**Version A: Making Jump Ropes for our Class**



**We want to make a jump rope set for our class.**

**A set contains jump ropes of different lengths**

**How many plastic bags will we need?**

| What do you ***know*** that can help you? | What do you need to ***find out***? | What ***assumptions*** do you have to make? |
| --- | --- | --- |

Your plan for making the jump ropes must show:

* How you know that you will have enough jump ropes for your class, without a lot of extra
* How many plastic bags you will need
* How others could use your plan to make jump ropes for students in their school.

Use pictures, numbers and words to show that your plan will work.

**Version B: Making Jump Ropes for P.E. (Gym Class)**



**We want to make a jump rope set to be used in P.E. (Gym Class). A set contains jump ropes of different lengths.**

**How many plastic bags will we need?**

Questions to think about:

* + What do you ***know*** that can help you figure this out?
  + What do you need to ***find out***?
  + What ***assumptions*** do you have to make?

Your plan for making the jump ropes must show:

* How you know that you will have enough jump ropes for PE class, without a lot of extra
* How many plastic bags you will need
* How others could use your plan to make jump rope sets for PE classes at their school.

Use pictures, numbers and words to show that your plan will work.

**Version C:**

**Making Jump Ropes for a Community Center**



**We want to make a jump rope set for the [insert] community center.  A set contains jump ropes of different lengths.**

**How many plastic bags will we need?**

Questions to think about:

* + What do you ***know*** that can help you figure this out?
  + What do you need to ***find out***?
  + What ***assumptions*** do you have to make?

Your plan for making the jump ropes must show:

* How you know that you will have enough jump ropes for the community center, without a lot of extra
* How many plastic bags you will need
* How others could use your plan to make jump ropes for other community groups or organizations.

Use pictures, numbers and words to show that your plan will work.

**Version D:**

**Making Jump Ropes for the Whole School to Jump**



**We want to make enough jump ropes so that all students at your school can participate in the school-wide jump rope event.**

**How many plastic bags will we need?**

Questions to think about:

* + What do you ***know*** that can help you figure this out?
  + What do you need to ***find out***?
  + What ***assumptions*** do you have to make?

Your plan for making the jump ropes must show:

* How you know that you will have enough jump ropes for the school-wide jump rope event, without a lot of extra
* How many plastic bags you will need
* How others could use your plan to make jump ropes for students in their school.

Use pictures, numbers and words to show that your plan will work.

**Warm Up A:  Making One Jump Rope**



**You want to make one jump rope.**

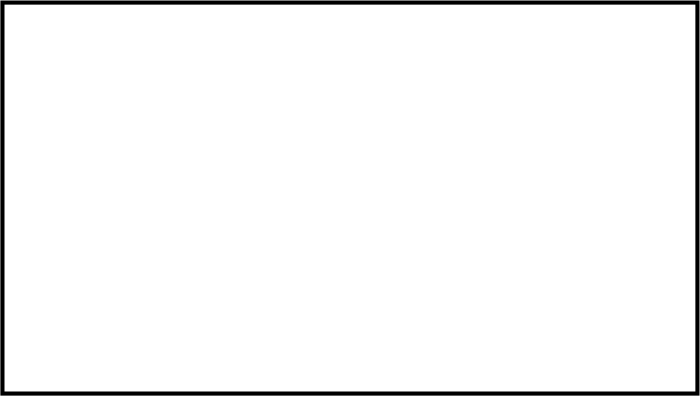
**How many plastic bags do you need?**

What do you ***know*** that can help you figure this out?

**Draw a model of your jump rope.**

Use words, numbers and equations to show:

how many plastic bags you will need to make your rope



**Warm Up B: Making Jump Ropes with Handles**



**You want to make one jump rope.**

**How many plastic bags do you need?**

**How much duct tape do you need?**

What do you ***know*** that can help you figure this out?

**Draw a model of your jump rope.**

Use words, numbers and equation to show:

how many plastic bags you will need to make the rope

how much duct tape you will need to make the handles

**Extension A: Making Jump Rope Handles**



**You will use duct tape to make the jump rope handles.**

**How much duct tape will you need for all the jump ropes included in your plan?**

Questions to think about:

* + What do you ***know*** that can help you figure this out?
  + What do you need to ***find out***?
  + What ***assumptions*** do you have to make?

Your plan for making the jump rope **handles** must show:

* How much duct tape you will need (i.e., how many inches or feet)
* How you know that you will have enough duct tape, without a lot of extra
* How others could use your plan to make handles for jump ropes

Use pictures, numbers and words to show that your plan will work.

**Extension B: How many jump ropes can we make?**



**Let’s say we can collect \_\_\_\_\_\_\_\_\_\_\_ plastic bags.**

**Come up with a plan to use these jump ropes to make jump ropes of different lengths for your school. How many jump ropes can we make?**

**Questions to think about:**

* + What do you ***know*** that can help you figure this out?
  + What do you need to ***find out***?
  + What ***assumptions*** do you have to make?

Your plan for using the plastic bags to make jump ropes must show:

* How many jump ropes (of various lengths) you will make
* How you know that you will have enough plastic bags for those ropes
* An explanation of how many plastic bags will be leftover

Use pictures, numbers and words to show that your plan will work.

**Extension C: Time Needed to Collect the Plastic Bags**



**How long will it take us to collect the plastic bags we need to implement our plan?**

**Questions to think about:**

* + What do you ***know*** that can help you figure this out?
  + What do you need to ***find out***?
  + What ***assumptions*** do you have to make?

**Things to consider:**

* The average family uses about 15 plastic bags each time they go to the grocery store. How does this compare to your family?
* If you asked everyone in your class to bring in plastic bags that they have at home, how many bags do you think you could collect?
* If you asked all students in the school to bring in plastic bags that they have at home, how many bags do you think you could collect?
* How else might you collect plastic bags?