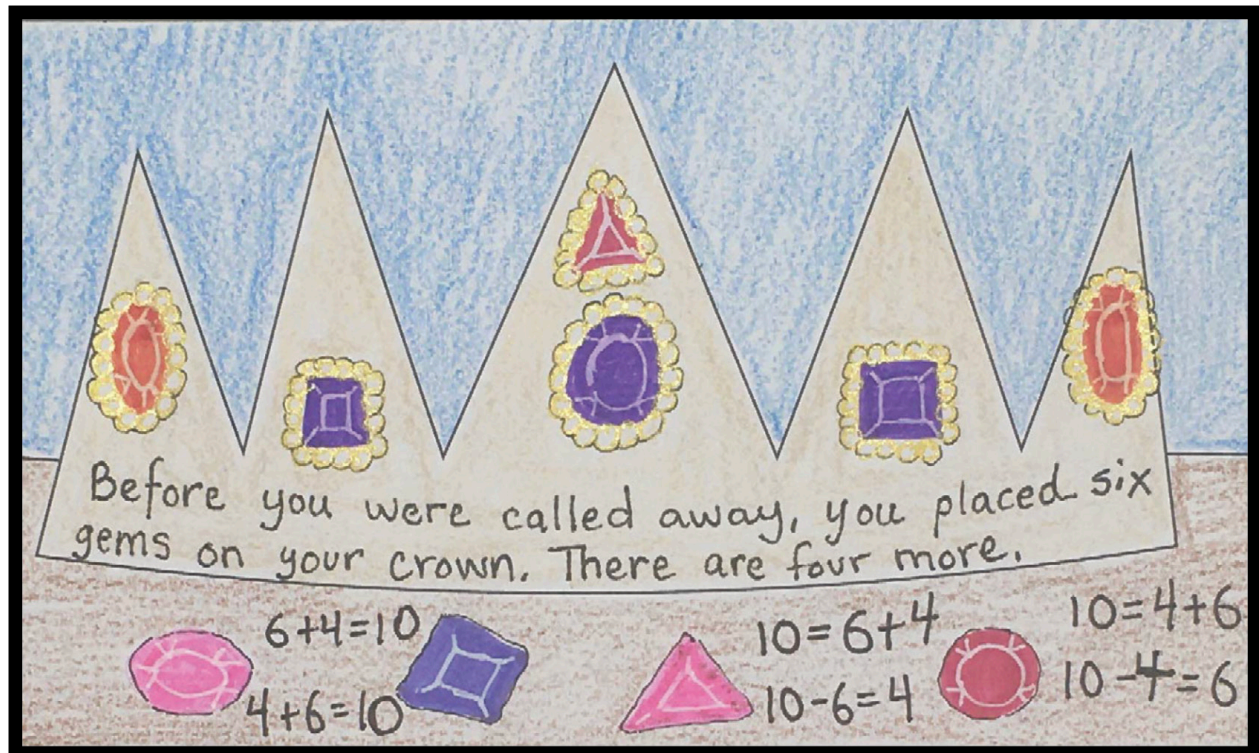


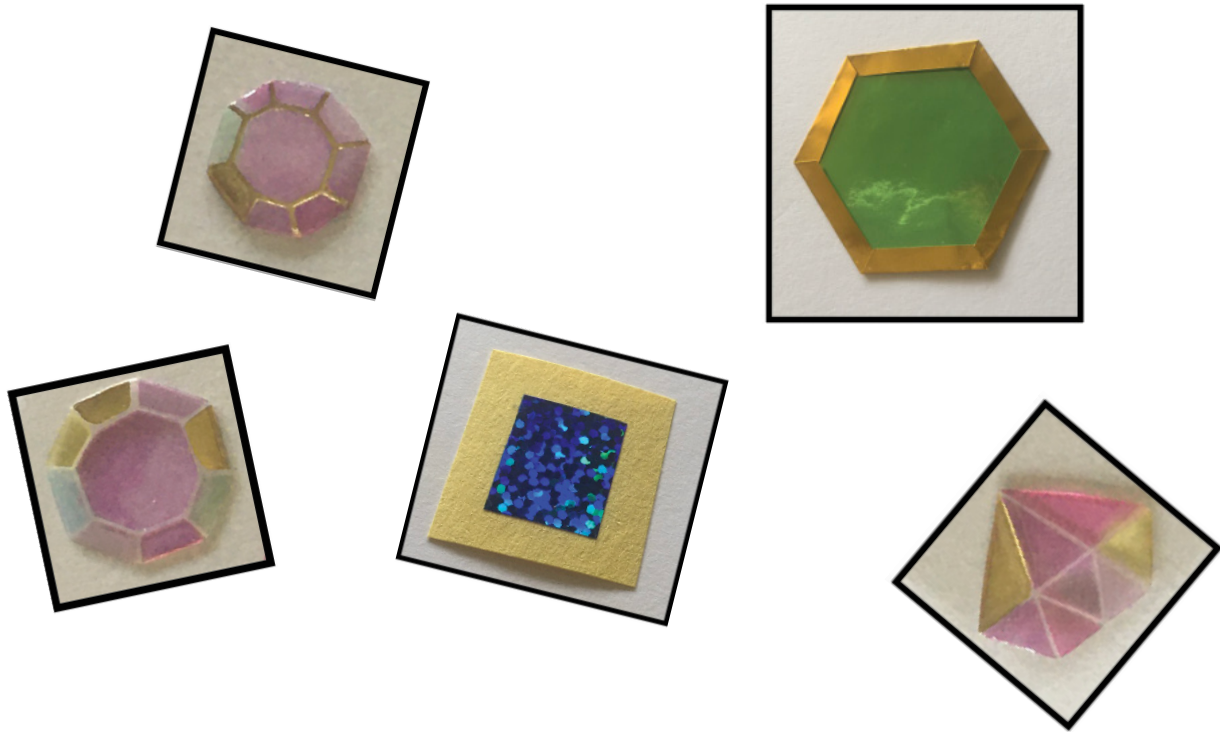
Ten Gems

Help Your Students

Learn Number Bonds that Make Ten



Isabelle Hoag M. Ed.
Director of Education
UnCommon-Core.com



Imaginative Concrete Examples for Number Bonds to Ten

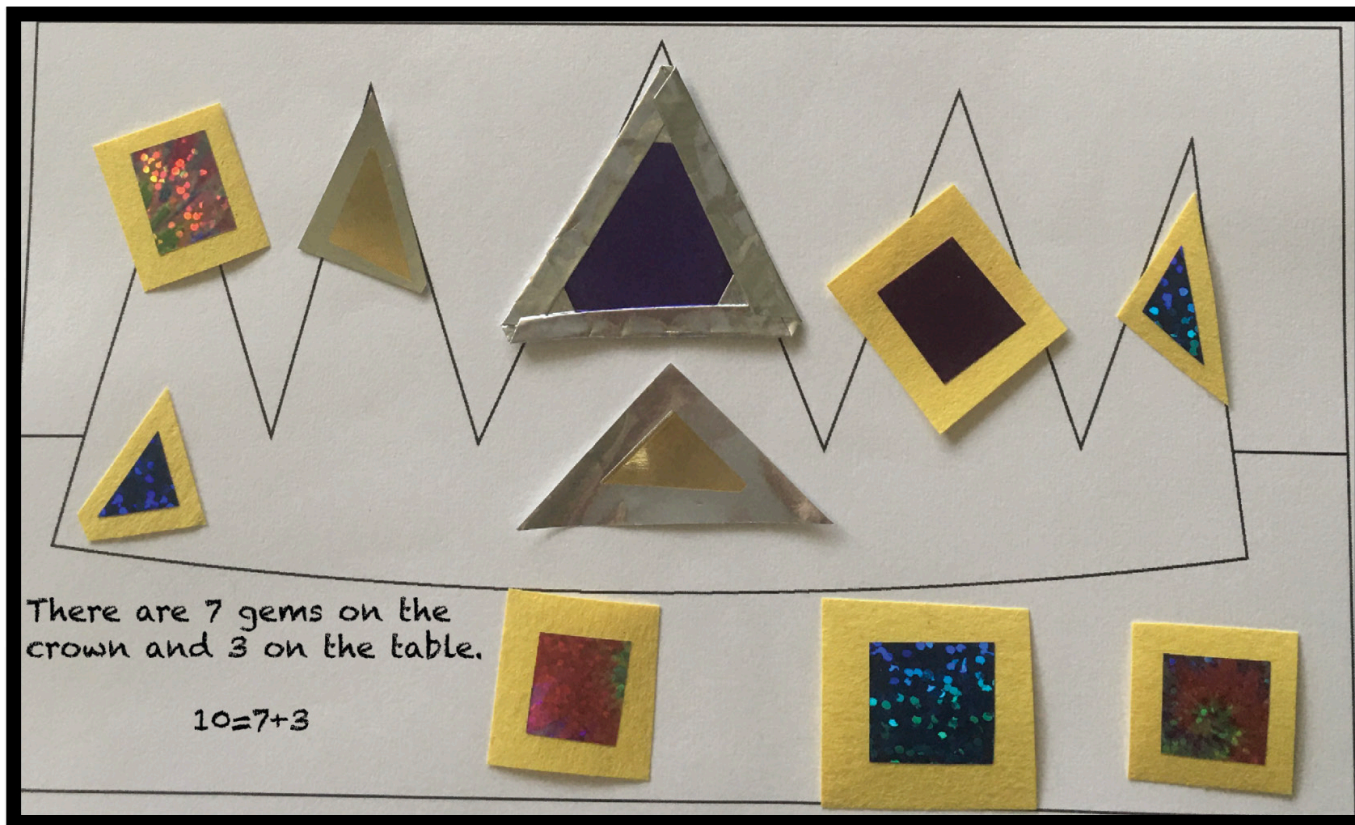
Like all children, princesses and princes are expected to help around the house – erm – castle. In addition to keeping peacocks out of the royal gardens or collecting rose petal treats for their pet unicorns, young royals are required to design their own crowns. They often have to wear a different crown every day!

