

## KNOT Box

### Objectives

Students will learn the following:

- > The basics of knots
  - > Some basic knots and their uses
  - > Uses of a bear bag and proper placement
  - > Pulleys and how they work
  - > How paracord can be weakened
  - > The many uses of paracord
  - > Importance of keeping wildlife wild
  - > Hands-on activities (tying knots, carabiner pulley system, firewood carrier, etc.)
  - > Global Feature & National Park Spotlight
  - > Empathy around anxiety
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### Materials

The materials included in the box are:

- > Knot activity cards
  - > Water bottle
  - > Paracord hank
  - > Paracord gear set, incl. multiple types of carabiners
  - > Activity supplies to make your own knot tying station
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### Discussion

You may want to use the following as a discussion guide with your child:

- > How would knowing different knots be useful?
  - > Why is it important to understand the load properties of your cord?
  - > How can understanding the mechanical advantage be useful?
  - > What does keeping wildlife wild mean?
  - > What are some things that make you feel anxious or nervous?
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### Evaluation

Test your child's newfound knowledge with the following questions:

- > Name at least three (3) basic knots?
- > What is load? How can it be calculated?
- > How does tying a knot in paracord affect its load bearing capacity?
- > Pulleys are simple machines. Can you name other simple machines?
- > To lift an object weighing 100lbs using 50lbs of force, how many pulleys would you need?
- > What is a good way to loosen a knot?
- > What are some things you can do to help a friend who is nervous?

## Vocabulary\*

*\*provided by the Merriam-Webster Dictionary*

**Asymmetrical** – Having two sides or halves that are not the same. CONTEXT: Some carabiners are asymmetrical by having a larger “Basket” than “Runner End”.

**Load** – The forces to which a given object is subjected. CONTEXT: Different types of rope have different load capacity.

**Hank** – A coiled or looped bundle usually containing a definite yardage. CONTEXT: Paracord usually comes in a hank that is easy to unwrap.

**Pull** – To use force in drawing, dragging, or tugging. CONTEXT: Be sure to tension the rope on the correct side(s) to secure the knot.

**Binding** – To tie together. CONTEXT: You can bind two separate ropes together to form one longer rope.

**Bight** – A slack part or loop in a rope. CONTEXT: Bights can be used to wrap around an object or to hang something from it.

**Stopper** – Something used to plug an opening. CONTEXT: A variety of objects can be used as stoppers for your knots.

**Pulley** – A wheel used to transmit power by means of a band, belt, cord, rope, or chain passing over its. CONTEXT: A pulley can be very helpful in lifting heavy weights.

**Lever** – A rigid piece that transmits and modifies force or motion when forces are applied at two points and it turns about a third. CONTEXT: Levers are used to help lift heavy objects.

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