice.

Sort the objects into two groups – heavy and light.

Explain why each object was placed into each group.

Select an object from each group and name them lighter or heavier than one another.

Reflection: How can we compare heavy and light masses?

Compare Mass through Hefting.

Sit with a friend.

Have 1 object.

Try to find an object that is heavier but smaller.

Try to find object that is lighter but larger.

Compare the masses of the objects by hefting.

Reflection: Are small objects always light? Are large objects always heavy?

Compare Mass through Hefting.

Select a bag containing a mass, without looking inside of the bag, for example, feathers, marbles, paperclips, string, pasta, marbles, crumpled paper, nails, cotton balls, leaves, screws or beads.

Find a friend who has a bag with a mass heavier / lighter / same mass as their bag.

Reflection: How can we compare heavy and light masses?

Compare Mass through Hefting.

Sit with a friend.

Have 2 bags or containers filled with different materials, for example, feathers, marbles, paperclips, string, pasta, marbles, crumpled paper, nails, screws or beads

Place the bags in order from light to heavy.

Select another bag.

Heft it to decide where to place it in order of mass.

Reflection: How can we compare heavy and light masses?

Compare Mass through Hefting..

Sit with a friend.

Have two objects.

Estimate through hefting which object is heavier, and which object is lighter.

Drop each object into a knee-high stocking and observe which stocking stretches down more.

Reflection: How can we compare heavy and light masses?

Compare Mass through Hefting.

Go to a park or playground with a seesaw.

Select a friend to have a turn on the seesaw.

Observe and discuss what happens when a lighter child and a heavier child sit on either end – which end goes down, and which end goes up?

Reflection: How can we compare heavy and light masses?