Unfortunately, they are frequently interrupted whilst decorating their crowns.

Ten Gems gives your students practice finding and sorting number bonds that add up to ten. Conceptualizing ten as pairs of numbers is extremely useful for math students. We use a positional number system made up of ten digits, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, so that each place in a number denotes a different power of 10. The value of each place varies by magnitudes of ten. For example, one thousand is ten times more than one hundred. Knowing how to decompose ten is an essential understanding when using our base ten number system.

Academic standards and learning goals: Being able to [add and subtract numbers under 20](#) is a typical first grade learning goal. Second grade students are often expected to know all the math facts under ten by memory. Upper elementary students are asked to use multiplication facts fluently as well.

Gaining fluency with math facts, solving word problems and [generalizing properties of operations](#) are learning goals that are all supported when your students play **Ten Gems**.

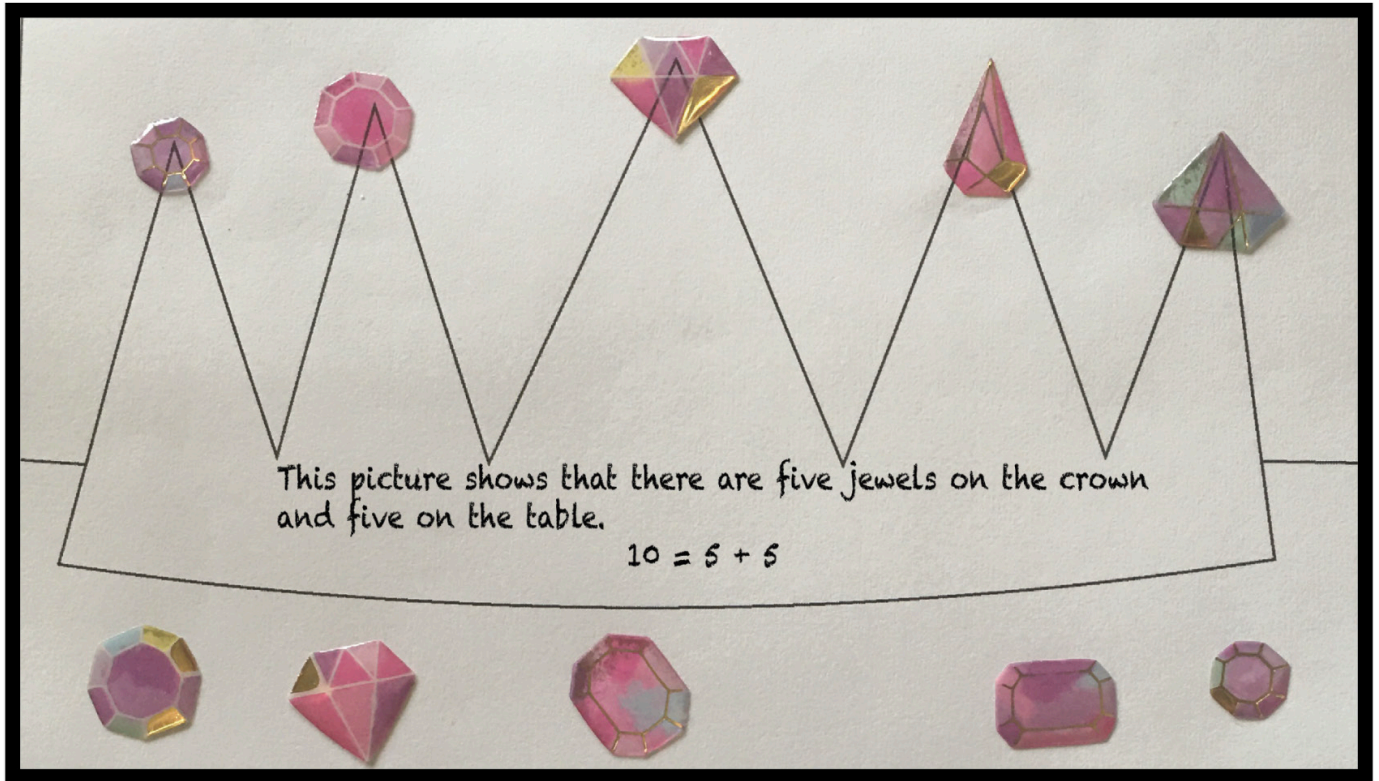


Materials for Ten Gems include some sort of crown, jewels or [jewel like alternatives](#) depending on your budget, math journals if you use them, and copies of Ten Gems handouts for your students to use independently. Students may also need sparkle glue, paste, markers, pens, pencils and rulers.

Your students might enjoy making their own jewels and gem stones. This craft can be as easy as sticking pieces of [glitter tape](#) onto construction paper shapes. Otherwise, kids could [fold origami gems](#), or draw their own jewels with [sparkle pens](#).

Young royals in your class might enjoy the opportunity to [make their own crowns](#). As long as wearing a ‘thinking crown’ helps princes and princesses focus on their work, they can be used in class. Otherwise, crowns could be sent back to the castle to be worn during homework. [These easy paper crowns](#) are made from many 3 x 3 squares of paper, glue, and ten gems.

As the Jeweler to the Royal Family, you may want to place your demonstration crown upon a [silk vermillion pillow](#) after it has been decorated.



PLAY!

“Good morning, my lords and ladies. Today we are going to decorate our royal crowns. Hopefully, we will complete this task before you are called away to do your chores. When complete, each crown will display ten exquisite gems from the royal vault.”

Demonstrate counting the gems to make sure there are exactly ten. Carefully arrange a few on the flattened out crown leaving the rest on the table nearby.

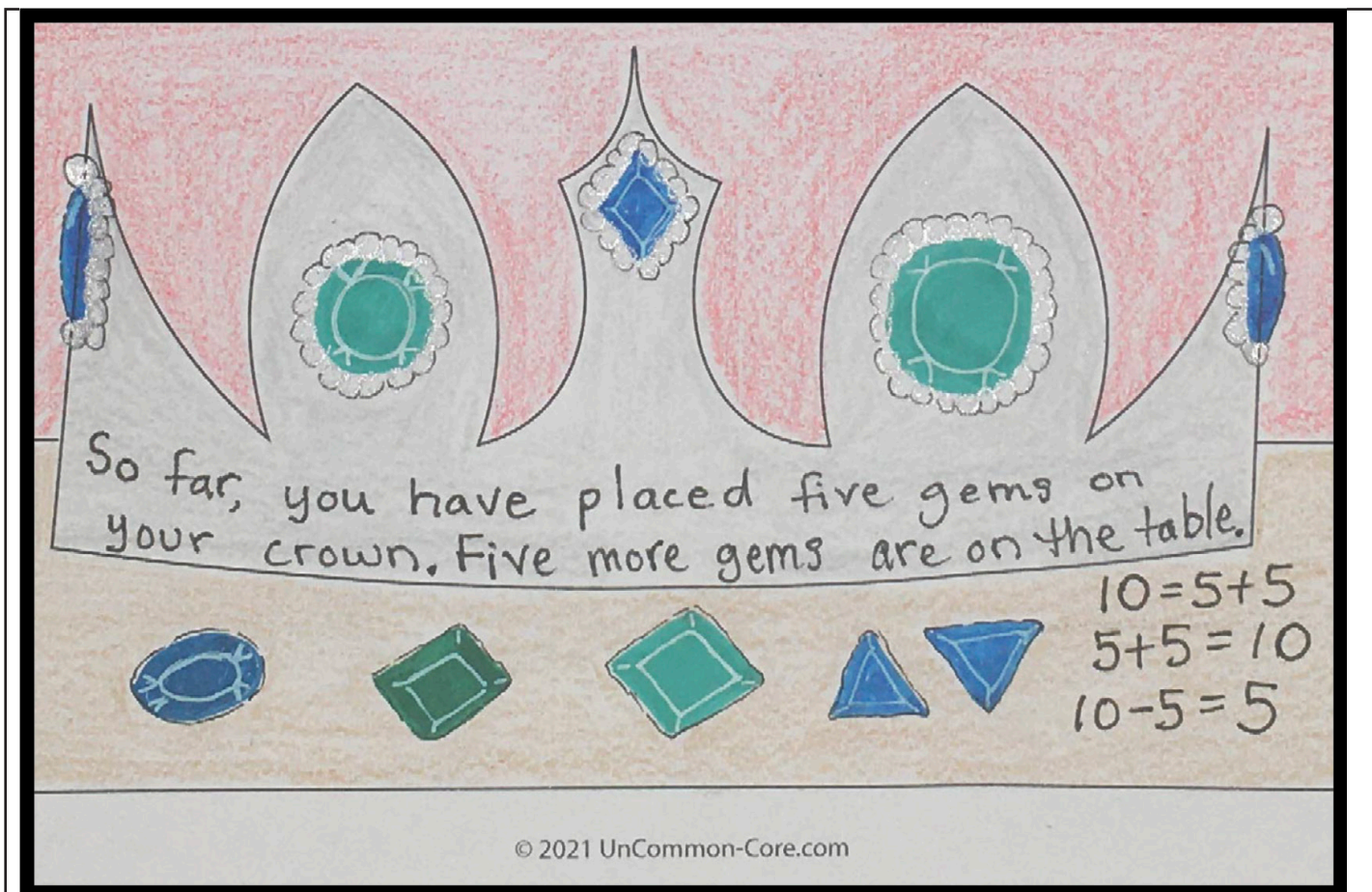
No sooner have you started, than you receive a message – perhaps a note upon a [silver salver](#) – requesting the pleasure of the presence of the young royals in the greenhouse. They are needed in order to gild some lilies.

“Alas, alack, I trust your want to remember your crown designs while gilding lilies. Let’s write sentences to show how many gems have been placed on your crown & how many have not.”

Have students evaluate the situation and write number bonds that go with the image. Then have them write a sentence in everyday language that connects the number of gems on the crown, the number of gems on the table and the total number.

Let the students share their work within the small group so that everyone can benefit from each other’s work.

Make sure everyone in the math group understands what to do and how you want them to record the number bonds as they decompose ten. You might play a few extra rounds as a group to ensure that everyone is confident. Gradually release control of the game to your students. 4



Prompt them as needed if they forget a step or have a question. Let them continue in pairs or small groups. Follow steps for gradual release of responsibility as you and your royals play.

Practice: When the students are ready to work independently, give them copies of the Ten Gems handout and any materials they may need. Encourage them to make examples of all the pairs of numbers that add up to ten. Have them arrange their work in order to make sure they have illustrated every possible pair of numbers that add up to ten.

Regal Alternatives and Extensions

Ten Gems can be adapted to practice counting on, visualizing fractions, or decomposing ten into groups of three or more.

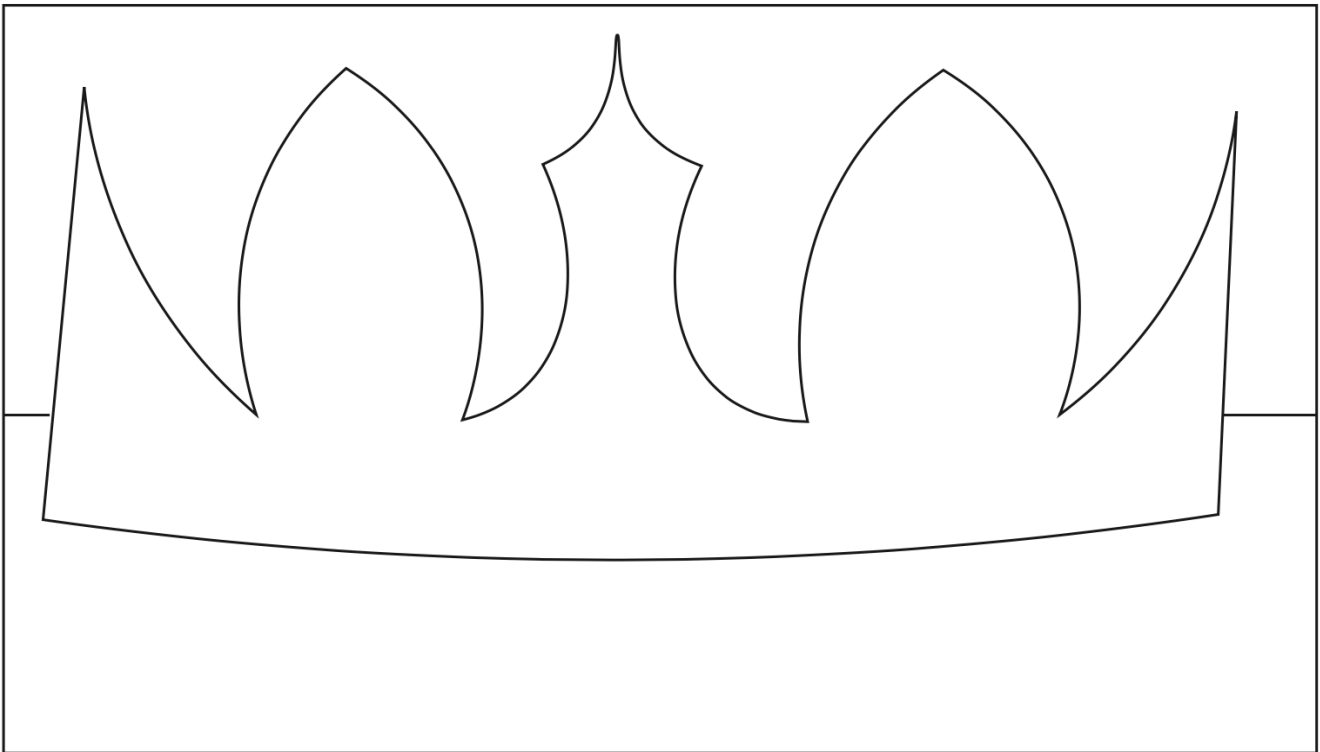
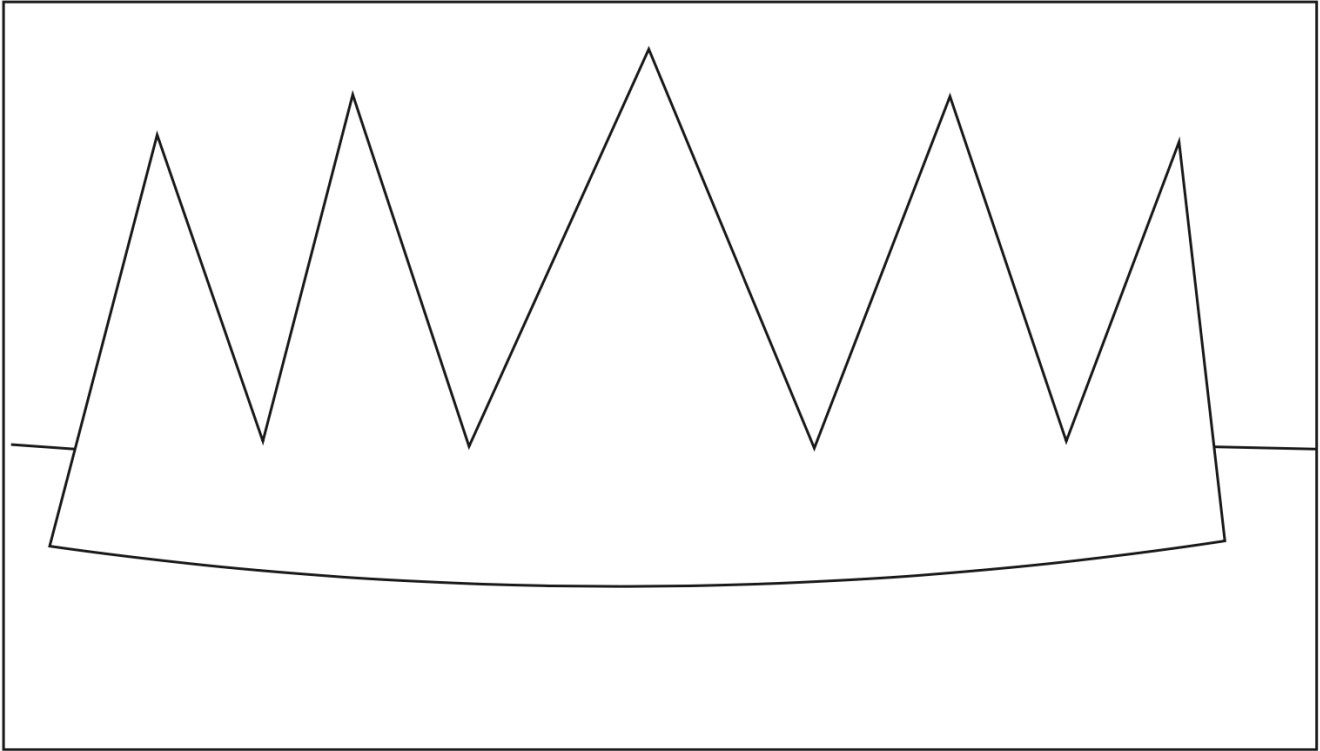
Ten is an important concept in our place value system which makes it important to spend time finding all the number bonds for ten. You might also adapt this game to help your students understand decimals or switch between fractions & decimals.

What if royals in far off realms decorate their crowns with numbers other than ten?!?! Well, then use the same game and handouts to decompose those numbers, too.

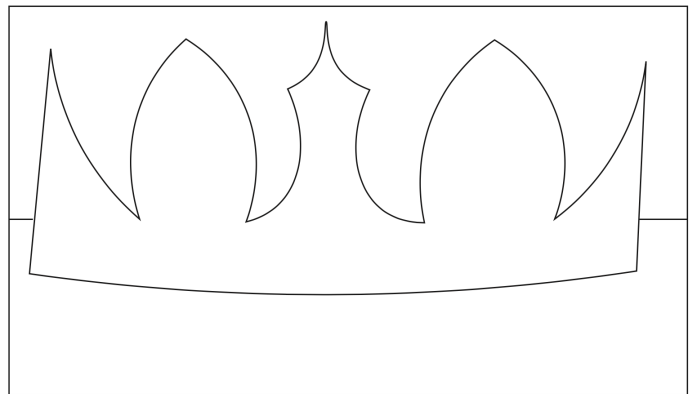
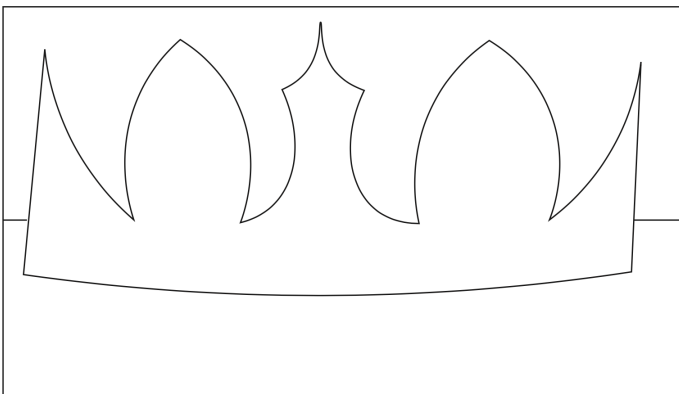
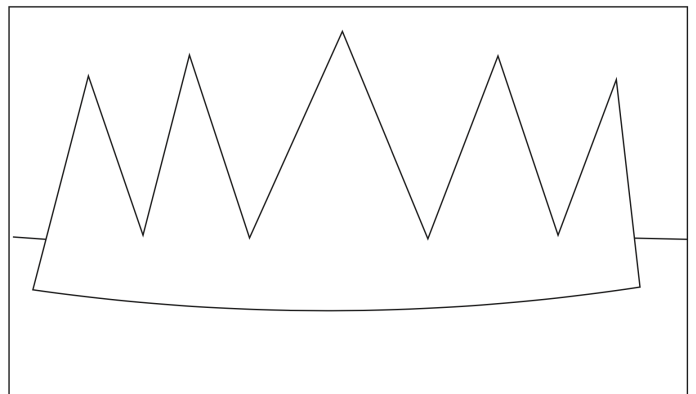
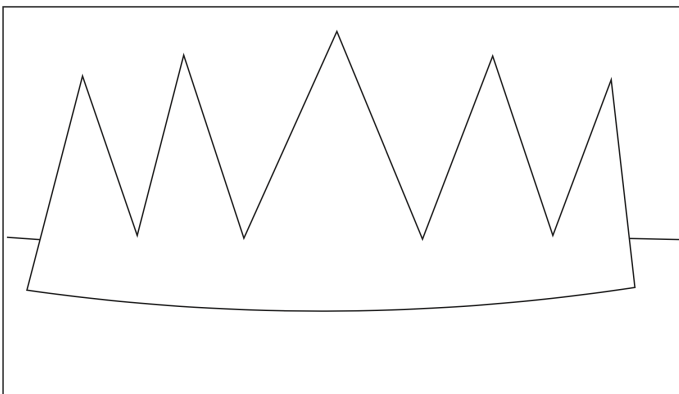
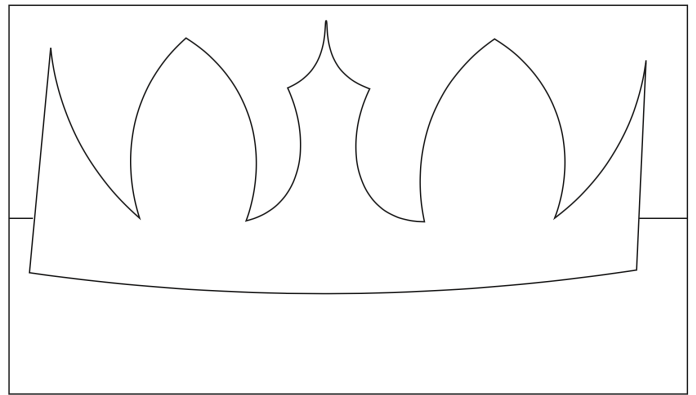
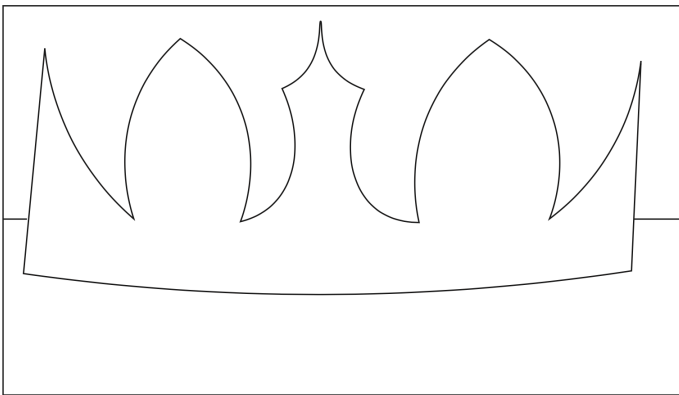
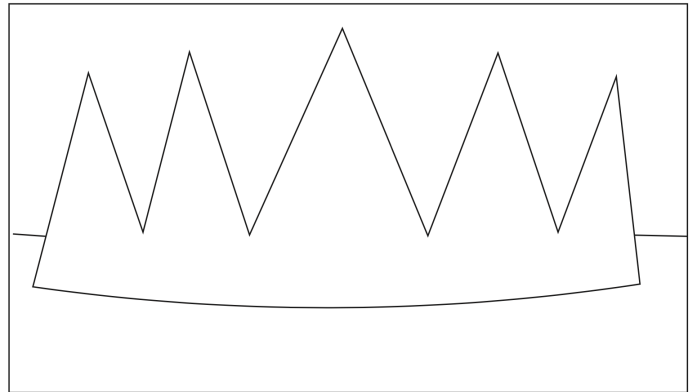
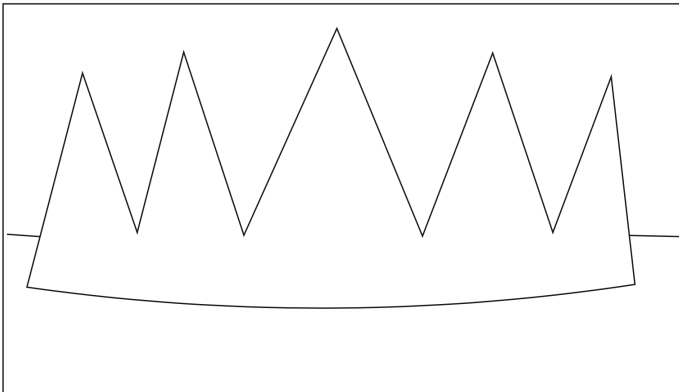
Ten Gems is like [Pieces of Eight and Dragon's Dozens](#) games from [UnCommon-Core.com](#).

Ten Gems The royal children were designing their crowns when they were called away to chase the peacocks out of the castle garden. Help them remember what they were doing. Write sentences to show how many of the ten gems are on the crowns & how many are still on the table.

name: _____



Ten Gems Math Facts Cards The royal children were in the middle of decorating their crowns when they were suddenly called away. Decorate the front of each card to show how many of the ten gems are on the crown and how many are still on the table. Carefully cut out the cards. Write the number fact on the back of each card along with your initials.



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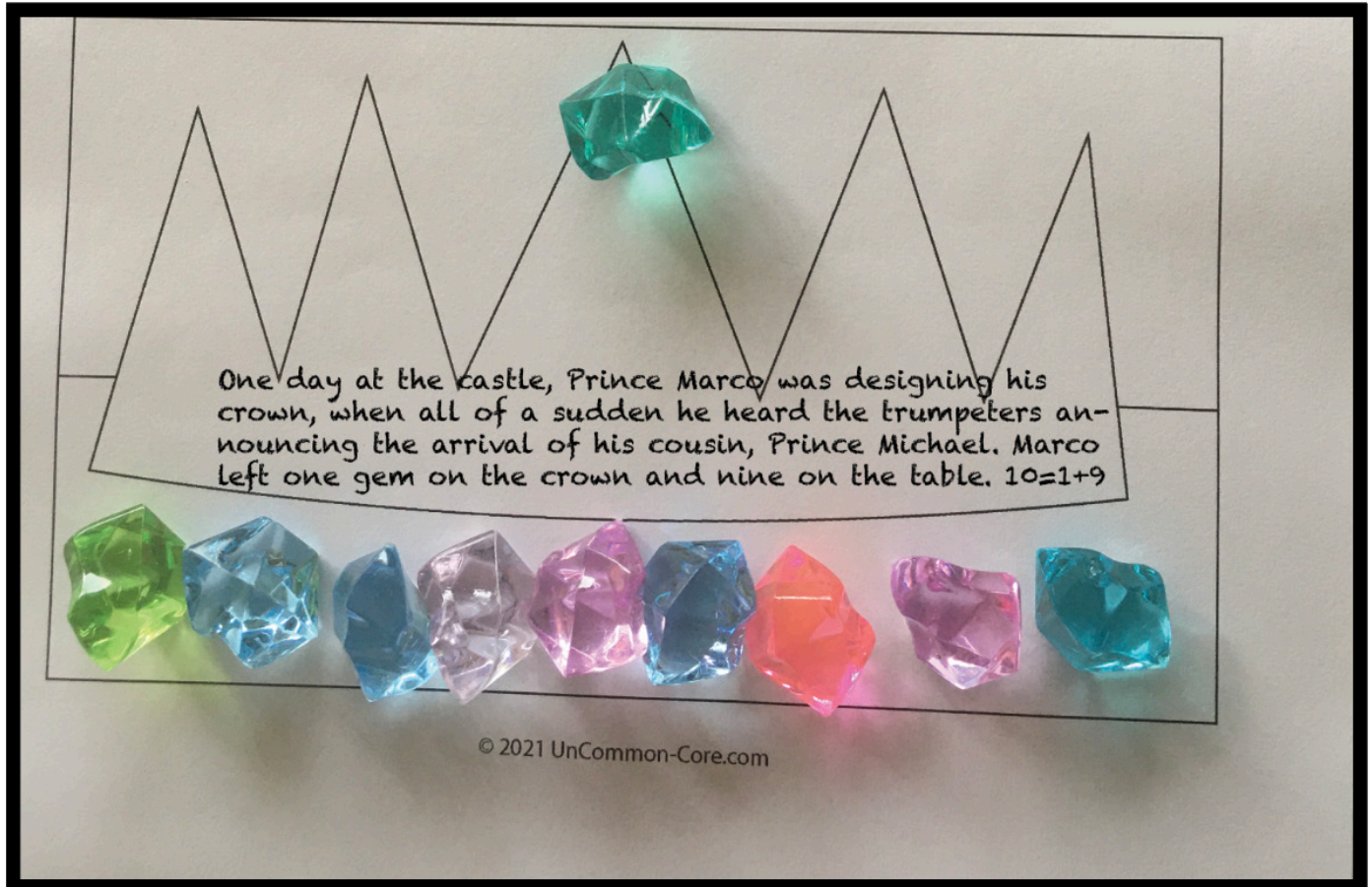
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Thank you!

Isabelle@UnCommon-Core.com

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